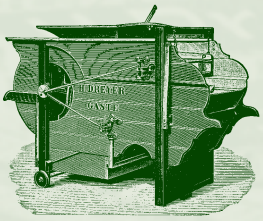
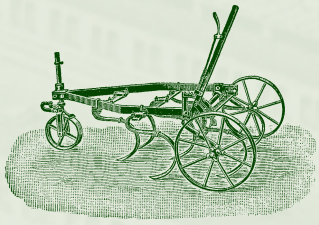
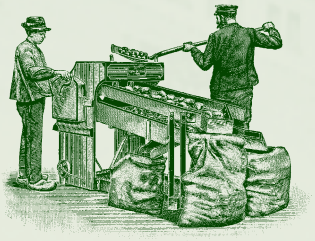
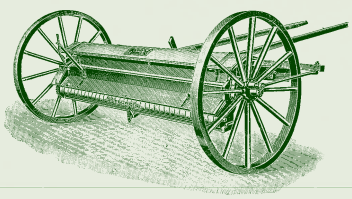








Klaus Dreyer

The AMAZONE Chronicle


AMAZONENWERK H DREYER
GASTE BEZ OSNABRUCK

Klaus Dreyer

The AMAZONE Chronicle

The Amazone Chronicle takes us back through the exciting development of Amazonen-Werke. It is based on the handwritten diary of the company founder, Heinrich Dreyer, in which he not only wrote down the development of his company from 1883 to 1934, but also described many interesting events and gave us in-depth insights into the history and the politics. Klaus Dreyer, who from 1958 onwards, together with his cousin Prof. h.c. Univ. Samara R A S Dr Dr h.c. Heinz Dreyer, was responsible for the fortunes of the company as Managing Director of Amazonen-Werke, then continued to track the further development of the company from reports and his own experiences until 2021.

We hope you enjoy reading it.

Your Amazonen-Werke

Fernsprecher: Amt Osnabrück N°645
Telegr.-Adresse:
AMAZONENWERK HASBERGEN

Gegründet 1883

H. DREYER

FABRIK
der Getreidereinigungs- u. Sortiermaschine
"Amazone"

Gaste b/Osnabrück
Post- u. Bahnstation: Hasbergen

Abtlg I. Getreidereinigungsmaschinen „Amazone"
Abtlg II. Federzahnkultivatoren „Siegfried"

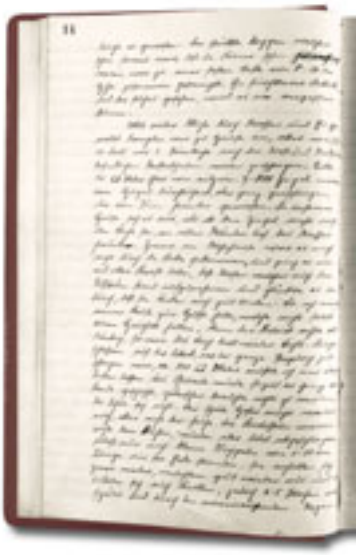
den 1. Januar 1913

1

Foreword

A few years ago, I came to the realisation that someone from the Dreyer family, who was familiar with the history of AMAZONEN-WERKE, should write a chronicle of this company. This could only be my cousin, Prof. h.c. Univ. Samara **R A S** Dr Dr h.c. Heinz Dreyer, or myself, Klaus Dreyer, as we have jointly shaped the fortunes and development of our company for over 50 years. After some consideration, I took on this task.

The basis of this chronicle is the handwritten diary of my grandfather, Heinrich Dreyer, the founder of the company, in which he not only wrote down the development of his company up to 1934, but also wrote about many interesting events from history and politics. I then continued to outline the further development of the company from reports and my own experiences. While the second edition of this book ended in 2016, I was able to add the years 2017 to 2021 to the chronicle of AMAZONEN-WERKE in the course of this, the third, revised edition.



My first task at the time was to translate the chronicle, which my grandfather had written in old German script, into current script, interpret the text and select the parts of interest for the company's history as the basis for the overall chronicle. I have left the text as far as possible in its original form, adapting the spelling, grammar and punctuation only to the extent that it can be read by a modern reader without irritation.

It was only during this work, and after reading it several times, that I realised the ingenious requirements my grandfather had brought with him to build up AMAZONEN-WERKE. When you realise that Heinrich Dreyer was only 20 years old when he set himself these goals, and when you see how he realised these goals step by step, only then can you admire his work with awe.

Even as a young man, Heinrich Dreyer had a keen instinct for making the right decisions. He was a good designer and utilised the experience of his father and previous generations. He succeeded in developing machines that worked well and could be manufactured efficiently. In doing so, he laid the foundations for a successful company.

Heinrich Dreyer was a prudent entrepreneur who never took incalculable risks. This helped him to survive even in the most difficult of times. Despite sometimes being deeply depressed, he never had to report that he was in financial difficulties. That is extraordinary, even at the height of inflation he was still able to pay his employees, even if it was from reserves in foreign currency, which he had the foresight not to convert from his export business into domestic currency.

Heinrich Dreyer was also a caring businessman who looked after his employees like a father. He was interested in the personal fate of each individual and helped his people when they were in need.

Heinrich Dreyer was a modest person. He never changed his modest lifestyle, even when the company was doing particularly well, and his wife Lisette always encouraged him in this. Even the greatest economic successes never made him reckless or arrogant. He ploughed all the money he earned back into his business.

Heinrich Dreyer was also a good businessman who built up a functioning distribution system, employed capable representatives and even wrote the texts for his impressive advertising material himself.

Heinrich Dreyer was a very hard-working man. He not only invented his machines himself, but also designed and drew them. For several years, he did all the writing, correspondence, invoicing and ordering himself. He had a good hand in hiring reliable employees and was able to motivate them to get the best out of them.

Heinrich Dreyer at the age of 24

Heinrich Dreyer was a very Christian man who always worked together with the teachers and pastors and always actively supported the work of the school and church. He always trusted in God, even if it was sometimes difficult for him.

And also, Heinrich Dreyer was also a far-sighted entrepreneur. He stipulated in a shareholders' agreement that only two of his sons should take over the management of the company and receive the shares. This arrangement was to be continued, i.e. only one successor from each family was to be appointed. This rule has been implemented to this day, so that even now, in the fourth generation, the company shares are still concentrated in two family lines. In this way, Heinrich Dreyer created an essential prerequisite for his company to achieve a long lifespan.

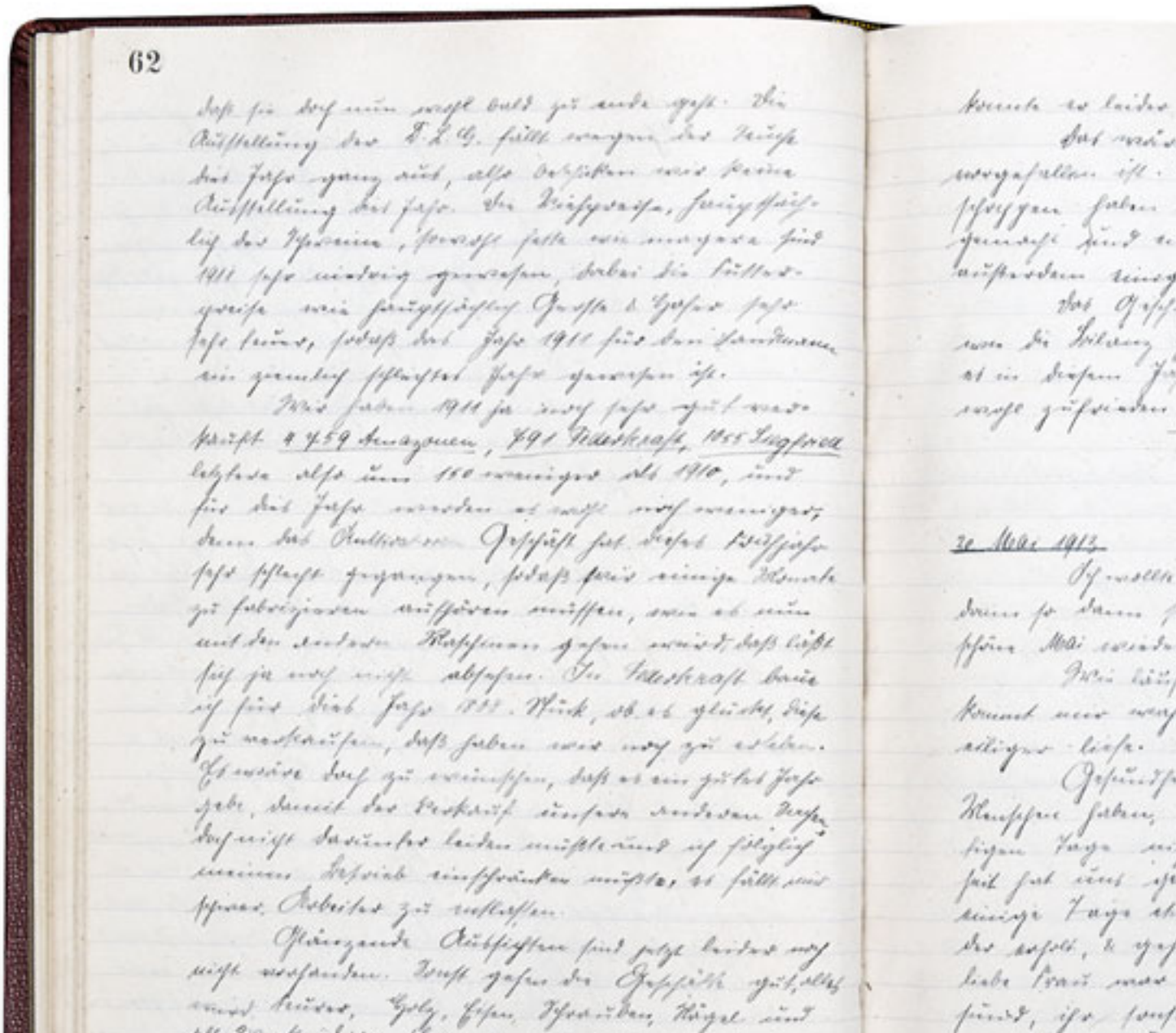
I am convinced that the history of our company is so interesting that it will not only be read with attentiveness and pleasure by businesspeople and managers. Perhaps it will help them to make the right decisions and avoid some mistakes. Perhaps even the philosophy of our company, which has been preserved in its basic format to this day, can set an example for others.

Despite all the successes that AMAZONE has achieved in over 140 years, we are nevertheless aware that we are only a very small cog in the wheel of the German economy, that Bill Gates is not the only one to have created billions in value in a much shorter time and that some people, football stars, bank directors or company managers, achieve higher profits than we do with around 2,000 employees. So we have no reason to be overconfident or to rest on our laurels. We have continuously worked on our modest successes for decades and know that we must continue to strive to maintain or even improve our position. Our competitors at home and abroad are keeping a close eye on what we do and how we do it. They will seize every opportunity to catch up with us, snatch our market share or overtake us. We will therefore always have to come up with something new that will bring additional benefits to farmers and contractors, bearing in mind that our high cost structure also affects us.

On the other hand, we are a little proud of what we have achieved and are pleased with the good image we have built up. After all, we are an important employer in our region and pay more taxes than some large corporations. However, we will keep our feet firmly on the ground and endeavour to further increase the importance of AMAZONEN-WERKE and its products.

We would like to take this opportunity to thank all our loyal employees and sales partners, without whose active support our success would not have been possible, and we hope that they will remain loyal to us and our quality AMAZONE machinery in the future. My cousin Heinz Dreyer and I would like to thank our siblings and also our children for greatly strengthening the company by renouncing their inheritance.

Gaste, in spring 2022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AMAZONENWER

1903 – 1934

The chronicle of Heinrich Dreyer

Heinrich Dreyer, the founder of AMAZONEN-WERKE

All AMAZONEN-WERKE documents mention 1883 as the year of foundation. This is the year in which my grandfather took over the workshop from his father and had it entered in the commercial register. However, the Dreyer family's tradition of manufacturing agricultural machinery goes back to the 18th century.

The headquarters of AMAZONEN-WERKE, Gaste, is a small town in Lower Saxony, located between Osnabrück and the border with Westphalia. When AMAZONEN-WERKE was founded, it only had a few hundred inhabitants. Later, many people from Osnabrück settled here and Gaste was incorporated into the municipality of Hasbergen together with the village of Orbeck as part of the regional reform in the 1970s. Hasbergen (on the Teutoburg Forest) had around 11,000 inhabitants in 2021.

My grandfather came from a marriage with six children, two boys and four girls; the girls died, as infant mortality was still very high back then. My grandfather was the youngest of them all, and as the 'right of the youngest' applied in our area, he was given the business with the house and land. His older brother Wilhelm set up his own business and later founded his own agricultural machinery factory, which became the H.W. DREYER company in Wittlage after the Second World War. Because Wilhelm and Heinrich's mother died relatively early, their father married a second time. This marriage produced two more sons, my grandfather's half-brothers Johann and Friedrich Dreyer, who became his first employees. My grandfather writes about the beginnings in his chronicle:

Original house of the Dreyers

The married couple Casper Heinrich Dreyer and his wife Christine Mutert, my parents, were born, my father in Lotte in November 1823 as the son of the hireling and carpenter Dreyer, my mother on 9 December 1825 in Gaste, daughter of the carpenter and leaseholder Mutert. They married in 1847, rented a cottage from the farm owner Westerkamp and lived happily ever after. […]

When my parents had been married for about 8 years, they bought the rented cottage for 1000 thalers. Although my mother became increasingly frail, my parents did well by the standards of the time. In addition to farming, my father ran a carpentry and wheelwright's workshop and also made a few tub mills every year, which were very popular. His father, and even his grandfather, had already been making these tub mills, and according to the story, my great-grandfather delivered the first tub mill to the city of Osnabrück at the end of the 18th century. […] My parents made good progress and in 1878 bought the second cottage from Westerkamp, next to ours to the north, for twice as much as the first, i.e. 6000 marks. My parents' house was initially a very poor building, as I was told, the worst and most miserable in Gaste. My father gradually remodelled it, most recently in 1880, so that it has been a very good house ever since. […]

My father became weaker and weaker and could do little more work, but he was never despondent and always had good courage despite his suffering. When he married for the second time, he appointed me as his successor by court order. I couldn't leave the house because of my father's suffering, he taught me his trade.

The emergence of the Heinrich Dreyer company resulted from the decision to build agricultural machinery in series, i.e. rationally in larger quantities. It is important to remember that industrialisation had also begun in Germany around 1850. As a result, it was possible to buy simple agricultural machines from factories, which were not only cheaper but also better than handcrafted, individually manufactured machines. This jeopardised the existence of many craft businesses. They either had to reorganise or give up. My grandfather writes about this:

Times were very bad around 1880. The golden years of prosperity after the victory against France were gone, so there was nothing to earn. My father and I once thought I should become a miner, and I was close to signing up at the local mine, but it didn't happen. I soon realised that a speciality could get me the furthest. I then made large quantities of scythe sharpeners and managed to produce 12 thousand of them in one year and sold most of them the following year. However, I had a great fondness for building grain cleaning machines and I gathered as much knowledge as I could about this, discussed it with my father, who was very experienced in this field, and so produced something really improved.

In 1883 I completed this first machine of the latest design and showed it at the agricultural exhibition in Haste and Lengerich the following year. I also sold some, but I encountered various difficulties; as everything was not yet working properly, I got some back, and I was often told to stick with the old system, which is still the best. Even if I sometimes lost heart, I didn't let myself be put off. I tried to change the mistakes, which I gradually succeeded in doing. I made different variants.

Dreyer's winnower from the 18th century, made entirely from solid oak wood

Left:
The three brothers Friedrich, Heinrich and Johann Dreyer

Lisette Dreyer attractively modelling

This all took place under the supervision of Caspar Heinrich Dreyer, his father, who was already very ill and gave his son a great deal of room for manoeuvre. It was not until 1883 that he officially transferred the workshop to his son:

> At the age of 23, my father left the business to me, he became very ill and could no longer take care of it. I now put all my energy into gaining sales, both in wheelwright work and in tub mills. I also got enough work, as much as I could manage at the time.

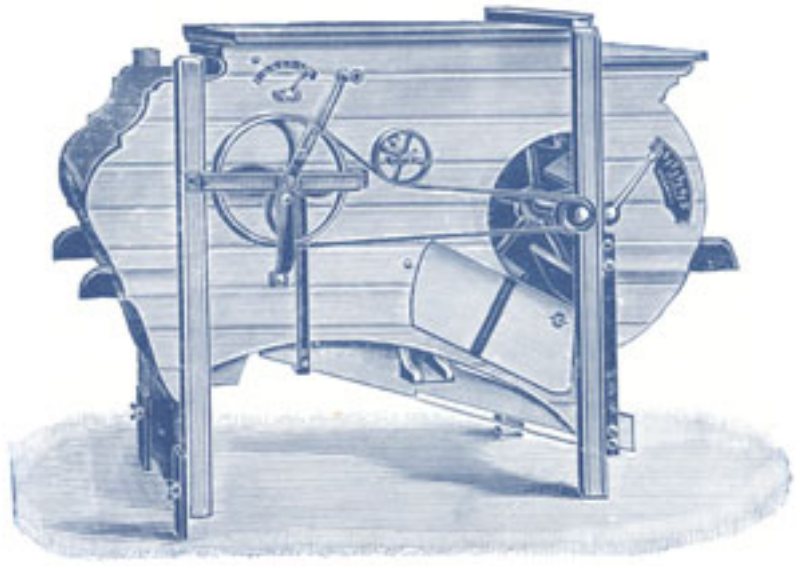
My grandfather not only had a lucky hand in business matters, but also in finding a suitable wife.

> I travelled a lot, as did my father, with Colonel Weßling in Osterberg, who did the carriage work for us. From the age of 20 I travelled there from time to time and got to know the eldest daughter of the house. She was born on 31 January 1867 and we loved each other, as both our parents were well aware. We asked our parents and they said yes and gave us their blessing.
>
> At the beginning of 1887, I took her home as my wife. We were both hard-working, we made our lives easier every day, indeed every hour, and so no job was too hard for us. Our parents enjoyed it and we lived happily together. [...]

Over the coming decades, it turned out that Heinrich Dreyer had 'hit the jackpot' with his wife Lisette. Not only did she look after the family's well-being at home and cater for all the businesspeople when they visited the company, she also gave my grandfather valuable business advice. Heinrich Dreyer needed his Lisette to back up his decisions and investment plans. And his wife often saved him from taking overly reckless steps, as he himself reported. They also had eight children by 1909, four girls and four boys, five of whom reached adulthood.

The first 'AMAZONE', prize-winning at the DLG exhibition in Bremen, 1891

Right:
A further development of the 'AMAZONE', much more elegant



18 months had passed since my marriage, my brother Johann had to become a soldier, and Friedrich, who had now turned 16, continued to help me. But my father's condition got worse and worse, and unfortunately he soon came to an end. He died on 9 October 1889 and at first I often thought I couldn't cope without his advice, but it had to be done.

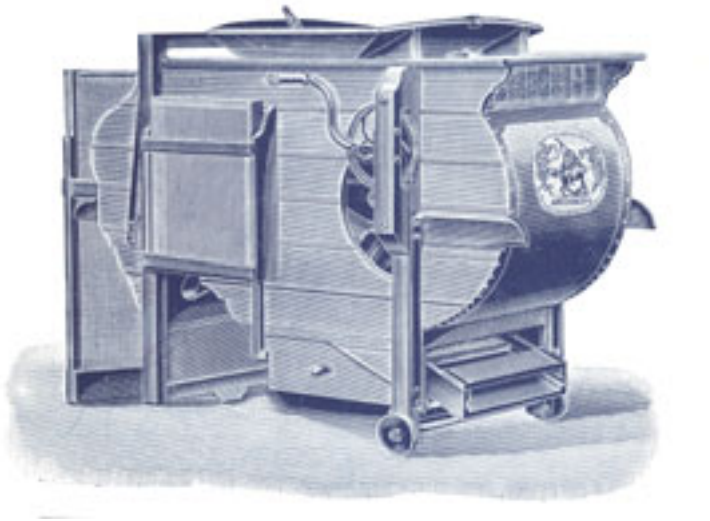
I now took over the estate, had to accept a debt of 6000 marks and pay my siblings 375 marks each as a child's share. I had already given my older brother Wilhelm this amount earlier during my father's lifetime, when he was also in need.

After two years of service, my brother Johann returned from the army, and as I had so much work, he started working with me again. The orders increased so that I took on journeymen and apprentices. I had already started to make the iron fittings for the tub mills myself during my father's lifetime by setting up a small forge in the carpenter's workshop. However, although I had already enlarged the room two years ago, it was still too small. I built a small forge of 12 square metres behind the old joinery in November 1892, bought some old bellows from the master blacksmith Erdmann here, and we thought we could do something now.

Butter churn from the extended Heinrich Dreyer programme

Below:

Dismantled 'AMAZONE' cleaner, specially developed for export overseas



The first AMAZONE logo after a larger-than-life bronze statue in Berlin, 1892

Right:
The 3,000th 'AMAZONE', 1899

The most frequently asked question about Amazonen-Werke: How did the company actually get the name 'AMAZONE'? Heinrich Dreyer has also answered this question precisely in his chronicle:

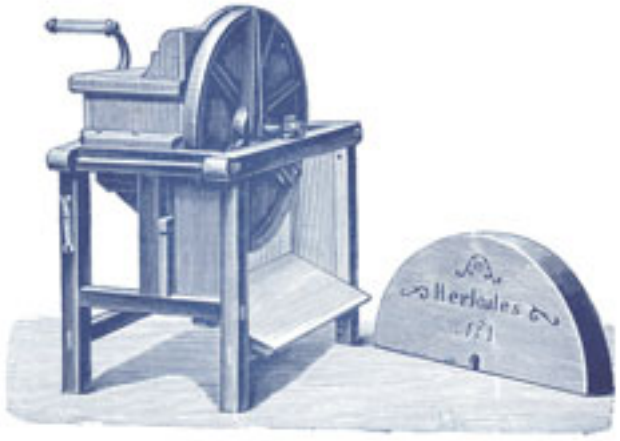
> in 1891, I exhibited our machines at the agricultural exhibition of the D.L.G. in Bremen, where I received the bronze medal, which made me very happy. From that time on, our business developed more and more visibly, and I felt that I now had to give my machines a favourable name, and our local teacher Mr. Klingemann suggested the name 'AMAZONE', in German 'Heldin'. I agreed and subsequently had the name registered as a trademark, and this name has now become established in the widest circles, even beyond the borders of the German fatherland.

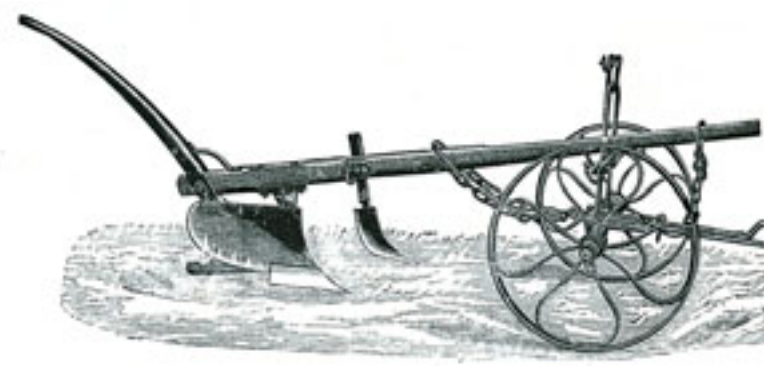
One of my grandfather's most important characteristics for the company was his careful handling of money. Without this caution, the company would certainly have often got into financial difficulties. He always lived frugally – you could even say spartanly simply – until the end of his life, and his business successes never went to his head. At the beginning of the 20th century, the company Maschinenfabrik H. Dreyer Gaste, as it was known at the time, experienced a rapid upswing:

> I soon came to the realisation that I couldn't make enough progress with my manual work, that I had to have machine power. But the money was still tight compared to the big expense required, and I absolutely did not want to borrow, that was against my principles. But it had to be done, the joinery was enlarged, a new forge was built, and a year later, in November 1896, I installed a new four-horse petrol engine and some production machines: a planing machine, circular saw; I had already had an old band saw for a year.
>
> At the same time, I bought a storage shed in Osnabrück and put it up the following spring. Everything went well.

As early as 1894, my grandfather decided not to rely solely on the success of the grain cleaners, which he affectionately called his Amazonen, but – as they say today – to diversify:

> As early as 1894, I also began to build plough bodies in the belief that I would gain more work for the machinery business. I succeeded very well, but the construction of my Amazonen took precedence over everything else, and because this increased colossally from year to year, I had no time to give the former the same attention. I had to take on more and more labourers, and I still couldn't deliver as much as was required.





Left:
AMAZONE Beet cutter 'Herkules', 1893

Right:
The first AMAZONE plough 'HDG' (Heinrich Dreyer, Gaste) 1894

It is a pleasure to read the report on the rapid development of production. The 3,000th Amazone was completed on 18 February 1899:

i started numbering my machines in 1887, and the round number 2000 was completed in December 1897 and the 3000th on 18 February 1899. For this purpose we organised a half-day celebration to celebrate the completion of our work. This 3000th machine was made in Pitspin wood and presented to the testing centre in Münster as an advertisement.

But unfortunately, there were also setbacks, especially of a family nature. Shortly after the celebration of the 3,000th grain cleaning machine, two of my grandparents' little daughters died within a week of each other.

Although infant mortality was generally very high at the time, it was still a serious setback for the family. But with God's help, they got over it and were able to concentrate on the business again. The business continued to develop well, so that the 4,000th Amazone was completed that same year, on 24 December.

Construction had already begun and had to be continued. It went well and we were able to move into the new joinery in June. New machines were added and everything went even faster than before. On 24 December of that year, the 4000th Amazone was completed.

The new residence with farm, built in 1900

In 1900, my grandparents decided to build a larger house for their family and that of their brother Friedrich. It is typical of my grandparents' prudence that they built a farmhouse with a farm and stables for two horses, two cows, a couple of pigs and a henhouse, with a hallway and large hayloft. However, the living quarters were spacious. After my grandparents' two daughters had died, they naturally wanted another child, preferably a son, who could one day succeed them. In 1900, the time had come:

We were able to experience a joyful event:
On 11 February 1900, God gave us a baby son, who was named Heinrich.

We were lucky again, we were all healthy & there was enough work to do.

During this time, Heinrich Dreyer decided to build accommodation for his most capable employees, and the first of three semi-detached houses was built in 1901, a good 500 metres from the factory. in 1902, he built a larger storage shed and completed the 8,000th Amazone. The number of employees at this time totalled 28. It can be said that the company experienced a rapid upswing. After installing a 4 hp engine to drive his machines in 1896, it was already too small by 1902. Groundbreaking innovations were also on the horizon:

The construction work started early, the building was ready on 16 June and we moved in on 24 September. Shortly before we moved in, another thousand had been completed, so the 5000th was finished. [...]

On 15 July 1902, the 7000th Amazone was completed and on 24 December of that year another thousand was finished, the 8000th. By the end of the year, my workforce had grown to 28 men, but I was still unable to serve my customers on time. My engine was getting too small, it could no longer power everything. If there had to be another one, then my engine room was also too small, and we thought it would be useful to install electric light straight away. The smithy also became too small for us, even though I had already doubled its size four years ago.

In order not to do anything that would have had to be destroyed over a few years, I also started to enlarge the forge and construction began in February 1903. The building was completed in May, and at the same time a new well was built next to the forge to supply the engine with water. At the beginning of June, a new 14-horsepower suction gas engine was installed, the latest available. 2 new office rooms were set up, then in September the electric lighting system was installed with 72 lamps.

Celebration on the occasion of the 8,000th Amazon

Many people nowadays think that everything was better in the past, even the weather, and the media often support this opinion. My grandfather confirms that there were bad storms in the past too:

The year 1903 was a year of much work and great change for us; however, it is also of unrivalled memorability for the entire local area. An event happened here that no one had ever experienced before.

The whole spring was wet, continually wet, the fields could hardly be cultivated. The crops grew well where the ground was not too wet. June had arrived and the hay harvest began. On the 29th it was very humid, we also had hay, at midday it rose on the horizon like a thunderstorm. My wife and I went to the meadow near Weitkamp to get the hay together before the storm, but as we were there we could already see that it was about to start raining. Very black with heavy thunderclaps, it rises higher, bright lightning flashes through the yellowish-black clouds. A terrible storm is approaching, our hay is thrown apart like feathers, we take refuge in a nearby cottage (Hermanns Kotten). Having just arrived there, the storm roars with renewed vigour. Large pieces of ice came crashing down. Window panes and tiles on the roof shattered as if they were thin paper. It floats all over the house. After it had raged like this for ¼ hour, we set off on our way back. But what a picture presented itself to us that we hadn't even thought of. The whole crop, which had looked so splendid a quarter of an hour ago, was so shattered that it was almost impossible to tell what kind of crop it had been. The strongest rye, which was already so far gone that the grains had already set, had been crushed into a solid blanket 8–10 cm high. It was a terrible sight, and anyone who saw it will never forget it.

After wading through water and ice with great difficulty, we arrived home, but what did it look like? All the windows on the west and north sides had been smashed. About 40 square metres of glass were broken. 700–800 bricks were perforated by hail or completely smashed or thrown down by the storm. In our house it looked as if there was not a tile left on the roof and water was running down all the walls. Although it had not yet got through the ceiling in the house, it was now trying with all its might to absorb the water that was standing on the floor, which meant that the ceilings were still intact. As I had some of my people to help me, who didn't have a household themselves, because the business was completely shut down, the roof was soon tight again. Except on the factory, where the whole cardboard roof was smashed, I had to have about 800 square metres re-covered. The grain was removed from the land as best we could, there was no need to thresh it, it wasn't worth it. The late oats grew back, but not the early ones. The potatoes were close to flowering, but were completely cut off, so that only small stubbles of 5–10 cm in length stood out of the ground, they recovered, grew well again and tubers also formed, but 4–5 weeks late and the perpetual rain prevented them from developing, so that about ½–⅓ of the usual yield could be harvested. Rain and thunderstorms every day, so that one could hardly walk in the countryside. What was not spoilt had to rot, and it was hard enough to bring home what was still to be found.

It was constantly wet until the beginning of October, then it got better and we had a good autumn. That was a year that the local country folk will remember for a long time. Nevertheless, my business went well and I was busy all year round.

Up until May 1903, I had done the written work on my own, but there was so much that it became impossible for me. In May I received help from a young gentleman called A. Meyer, who has been working in Osnabrück ever since.

"... whoever has seen this will never be able to forget it."

H. Dreyer, Gaste, Station Hasbergen b. Osnabrück.

Vorwort.

Rastloses ernstes Streben, auf dem Gebiete der Fabrikation von Reinigungs- und Sortir-Maschinen für Getreide, Hülsenfrüchte und Sämereien den Landwirthen das denkbar Beste zu liefern, immer neue Versuche, langjährige Erfahrung, stetes Bestreben, praktische und vortheilhafte Neuerungen vorzunehmen: das sind die Gründe, die es mir ermöglichen, in diesen Maschinen so Vollkommenes bieten zu können.

Jeder verständige Landwirth wird auf den ersten Blick die Construction meiner Maschinen als praktisch anerkennen, auch nach vorgenommener Probe die Leistungsfähigkeit derselben günstig beurtheilen.

Die Preise sind sehr mässig, jedoch keine Schleuderpreise, da sich für solche nichts Gutes herstellen lässt.

Von der Güte meiner Maschinen zeugen die täglich wachsenden Aufträge, sowie die vielen Anerkennungen seitens meiner werthen Abnehmer, ferner auch die stetige Vergrösserung meines Betriebes.

Damit aber Jeder die Vorzüglichkeit meiner Fabrikate erproben kann, gebe ich jede Maschine 14 Tage zur Probe und nehme dieselbe, falls sie nicht gefallen sollte, ohne jegliche Einrede zurück. Dieses Probeanerbieten wird Jedem wohl mehr genügen, wie ein ganzes Buch voll Ruhmreden.

Bei Bedarf bitte ich, meine Fabrikate kommen zu lassen, und damit jeder die möglichst richtige Marke wählen kann, sind alle Maschinen einzeln abgebildet und beschrieben. Ich bitte um genaue Durchsicht.

Mein Rohmaterial aus den ersten Stahl-, Eisen- und Holzwerken beziehend und im Besitz der ersten und besten Arbeitsmaschinen für Holz und Eisen, bin ich im Stande, stets das Beste und Billigste zu liefern.

Hochachtungsvoll

H. Dreyer.

Fabrik landwirthschaftlicher Maschinen.

2

Heinrich Dreyer, the persuasive copywriter. Foreword from the 1901 catalogue

Right:
Handwritten original invoice from Heinrich Dreyer, 1897

Imagine a company with around 30 employees in which the boss wrote all the written work, i.e. all correspondence, all orders for materials, all payments and all invoices, by hand. My grandfather did not have a typewriter, at least not at that time. In 1904, the 10,000th Amazone left the factory and my grandfather's report was full of pride and joy. He always thought of his people, he looked after them almost like a father:

On 14 May we had a lovely party, the 10,000th AMAZONE was completed, garlands were tied a few evenings before, at 11 o'clock that day we started clearing up, the carpentry shop was decorated as a party hall, then everyone dressed up festively and the party began at around 4 o'clock. My married people brought their wives and children with them. Coffee and cake were served in the house. Then the music arrived (a band from the Georgsmarien-Verein, 5 men) and we went to the concert in our little wood, where we all enjoyed the lovely party over a good glass of beer.

The weather was marvellous and our new flag, purchased for the festival, fluttered merrily on the high mast.

A photographer from Osnabrück took pictures of all the workers who had lined up around the 10,000th machine, including my brothers, son & me (and the music too). At dusk, we went to the party venue (in our joinery), which looked marvellous with all the garlands illuminated by electric light. There were a few dances, then the banquet followed. The catering was provided by the local landlord H. Thies.

Toasts were proposed, congratulations were read out, and there was nothing lacking to raise everyone's spirits. After the meal, the ball began, which lasted until half past mid-morning on 15 May. I often think back to this day with pleasure and wish that God will let us have more such beautiful celebrations. From 1 January 1904, I gave all my employees who had worked here for more than a year and were over 18 years of age 1 – 2 pfennigs as a share, depending on whether they had worked longer or shorter in the company. It is my wish to endeavour, as soon and as far as I can, to improve my staff in every direction.

"I have the desire, as soon and as far as I can, to improve my people in every direction."

This year also marked the beginning of a new chapter in the company's history. My grandfather expanded his programme to include the cultivator, which he called Siegfried. Meanwhile, business with the Amazonen continued to go well, allowing him to experiment with new developments and even afford an additional warehouse and production hall.

The activities in his company now took up so much of his time that he gave up his own farm and rented out his fields. The company also got its first telephone that year. My grandfather writes about it:

The weather this year was very different from the previous year, terribly dry the whole summer. From day to day it was thought that the crops could no longer survive, but the harvest was still quite good and satisfactory. It has probably not been this dry since 1880.

Business went well, however, and we sold a total of 1679 Amazonen. At the beginning of the year we had started to build spring-tooth cultivators of our own design, running on 2 wheels, in addition to our Amazonen, but these were not as popular as we had hoped and we had to switch to those with chassis, several were returned, with the result that we lost rather than made money this year, but hopefully this will improve. We realised more and more that we had to have larger storage rooms in order not to be embarrassed by lack of production during quiet times and to be able to deliver promptly during the season. Then we also began to run out of carpentry space, and the paint shop had not been as it should have been for a long time: too little light and too dull. We actually have to assemble throughout the year in order to keep the painters busy. We then decided to build a large warehouse, an assembly and paint shop.

Work began in October, the warehouse was completed in December and the assembly and paint shop is expected to be finished in March – April.

The ground was a burden to us and we leased most of it out in September, keeping one cow and two horses. The latter 2 bay geldings, which we liked very much, we bought in August of that year for a price of 1250 marks. At the end of 1904 we bought a new hammer, shears and punch for the power plant. In April 1904 we got a telephone.

Cultivator 'Siegfried' for shallow stubble cultivation, 1904

I have already mentioned how his wife Lisette, whom he affectionately called Settken in Low German, contributed significantly to my grandfather's success. He wrote about this in 1904:

But one thing surpasses all my happiness: that I have such a good, dear wife, who knows how to warn me when I have too big plans, who cheers me up so healingly when I am troubled. She has always helped me work so bravely and continues to do so today, she is never lacking, she warns me, as I have just said, but never opposes my will. This is what I call our greatest happiness, which God has given us, that my wife and I have found each other. I could do without everything that God has given me, except my dear wife. May God keep us together into old age so that our children can help themselves without our help. Furthermore, it is my wife's and my greatest wish that our children will behave well and become useful people. What an immense happiness it would be for us parents if we could only experience this in our children and also part with the certainty that one day we will.

All earthly things are fleeting, and no matter how many possessions and goods I have, they are worth nothing to me compared to what is described in this sentence. May God grant us this happiness, which I wish for myself, my dear wife & children above all else.

Excerpts from the 1904 catalogue


H. DREYER, GASTE POST HASBERGEN BEI OSNABRÜCK.

Abteilung 2.

Federzahn-Kultivator „Siegfried"

welcher allen voran

D.R.G.M. Schaar mit 2 verschieden breiten Schneiden.

Vorwort.

Es wird gegenwärtig wohl nicht mehr bezweifelt, daß mein Federzahn-Kultivator **„Siegfried"** ein erstklassiges Fabrikat ist. Von allen Seiten bringt man mir unaufgefordert dieses Urteil.

Durch die letzten Neuheiten überragt der „Siegfried" gegenwärtig alle Systeme. Wer sich davon überzeugen will, beziehe 14 Tage oder länger ein Stück zur Probe. Nur ein eingehender Versuch schützt vor Mißgriffen. Es ist lange nicht alles im Gebrauche praktisch, was als solches angepriesen wird.

Ich danke hiermit allen, die mir auch in dieser Abteilung meines Betriebes Vertrauen entgegengebracht haben. Es soll mein stetes Bestreben sein, mich dessen würdig zu zeigen.

Hochachtungsvoll

H. Dreyer.


H. DREYER, GASTE POST HASBERGEN BEI OSNABRÜCK.

Auszeichnungen:

Bremen 1891, D. L. G., bronzene Denkmünze, erster Preis. Bersenbrück 1892 erster Preis. □ Haste 1892 erster Preis. Herford auf der Wannemühlen- und Windfege-Konkurrenz am 18. Oktober 1892 von 14 Konkurrenten den ersten Preis. Belm 1895 erster Preis. □ Rulle 1898 erster Preis. Neuß 1904 erster Preis. Silberne Medaille.

AMAZONENWERK

Gegründet 1883.

Voraussichtliche Produktion 1907 in Getreidereinigungsmaschinen über 3000 Stück.

Vertreterzahl Januar 1907 im In- und Auslande zirka 500.

It is interesting to note that Lisette also posed for advertising photos herself, as can be seen in the example of a brochure for a butter churner, which was part of the company's production programme for a time. Of course, she was also on the stand at important exhibitions and looked after customers personally. This was also the case for the following generations: The owners' wives are still present and help out at the most important exhibitions today.

Butter churn 'Gloria'; a photo of Lisette Dreyer served as a model for this engraving by a graphic artist (see page 12).

31. January 1906

The year 1905 has disappeared from our view. It was a very good one, both for our business and for agriculture. Livestock prices were colossally high, pork went up to 74 pfennigs a pound for freshly slaughtered pigs. The fields also produced good yields, although it was wet in places, but on average it was better than the previous year. It was only very wet in the autumn, and in some places the last cut of grass spoiled and in some places yielded nothing at all. Our new buildings were completed in April, including the warehouse, assembly and paint shops as well as the new wagons and woodsheds. I presented my products at two exhibitions, the first in Altona at the beginning of June and the second in Munich at the beginning of July, organised by the D.L. Gesellschaft.

[...] We had made 6 small model machines for the exhibitions, which were mounted on a box and put into operation by means of an electric motor, which attracted a lot of spectators.

Even though few were sold directly at the show, there was a lot of demand afterwards. Sales in 1905 were very good, I delivered: 2202 Amazonen, 210 Siegfried, i.e. 523 Amazonen more than in the previous year, today we are writing the number 13 746. The net profit was quite satisfactory. The number of workers is 40, plus my two brothers and my accountant's assistant and myself.

We haven't added anything in the way of new machinery, even with the ones we have it's enough for the time being, just electric light in the new rooms. The price of wood is rising enormously, and it is not yet clear how long this will continue. The unfortunate war between Russia and Japan, which raged last year and lasted more than a year, and also to a large extent the present indescribable revolution in Russia, are probably having an effect.

I was in court for a year with my eldest brother Wilhelm in Osnabrück, who, without inviting me, had made a test with his and my machines and claimed a result that was favourable to him and announced it in circulars and newspapers. He damaged me as a result, and I brought an action for unfair competition

against both him and some of his customers in East Frisia. The case was dragged out in court and a trial organised by the court was not yet decided because the experts refused to give a verdict, claiming that the pile of grain intended for the trial was too small. As a result, my brother and I came to an understanding, each had to pay his lawyer and we shared the court costs. It was to be hoped that this would not happen again.

The good business trend continued in 1905, with around 14,000 Amazone grain cleaners delivered and 210 cultivators that year. The number of employees was around 45. It is interesting to note that my grandfather had started to export his machines; he writes about this:

Our clientele continues to expand, on 19th December we sent 6 grain cleaners to Valparaiso, South America, which were dismantled and packed in crates. The day before yesterday, 29 January 1906, we also sent 1 Amazone No. 1, dismantled and packed in a crate , to a customer in Goch, which was also destined for overseas.

Amazone Nos. 1 and 4 and three grain cleaners are to be made unassembled in production. Today, 300 cultivators are again in production.

"In April, seven of my younger men quit, allegedly because the foreman didn't treat them fairly enough."

Heinrich Dreyer always endeavoured to maintain a good family working atmosphere and also looked after each individual personally, but there were nevertheless, albeit extremely rarely, disagreements, such as in April 1906:

6. December 1906

This year will soon be over again, it has been a year that I can hardly imagine being more beautiful. Spring, summer and autumn always wonderful weather, not too dry and not too wet. All the crops turned out well. Livestock prices remained high until the beginning of November, from then on there was a fall, mainly in pork prices from 70 to 50 pfennigs per pound. Pigs currently cost 50–52 Pfennigs at slaughter weight. Beef has fallen only slightly.
The orders we have received this year have been enormous, in the peak season I could have sold twice as much if only we could have produced it. Even today we are still over 250 units behind. Nothing at all is important at the warehouse.
In April of that year, some of my younger people, 7 men in a closed group, carpenters and labourers, quit, allegedly because the foreman didn't treat them fairly enough. The resignations took place on Saturday. None of them came on Monday, and on Tuesday they were all dismissed immediately. After 4 weeks, all the vacancies were filled again.

In that year, my grandfather voluntarily increased wages by 10 %, but was worried about whether he would still earn enough. However, the situation at the time was also extremely favourable because demand was greater than production capacity:

On 30 April, we started working 10 hours a day and I increased wages by 10 %. The prices of the machines have remained the same. The cost of materials has all risen significantly, and the annual balance sheet will show whether I have made a decent profit under these circumstances. If, with all the work, I have not even achieved the same earnings as last year, then I will be forced to increase the prices accordingly.
We only visited the D.L.G. exhibition, which took place in Berlin from 14 to 19 July.
The exhibition was a marvellous one, unprecedented. My brother Friedrich, my son Hermann and I went to the exhibition. We had a new tent built for it, which we intend to use for similar exhibitions in future years.

It is not possible to say with certainty to what extent this exhibition has benefited us.
My labour force has currently grown to 50 people. Over 3 weeks we received, for about 3500 marks, orders for new machines and for the production of which an extension is now being built.

The total expenses will amount to 5000 marks. Hopefully all this will make us more efficient again. This year we built about 500 cultivators, which 2 men could do. This year we delivered 12 grain cleaners to South America, mostly with a sieve unit.

My grandparents were very pious people and always worked closely with the community, the school and the church. They also initiated the formation of the trombone choir and organised public festivities on the factory premises:

In March of this year, a family evening was celebrated in our carpentry workshop by our church congregation, which was very well attended by over 600 people. The trombone players from Osnabrück were also present. We liked this music very much and gave rise to the foundation of a trombone choir in our parish. I provided the money for the instruments on loan, a sum of around 400 marks.

There are currently 12 wind players. The conductor is Mr Klingemann, a teacher. The wind players were trained for the first 10 days by Brother Albrecht from the Protestant Association in Hanover. After the 10 days, the choir was already able to play a few chorales, on Ascension Day it played the first tunes in front of the church, since then several times more in the church and outdoors. The practices take place in our assembly hall, twice a week, and the choir is making good progress. So far, all the wind players are our people.
May the choir also achieve what it is meant to do, namely to promote Christian life.

Business also developed favourably in 1907. This encouraged my grandfather to purchase the first steam engine to power his machine tools. A year later, he also reported that it was up and running. Sales of his machines were boosted by the fact that many farm labourers migrated to industry:

10. April 1907
Winter is over again and the harbingers of spring can be seen again. The work here is going very quickly, every cultivator was already sold out in March, there is also a strong demand for Amazonen, and significantly more were dispatched in the past months of this year than in the previous year. The balance sheet as at 1 January 1907 showed a favourable result, and the net profit was the highest since our factory was founded. We have decided to purchase a new 50-horsepower steam engine for this year, and it should be ready for operation on 1 September of this year. In the past year, 2713 Amazonen were delivered and approx. 500 cultivators. Business has therefore been quite good to date. Raw materials are increasing significantly, with 6 monthly deliveries required for wagon iron. Wood is available, but is still increasing. [...] The most serious issue in agriculture is that there are no labourers available. [...]

18. March 1908
[...] On 25 October 1907, our new steam engine was put into operation, everything is going quite well, the heating system, which is fed by the outgoing steam, is also working quite well. The chip transport system, the new electrical centre, everything went into operation at the end of the previous year, and we have a good operation today. [...] The year 1907 did very well, we sold 3068 Amazonen and 500 Siegfrieds, the income exceeded all other years. The year was a mediocre one in agriculture, always cold and wet, the price of fat cattle went down a

lot, but that of pigs at slaughter weight went down to 52 pfennigs. Piglets sometimes cost 3–5 marks for 5-week-olds. Wood and iron, everything went down again. Money was very expensive, the Reichsbank interest rate was 6–7 %. We didn't have many losses last year, but we have yet to see how things will go this spring. [...]

My grandmother personally catered for and accommodated the fitters who installed the steam engine and set up the large machine tools:

My dear wife is now very healthy, only last autumn she was very sick to her stomach and had far too much work because of the many fitters we often had on board, now she is better. [...]

Last year we attended the D.L.G. exhibition in Düsseldorf from 6 to 10 June. The success in terms of sales was quite good. [...]

My father, Erich Dreyer, was born on 30 June 1909, an event that my grandfather happily recorded in the chronicle:

Erich Dreyer, born 1909

[...] On 30 June there was another special event, a little son was born to us, a strong, beautiful boy, Hermann gave him the name Erich.

[...] Dear little Erich has developed so well, God grant that he will become a capable, useful person in every way, to the joy of us all and to the honour of his heavenly Father.

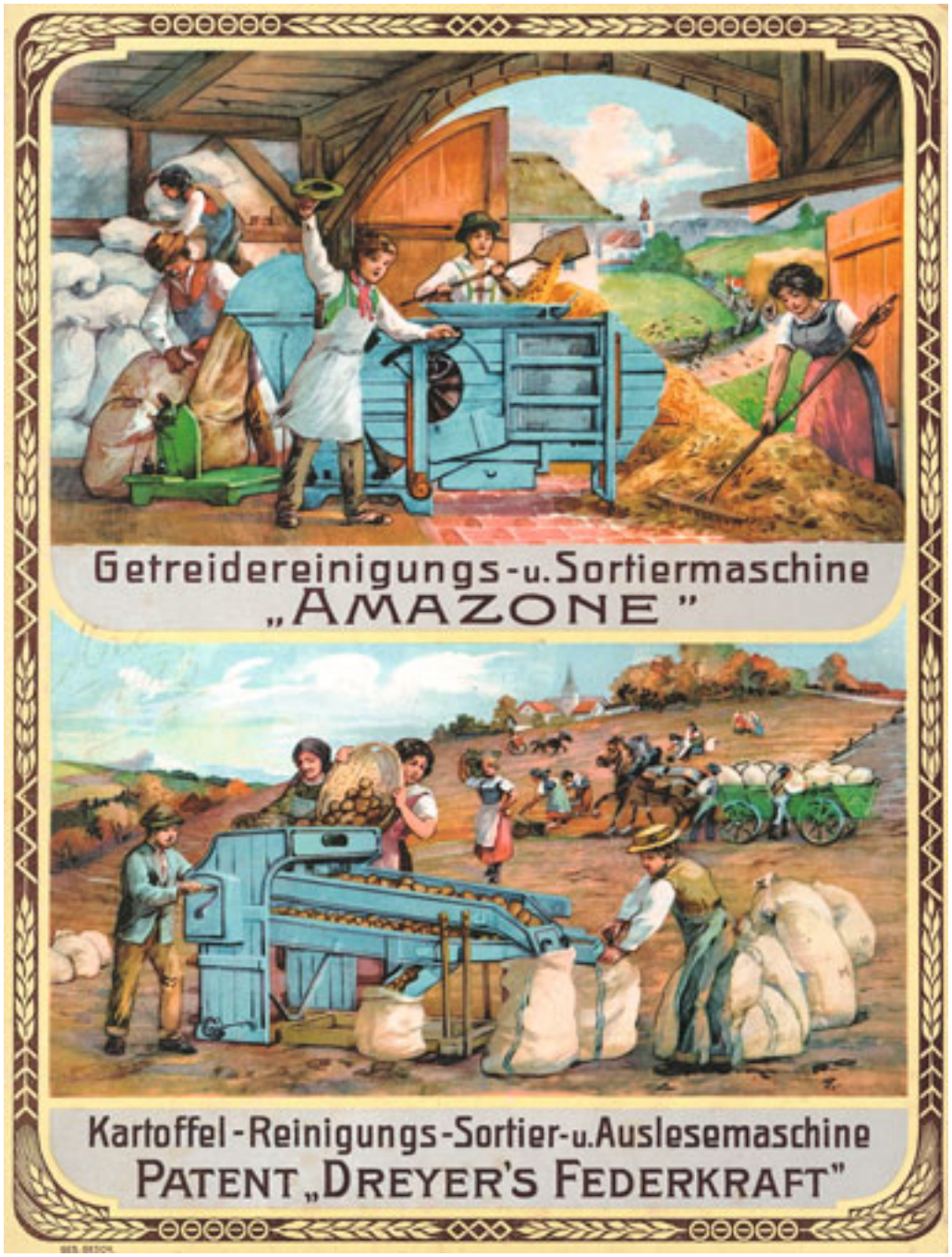
Although business was going extremely well 'at Dreyer', as people in the area say, this was not at all the case in the industry in general:

But the industry is doing very badly, iron has fallen to 10 pfennigs a kilo. Everything, iron, wood, nails, screws, sheet metal, everything was very low in price at the end of the year. There are a lot of unemployed people in the cities and some of them barely have enough to live on.

in 1907, money was so terribly scarce. The Reichsbank interest rate stood at 7 %, once at 8 %, today I think at 4 %. Hopefully everything will improve again in the spring. Our business is doing well all the time! Last year we delivered 3603 Amazonen and 646 Siegfrieds, significantly more than in the previous year, and the net profit was also proportionately higher than in the previous year. As in the previous report, we built the courtyard wall, then an iron store and a cultivator store, approx. 550 square metres, as well as a workers' house on the new colony. Today we have also started building a warehouse and a new paint shop totalling 1,300 square metres. The old paint shop will be added to the assembly hall. In addition, a storage shed of approx. 140 square metres is being built at Hasbergen station. As business is going so well, we have to make an effort to fulfil our customers' wishes and deliver on time in the summer, and this is only possible with good space, especially large warehouses. Our machines are all working perfectly, and I am pleased to have installed the new equipment in 1907, the steam engine, boiler, heating system, chip conveyor, etc. The business has changed completely.

We visited exhibitions in Stuttgart in 1908, I couldn't go myself because of Hermann and my dear wife, this was from 25–30 June. The successes were probably not so tangible because we were less well established there. But one customer brings the other, so that we got our money's worth.

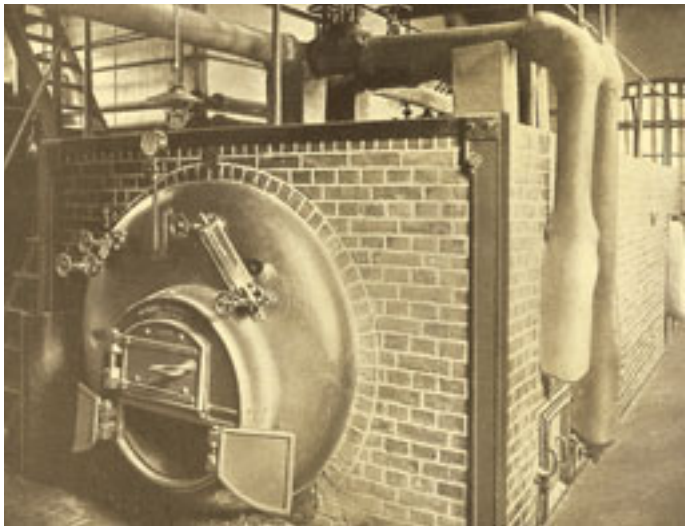
We have to go out into the world to help, so the D.L.G. exhibition is probably the right way



First advertising poster of the agricultural machinery factory H. Dreyer, Gaste, ca. 1912

to do this. In April we built a little house on the water tower, and every Saturday the trombone choir goes up to it and plays a few verses of the Koral, which is sung as the main hymn in church on Sunday. Hopefully, someone will be edified by this and send their song of thanksgiving to God with the sublime tones.

The schools here are also staffed by good teachers. Mr Rode came from the army in the spring of 1908 and took over the position he had already held before his military service. In the autumn of 1908, the first teacher here, Mahler, left to the great delight of the community; he was a miser in the true sense of the word. Instead, Mr Rode was given the first post, and Mr Schulte came to take the second, both very capable, good teachers, who are on board with us for lunch and dinner. Today, on 4 February, we are writing Amazon No. 23 067.



Huge storage areas are required in order to utilise the production facilities on a fairly regular basis throughout the year.

Right:
Boiler for the steam engine, which was used to drive the machine tools via a transmission.

At the beginning of 1910, my grandfather made a detailed entry. In it, he describes the development of the company and food prices, reports on the weather of the previous year – all topics that appear in the diary with regularity. He also writes in detail about the times his father has told him about. He complains that the newspapers, the trade unions and even the pastors from the pulpits are telling people how badly off they are and how much they are suffering from industrialisation. The 'good old days', which were not so good after all, are also a theme here.

15. February 1910

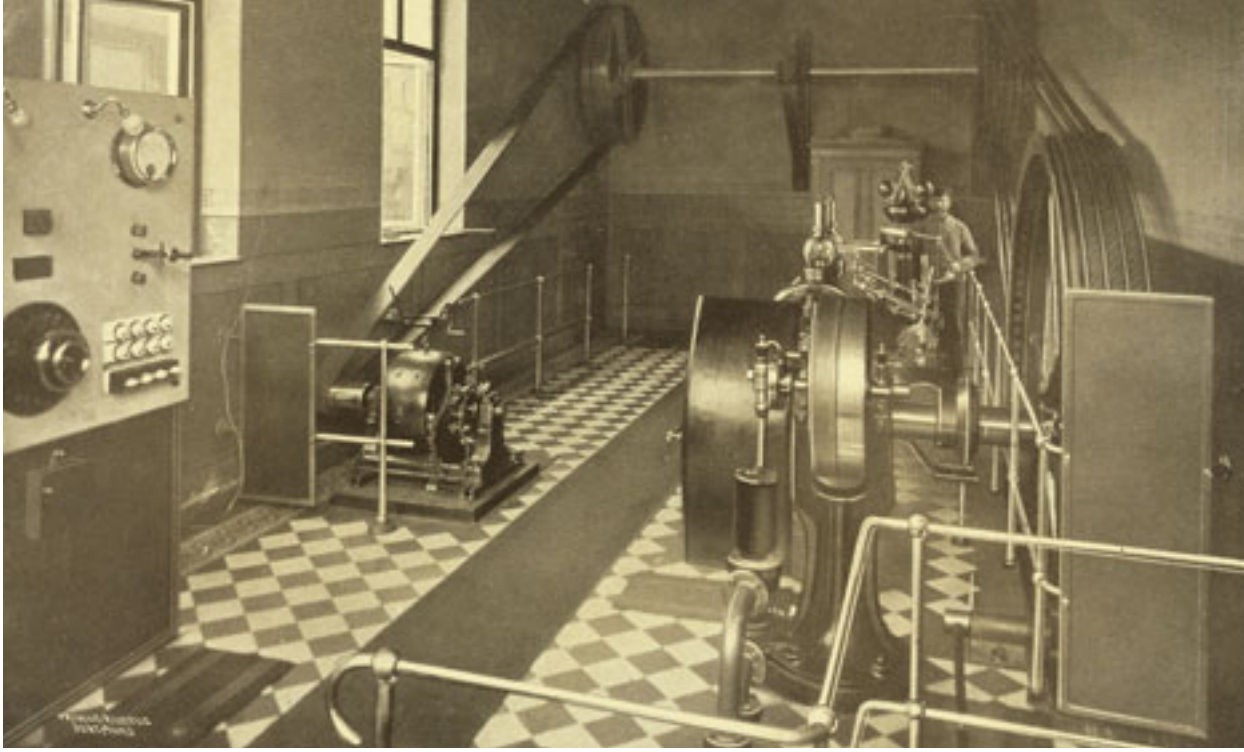
[...] Business was good in 1909. Sales in Amazonen were 4120 units, in Siegfried 717 units, i.e. more than in 1908: Amazonen 517 more, Siegfried 71 more.

Net profit was also in line with the increase in sales. Today we are writing the number 27,560 in Amazon.

Last summer, on 25 August, we had our 25,000th Amazon ready. I had promised to organise a celebration, but because of the departure of our dear Hermann we were unable to do so, and I promised to organise this celebration when we had 30,000. That will probably happen this autumn, if God lets us experience this day happy, healthy and well. In terms of exhibitions, we visited the German Agricultural Exhibition in Leipzig. Friedrich, H. Teckemeyer, Wilh. Wessel and I were there. The success was as with all exhibitions: At those far away from here, where we have not yet been seen before, you don't feel the success immediately.

In 1909, we built a new storage shed here and at the railway station and the new paint shop. This year, a new office and a new metal-working shop are being built.

The weather last year was very unfavourable. From the beginning to the end of June it was very dry and very cold, the hay growth was miserable and there was not even half of a normal harvest. Everything seemed to want to dry up and wither away. Despite the sad weather, the grain was still doing very well. Then, at the end of June, the hoped-for rain came, but in such abundance that the hay harvest was half spoilt and the little that had grown could be brought in. The rain continued unabated, the rye grew long in the stacks, but a few dry days came in the worst of times and the rye was quickly brought in, often not dry for a long time. It was the same with the other crops, always wet and always wet, the whole autumn. The rye could not be sown at all in wet places; it is said that in some places the seed did not get into the ground at all. Here everyone helped each other. There was enough fodder growing



This steam engine was used to power the lathes and drills in 1909 and a dynamo (left in the picture) was used to generate electricity.

in the autumn, and fodder could still be brought in from outside until Christmas.

We haven't had a winter yet, only 1–2 days of frost, then it rained and snowed again. Still rain in abundance until today. Today there is a comet with a long tail in the sky in a north-westerly direction, it has been visible for 14 days in the evening from 6 ½–7 o'clock, you can only see it very faintly, it is already fading again today. Another comet, called Halley's, is due this summer.

Grain prices were very high last summer, today they have gone down again, a sack of wheat flour (200 pounds) costs 32 marks today, still a very good price. Meat prices are: beef 60 Pfennigs, pork 66 Pfennigs carcass weight. Livestock prices, breeding and lean cattle are currently high. Butter costs an average of 1.20 marks per pound. Eggs 14 pieces 1 Mark, but they have already cost 10 pieces 1 Mark this winter.

The interest in politics among even the most ordinary people is growing from year to year; it probably comes from the many party leaders & their many newsletters.

Speeches are made by these leaders every moment, even now when there is no election in the offering, something that was unheard of in the past. Each party brings up new laments and mentions all sorts of things that need to be improved. But times are really not so bad today, things are much better than last year, everything is rising in price again, wood, iron, everything in general, the desire to build is also increasing again. The Reichsbank interest rate stood at 5 per cent, today it is said to have fallen to 4 per cent. I bought iron here this winter at 102 marks carriage paid. Today the price has risen by 10 per cent, but I have everything I need for this year.

When you often hear speeches and read descriptions of how bad times are today, you have to say: "People who lived 40–50 years ago, have you forgotten what times were like back then?" How quickly people forget the past.

I think it would be useful to write here what I experienced and what my blessed father told me more than once about his time, so that we don't forget how things used to be and don't complain in the good times when we should be thankful and satisfied.

During my blessed father's lifetime, the local farmers were almost all serfs of the neighbouring aristocratic estates. They had to provide certain help (labour services), had to give grain and money to the nobles, who got to decide everything. The peasants could get nothing and were poor throughout. The land cost almost nothing, and little was harvested. Livestock farming was poor. In spring the cows had to be put on their feet by several people because they were completely emaciated, they

"When you often hear people talking about how bad times are today, you have to say: People who lived 40–50 years ago, have you forgotten what times were like back then?"

Storage and loading shed on the Osnabrück – Münster railway line in Hasbergen, ca. 1910. The machines were brought here by horse-drawn carts.

could no longer stand up themselves because they were weak, the neighbours helped each other.

In winter, many of the cows' feed consisted almost exclusively of rye or wheat straw. People's food here in the countryside consisted of: porridge cooked with water and a little milk in the morning; if the cows still gave a little milk, there was probably also flour soup, very often cooked almost exclusively in water, with a little milk added for the better off, this was called 'Süppken'. Black bread was baked in one or two cases, which was the first meal of the day, perhaps at 7 o'clock in the morning. The next meal was at 12 o'clock, then there were potatoes and vegetables mixed together with salt. Meat was served once or twice a week for lunch, that was the second meal. Then the third meal was at 7 o'clock in the evening, again the same as the first, porridge or soup with brown bread, and there was probably the leftover lunch, that was all. According to my father, these rules probably applied in 1820 – 40. Then the better ones had two more meals, breakfast and snack bread, but these were only served in summer. The old proverb also says: "Alder leaves are grey, that's what gives the farmer 'nen Vesperbraut'." [When the alder leaves are as big as pennies, the farmer gets another snack]

Later, everyone had to eat it and very much in winter too. White bread was hardly ever baked at all, it was called "Stuten" and was only baked on festive days, i.e. Christmas, Easter and Whitsun.

The saying about this bread was:
"Christmas bakes Jann and olle Mann,
Oustern who can dat, Pinksen de rieke Mann."
[Everyone bakes at Christmas, those who can at Easter and the rich man at Whitsun]

All sorts of things were often added to this bread, beans, barley, buckwheat and wheat, certainly a strong mixture, but a healthy stomach was probably part of it. These were the meals and dishes of the times 50 years ago. Then there was the year, I think 1847 or 48, when nothing had grown here and the ears of corn bore almost no grain. There was no railway, no money, potatoes were rotten, everything possible was baked together just to have some food, roots of all kinds were sought to nourish oneself.

The work back then and the earnings, oh what a sad time. Everything had to be done by hand, what sad farming tools.

Threshing was done with a flail, starting at 4 o'clock in the morning at the latest, threshing vigorously until 7 o'clock, only then was the first meal served. The threshed grain was cleaned with a tub that was swung up and down, the resulting draught separated the chaff, but how miserably. The chaff for the horses was cut by one man with a simple cutting loader every morning for the next day, there was no mowing machine, everything was done with a scythe. In every house there was a linen spinning and weaving mill, this spinning and weaving was done in winter by the master of the house and his wife, by servants and maids, a few rolls, I can't remember how many ells.

A Lebbent was called 180 cubits, some or several of which were sold to the merchants in the city to earn some money, depending on how hard they worked. Everyone wove most of their own clothes from linen, which was either dyed blue or, if it was to be a better suit, printed.

A better cloth suit was probably only worn once in a lifetime, at most twice, at a

confirmation and at a wedding. At the former, the suit of a deceased grandfather or grandmother was usually taken and re-sewn, or of siblings who had outgrown it.

My father often told me that people here in winter, and if I'm not mistaken even he himself, went from here to Osnabrück to thresh with the flails, starting there at least at 5 o'clock, then back home in the evening for 10 groschen, probably 1 mark in today's money, with his own food of course. If he went to the farmers here with his tools & made everything ready for them, he earned 5 groschen and something to eat. The farm labourer's wage was 15 – 18 thalers a year, the girl's wage 3 – 5 thalers a year. In addition, flax was sown, which the servants could then spin and weave in winter. My second mother's highest wage was 5 thalers.

The flax and hemp was sown in abundance and then, when ripe, was pulled, soaked, spread out on the field, broken and waved, all by hand. What hard labour before the linen was ready. There were no newspapers in the countryside, and no postmen either. The letters that came, if any came at all, were left in a business house where the person concerned was likely to be in business. If the person went there occasionally, the landlord would give him the letter or send it via a neighbour. The first railway line Rheine – Osnabrück – Hanover was built in 1853, no one had ever seen a railway before. All kinds of tales were then told about these railways and the trains, everyone wished that very few of these monsters would be built, because what else could the horses do, people were not in favour of machines, they feared that work would otherwise become even scarcer than it already was. No telegraph, no telephone was known. Then there was the light: they usually had oil lamps, which were forged and soldered.

The floor lamp was a better lamp and was only found in wealthy families, usually made of tin or brass. These lamps had an approx. 8 – 10 mm thick wick, which was placed in the container with one end still sticking out at the top, and oil was poured into the container. This oil was obtained from flax or linseed, the seed was pressed in oil mills and the oil obtained was used as light oil. A pröckel was attached to the lamp, with which the wick was prised out if it did not burn brightly enough.

Depending on whether it was a small or a wealthy house, there was one, two or three lamps. When spinning, one was hung in the middle of the parlour and everyone sat around it. In the parlour there was often no need for a lamp at all, the large hearth fire was lit and lit up the whole parlour.

Then light the fire: In the evening, the hearth fire was stirred together and covered with a fire blanket; the next morning there was usually still a smouldering coal on the hearth. This was then blown on and fanned until a little flame was produced again by adding straw. If there was no more smouldering coal, you would often run to the neighbour's house with an old wooden shoe filled with old rags and get a light there, as the old saying goes when you visit someone and want to leave too quickly: "Dat is kein Besöuk, dat is je jüst, os wenn du Füer halen wult." [It's not a visit, it's just as if you want to get a fire]. Fire was probably also struck with flints and the sparks were caught in so-called sponges or fuses (old stuff), then fire was gradually achieved by moving the fire-caught fuse back and forth.
I can still remember seeing a lot of what is written here from my childhood. I myself, with my carpenter's drawer on my back, did all sorts of things around the house for various farmers, earned 1 mark a day and something to eat. It was around the time when I was 18 – 20 years old, in 1880 – 82. What do you not often read, what do you not often hear for speeches, even from pastors in the pulpits, how the present time is often described: "The shrill sound of the factory whistle sounds, the sour day's work must be resumed, one speaks of rushing

"... they were not in favour of machines, otherwise work would become even scarcer ..."

"If you really think about how much hard work a machine does for people, then the humming of the machines sounds like a beautiful little song and the flute of the steam whistle like a shout of joy."

& chasing, of gruelling work, of the terrible whirring of the machines, and God knows what else" Young people hear this chant and almost believe that no one has experienced worse times than they have. You can't blame them either, as the people in charge tell them the same thing.

Oh, these people who make these speeches about the good old days and paint the present so black, have they forgotten everything old and sad? Or have they grown up in abundance and felt nothing of the miserable life of the old days? In some cases, the latter is probably the case.

They should be happy about all the beautiful machines, they had to be and couldn't help it if they had done the hard manual labour themselves.

If you really think about how much hard work a machine does for people, then the humming of the machines sounds like a beautiful little song and the flute of the steam whistle like a shout of joy. I, who am writing this, does not wish for the good old days back, I feel most at home in the midst of the singing of my beautiful, good, dear machines, and anyone who has any afterthoughts must do so with me. Let us give thanks to God, who governs everything so marvellously, who has allowed us to live in this time so rich in development.

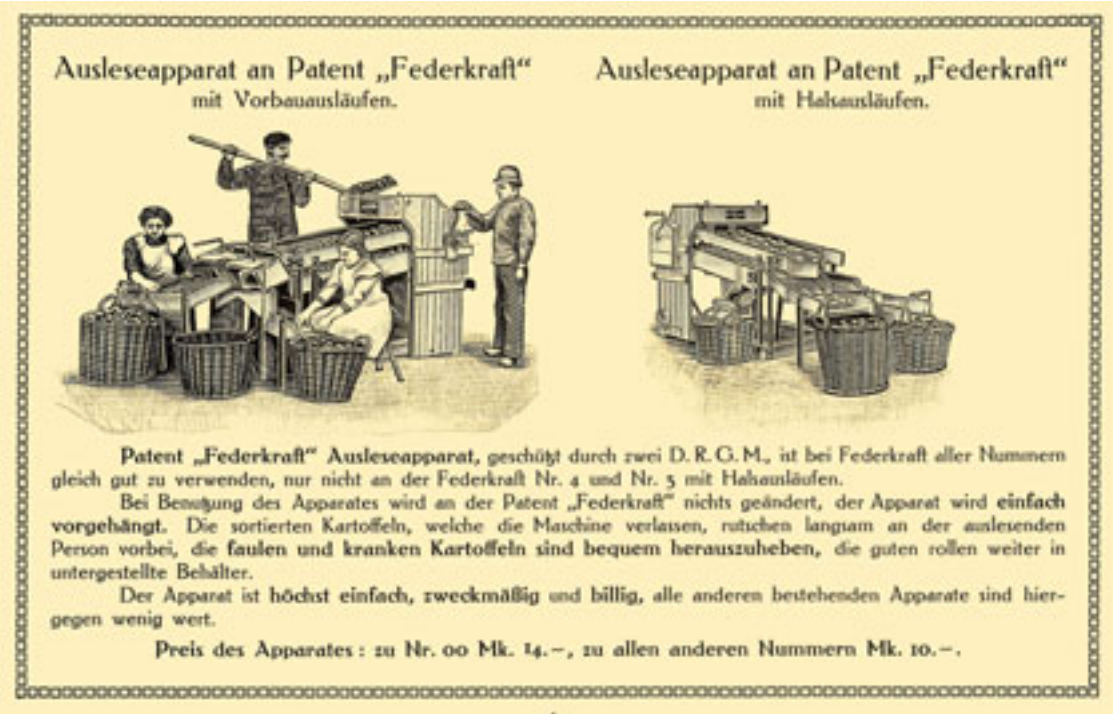
We want to and must give thanks and admire our unpretentious ancestors, who had a much harder time than us and were frugal. God has given us these advantages, but we are still ungrateful and dissatisfied.

Amusements and pleasures are buzzing in the minds of the present world; luxury, class pride, immorality, often not in short supply. Where are you inhabitants of the dear German fatherland heading? If it continues to grow like this, we will be lost, despite the really good times. I wish we would think about it more.

Far be it from me to say that we should not strive to be better off; every class may do so, but in a reasonable way. The labourer must benefit from the new machines just as much as anyone else, and one should heartily begrudge the other if he sees him better off. The worker should also be granted more earnings and shorter working hours, he must also remain grateful to his God for what he has achieved and should not use his better position for luxury and an unsound life, then what he has achieved is only a loss & no benefit. One should try to achieve one's goals in a reasonable and God-pleasing way, and when one achieves something, also recognise it gratefully. Then your fellow human beings can also be happy for you. This applies to all classes; there is no sign that the higher classes are any better off in terms of frugality than the little man. The sad thing about the former is that they often look down with contempt on those who are lower. Who should not be able to sense this? And then it is no wonder that they themselves breed hatred against themselves.

Not money and goods, not rank and status, not education are the precondition of human respect, they should never be the precondition of respect, but every man, even the poorest & simplest, who is really good, who endeavours to do his duty, who is found faithful, is worthy of respect. A person of high rank and profession who lacks this loyalty and goodness is not worthy of loosening the shoe straps of the poor and loyal. Unfortunately, we humans lack this feeling all too often. But there is one who knows how to judge us humans correctly, no amount of trying to shine will help, and he is "the creator and sustainer of everything we see, what we call heaven and earth, and of much more for which we have no name or words." I am not a scholar and cannot express myself as such, I have tried to express it as I think it with my weak mind.

Here in the countryside, the contrasts between high and low are not yet so bad, nor is the dissatisfaction. I don't have the slightest complaint about my people, we still live so



Potato sorter 'Federkraft', 1910

nicely and peacefully together. I don't hear any talk of dissatisfaction that would be serious for my people. My people and I don't belong to any organisation, we can get along quite well together without it. These contributions, in which the party leaders often indulge, and which are very often messed-up characters, we can benefit ourselves. God grant that it may stay that way, that the city and its poison may stay away from us, pure, fresh air blows here, fresh, God's nature.

I would like to close with this for now.

This is how my grandfather describes the dissatisfaction with development, especially in the developing urban centres. People in the countryside, on the other hand, lived more modestly, more content with their lives, in harmony with nature, with God's nature.

The year 1910 was also an important year in that Heinrich Dreyer added an important new development to his programme: the potato sorting machine. Together with a very good friend, Mr Heinemann, the owner of the agricultural machinery wholesaler HAGEDORN & SANDER in Osnabrück, he developed the prototype, which was immediately well received and was later to become one of the company's main sales drivers:

30. May 1911

[...] Business was particularly good in 1910, we sold 4666 Amazonen and 1206 cultivators, the result was very good, as the balance sheet shows.

The D.L.G. exhibition was in Hamburg, which we had to limit due to the lack of space there. Today this exhibition is in Cassel and we exhibit there on a much larger scale.

In December last year, on the advice of the Hagedorn & Sander company in Osnabrück, we started to build potato sorting machines. I invented a particularly beautiful machine for this purpose and the company immediately ordered 500 units and shortly afterwards another 250 units. Otherwise important inventions have not been made.

"I invented a particularly beautiful machine for it and the company immediately ordered 500 of them."

On 6 October last year, we celebrated the completion of the 30,000th Amazon & the 4,000th cultivator. The party was celebrated like the ten thousandth. The celebration began at 3 o'clock in the afternoon, all my people were invited and attended, along with the wives of the married and some of the sisters of the young ones; all in all, more than 150 guests were present. It was a marvellous celebration, which we all remember fondly.

Celebration to mark the completion of the 30,000th 'Amazone' and the 4,000th 'Siegfried' cultivator, October 1910

In 2001, Europe suffered greatly from foot-and-mouth disease, which was sensationalised and gratefully picked up on by the media and dramatised accordingly. In England, however, the epidemic took on truly dramatic proportions.

However, this epidemic also occurred at irregular intervals in earlier times, but not so much fuss was made about it:

The year 1910 was a mediocre one for agriculture, nothing more. As in 1909, it was very wet. Hay and grain could hardly be brought in dry, enough had grown, but a lot had spoilt. Cattle prices were good.

This winter until today there has been an outbreak of foot and mouth disease all over Germany, and so severe that no cattle or pigs are allowed at any shows, only horses. Today it seems to be on the wane. Trade and therefore prices have suffered greatly, a lot of cattle had to be slaughtered as there was an oversupply of meat.
The markets were cancelled, so meat was cheaper.

There was no epidemic here in Gaste and the neighbouring communities.

My grandfather also reports interesting things about the weather. It reminds me of the weather in recent years, which was commented on in a similar way.

The weather this spring has been very good, all the crops are standing beautifully, at the moment a very dry east wind has been blowing for 8 days, and we are in great need of rain here on the heavy soil. We have had almost no winter again, the ice has frozen up to 2 cm thick for a few days at most. There was hardly any snow at all, it seems as if the old harsh winters are no longer coming at all.

I can well remember that during the Second World War, from 1939 to 1945, we certainly had harsh winters with lots of frost and snow here in northern Germany. We children spent weeks going to the neighbouring mountain to go sledging or ice skating.

One particularly harsh winter was in 1953, when many schools and universities had to close due to a lack of heating. I was studying in Cologne at the time and can well remember that all the water pipes in our house were frozen and only the small ventilation tap in the cellar was still providing water. The harsh winter lasted so long that the ponds in Gaste were still frozen over in March.

Dies müssen Sie lesen,
Das Ganze wissen,
Das verpassen, heisst
Geld weggeschmissen!

H. Dreyer, Gaste

Post Hasbergen b. Osnabrück (Hannover).

Grösstes Europäisches Werk für Kartoffelsortiermaschinenbau.

Neue

Kartoffelreinigungs-, Sortier- und Auslese-Maschine

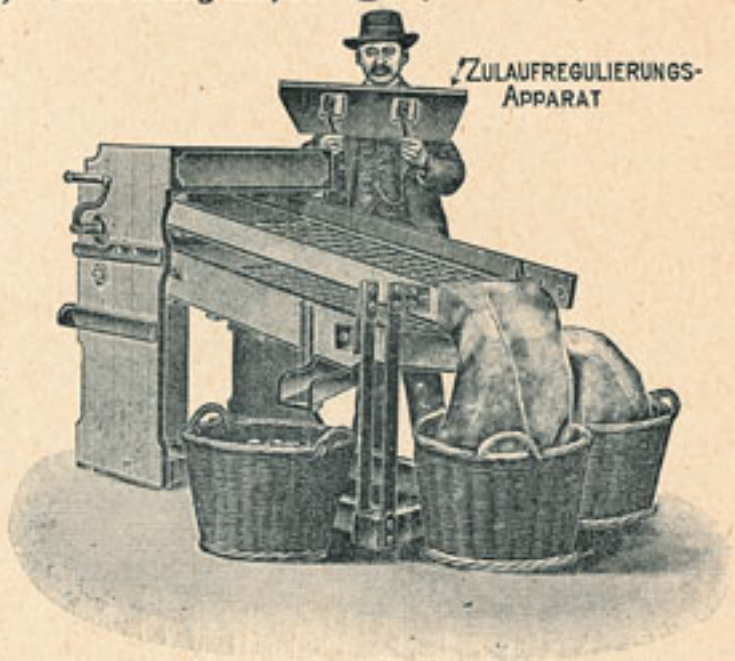
Modell 1912. „Dreyers Federkraft". Modell 1912.

Vor Nachahmung geschützt durch sechs Gebrauchsmuster.
Deutsche Reichspatente, Patente in England, Schweden, Dänemark, Oesterreich u. Luxemburg angem.

Zum Reinigen und Sortieren von Kartoffeln, auch Aepfel, Apfelsinen, Zitronen, Rüben, Zwiebeln, Nüsse usw.

Für die zarteren Früchte besonders konstruierte Siebe und hierfür geänderte Maschine.

Den Preis auf Anfrage.



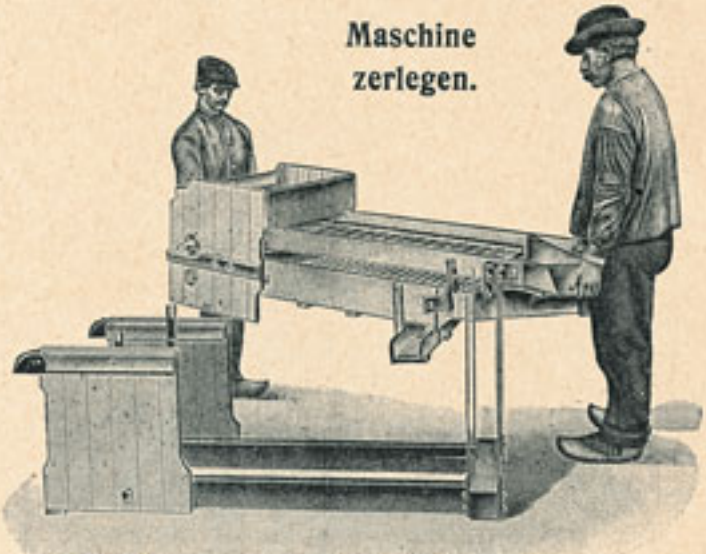
Ein Kind von 10 Jahren kann die Maschine dauernd drehen.

Auszeichnung der deutschen Landwirtschafts-Gesellschaft Kassel im Juni 1911 „Neu und beachtenswert".

Vorzüge.

1. Absolut keine Beschädigung der Kartoffeln.
2. Aussergewöhnlich grosse Leistung.
3. Nr. 0 und 1 im Moment zerlegbar, daher durch jede kleine Tür zu bringen und in jedem Keller aufstellbar, auf Seite 4, Abbildung 7 und 8. bildlich dargestellt. D. R. G. M.
4. Gleichmässige Kartoffelzulaufregulierung, kein Verstopfen der Siebe mehr. D. R. Patent, fünf Auslandspatente angem.
5. Auslesesieb für faule und kranke Kartoffeln, auch Steine. D. R. Patent angem.

Maschine zerlegen.



Vorzüge.

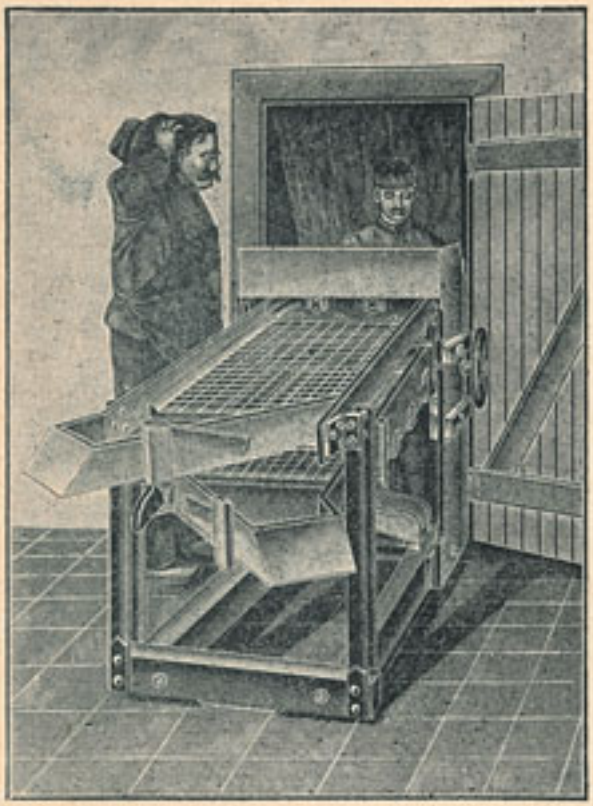
6. Stahlfedern mit Stahlanlagen, kein Brechen der Federn mehr. D. R. G. M.
7. Durch diese neuen Stahlfedern keine Stösse mehr daher spielend leichter Gang. Siebkasten schwingen sich fast selbsttätig, der ganze Kraftaufwand ist nur noch eine geringe Nachhülfe.
8. Alles auf einer starken Holzsohle montiert, also Fortfall des unnützen sperrigen Holzgestells. D. R. G. M.
9. Hübsche Form, erstklassige Ausführung, dauerhaftes Material.
10. Niedriger Preis.

Das Zerlegen geschieht wie folgt: Die zwei Seitenständer sind in der Mitte ihrer Höhe geteilt; um diese zu trennen werden innen die obersten zwei Muttern der eisernen Streben gelöst (nicht abgeschraubt), dann alle Muttern der vier Federn ebenfalls lösen, mit zwei Mann das Oberteil angefasst, hochheben und die Maschine ist zerlegt. Die Streben und alle vier Federn an beiden Enden haben Schlitze, deshalb nur ein geringes Lösen aller dieser Muttern. Die Federn auch unten ausziehen, und so sind die Teile der Maschine durch kleine Oeffnungen zu bringen, und in jedem Raum aufzustellen. Bei Waggonversand durch die Zerlegbarkeit ⅓ Frachtersparnis. An „Federkraft" Nr. 0, 1 und 2 sind Klemmklinken angebracht, woran Säcke aufgehängt werden können, einmal gleich in Säcke laufen, das andere Mal wie Abbildung 1 zeigt, Säcke ohne Boden in Körben münden zu lassen, keine Kartoffel fällt vorbei.

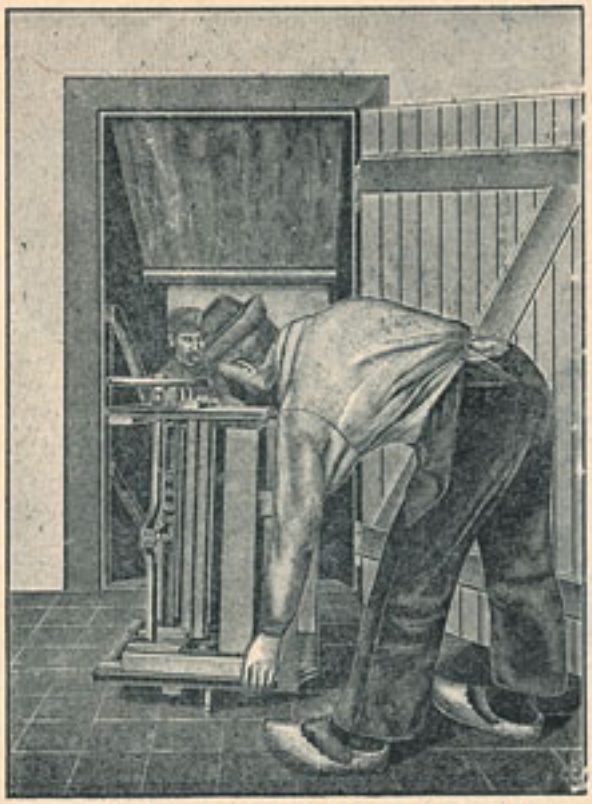
Stahlfedern.

„Dreyers Federkraft" hat **Stahlfedern** eigenartig konstruiert mit **Schlitzen und Stahlanlagen,** geschützt durch **D. R. G. M. Kein Brechen, kein Verziehen** der Federn mehr.

Hier folgen nun bildlich zwei Ansichten über die Zweckmässigkeit und Einfachheit der Zerlegung.



Die Maschine soll in den Keller, geht aber nicht hinein.



Die Maschine geteilt, geht jetzt bequem hinein.

Postkarte

An

H. Dreyer
Amazonenwerke

Gaste
b. Hasbergen
(Kr. Osnabrück).

Was sehen Sie hierneben,
Ist's beachtenswert?
Haben Sie von Gleichem
Schon jemals gehört?

Getroffen in Maschinen
Die richtige Wahl,
Bringt Frohsinn,
Gesundheit und Kapital.

Bestellen Sie zur Ansicht
Auf dieser Karte Rand;
Und Ihr Glück zu schmieden,
Liegt in Ihrer Hand!

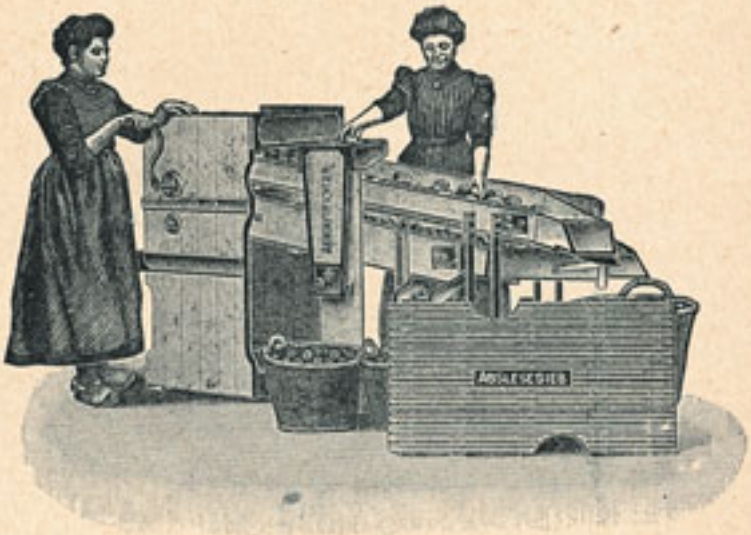
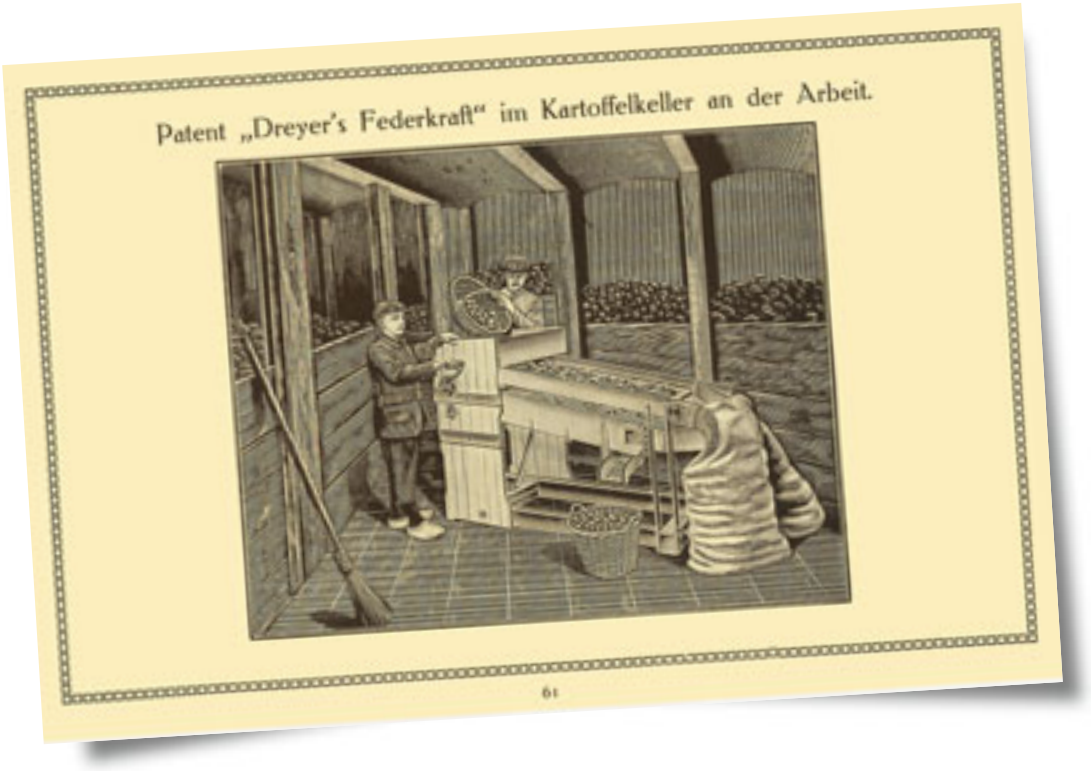


Abbildung 9.

„Federkraft" mit Auslesesieb und Abwurftrichter. Die auslesende Person braucht nie die Augen vom Sieb zu wenden, das Abwerfen der faulen Kartoffeln kann gleich auf dem Sieb geschehen und rollen gesammelt in den Korb.


Patent „Dreyer's Federkraft" im Kartoffelkeller an der Arbeit.

61

Heinrich Dreyer was the only person to win a 1st prize with this potato sorter in Rome in 1912.

Katalog-Beilage.

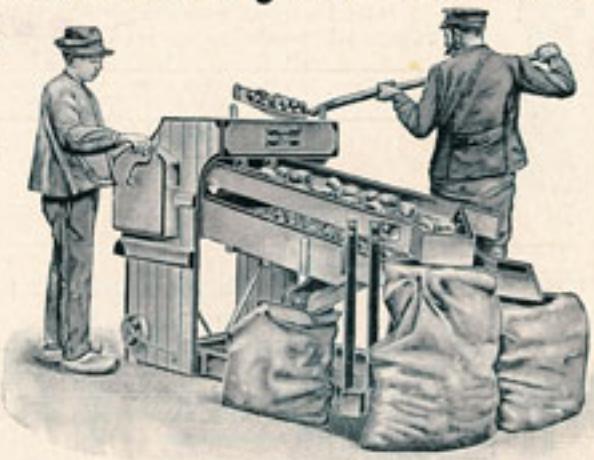
Kartoffelreinigungs-, Sortier- und Auslese-Maschine

Patent Dreyers Federkraft

Modell 1913

Zum Reinigen, Sortieren und Auslesen von Kartoffeln, auch Aepfel, Apfelsinen, Zitronen, Rüben, Zwiebeln, Nüsse.
Sand und Kies.

Außerdem auch Getreide und alle Hülsenfrüchte. Dazu Aufsetzrumpf und besondere Siebe erforderlich. Preis auf Anfrage.



Großartig verbessert!

Auszeichnungen:

Deutsche Landwirtschafts-Gesellschaft Kassel im Juni 1911: „Neu und beachtenswert!"

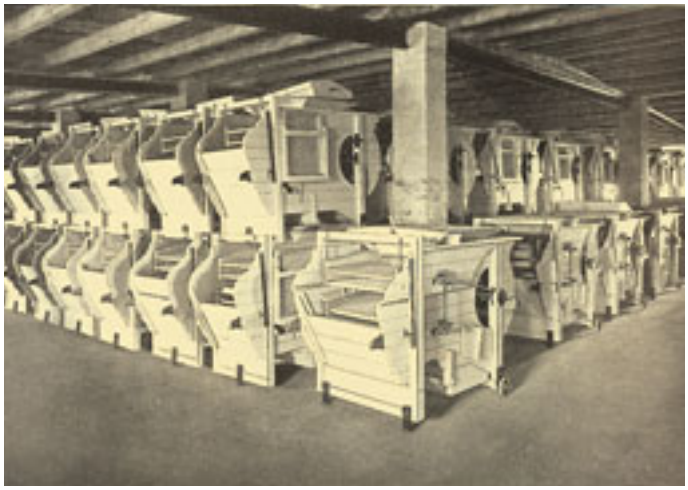
Rom April 1912: Einziger erster Preis!

Probe nach Wunsch.

H. Dreyer, Gaste Post Hasbergen bei Osnabrück (Hannover)

Telegramm-Adresse: Amazonenwerk Osnabrück —— Grösstes Werk für Kartoffelsortiermaschinenbau.

12. 12. 3000.



Lathes and drilling machines, driven by transmission shaft drive belts, 1912

Right:
Generous storage of the 'Amazonen' out of season, 1912

We also had a harsh winter in 1963/64, i.e. frost and snow from November to March, which meant that all construction work was interrupted. This shows that you always have to reckon on strong fluctuations in the weather.

Back to the year 1910: It was one of the most important years in the development of the Amazonen-Werke: Capacities were greatly expanded.

I have to go back to our business again, because I have forgotten a lot. We built our beautiful new office in 1910 and moved in on 24 May, so we've been working in the beautiful rooms I've come to love for a whole year now. We also built our new metal working shop and moved lathes and drills into this room, and the smithy is now much better as a result. The latter new building meant that we had to demolish our old workshop, where we had started out and which my father had built. We bought a lot of expensive machines, as the balance sheet shows. Then in November & December we built our new two-storey warehouse, because of the mild winter we got it well under roof before Christmas, we have thus gained space, which is very good for us, also because of the potato sorters.

My grandfather's notes on the following year, 1911, show something similar.

14. May 1912

The beautiful month of May has come again, everything is green and it has been good for the last 8 days, only last night it froze a little. It was very cold at the beginning of May and the end of April, and the pear and cherry blossom is probably almost all frozen. It is not yet possible to say how the apple blossom will fare. We don't have any night frosts in January and February, but they are there in April and May, which we humans think is wrong, but it will have to be that way. The year quickly passes by again. [...]

I must now return to the weather of the past year. The whole of 1911 was very, very dry until October, and a lot of things dried up. Strangely enough, the stalked crops still turned out well, as did the first cut of hay, but that was all. The meadows dried out completely after the first cut, there was hardly a green stalk to be seen, everything was red & everything was totally burnt by the constant daily heat of 28–35 degrees Celsius, 40 degrees in the sun. No autumn fodder had grown, nothing at all, it looked really sad. Today, until 8 days ago, it was very dry again, but today we had rain again, and we hope that this year will be better than last year. Last year the drought started in May and lasted until October, with the tremendous heat that no one has ever experienced here. All the wood shrivelled up. We still had some rain here in June. But in places

there was no rain at all, not all summer. The foot & mouth epidemic has also been raging throughout the year, but since February it has been on the wane and we hope that it will soon come to an end. The D.L.G. show has been cancelled this year because of the epidemic, so we are not putting on a show this year. Livestock prices, mainly pigs, both fat and lean, were very low in 1911, and feed prices, mainly barley and oats, were very expensive, so that 1911 was a very bad year for the farmer.

We still sold very well in 1911: 4759 Amazonen, 791 Federkraft, 1055 Siegfried, the latter 150 fewer than in 1910, and this year there will probably be even fewer, because the cultivator business went very badly this spring, so that we will have to stop production for a few months. How things will go with the other machines cannot yet be foreseen. I am building 1800 units of potato sorters for this year, but whether we will succeed in selling them remains to be seen. It would be desirable to have a good year so that the sale of our other products would not suffer and I would therefore have to shrink my business. I find it difficult to lay off workers.

Unfortunately, the prospects are not yet bright. Otherwise business is going well, everything is getting more expensive, wood, iron, screws, nails, and all the factories in this sector are very busy and demand delivery times of 4–6 months. Let's hope that agriculture is doing better in 1912 than in 1911, then we'll be doing well too.

The year 1912 was also important for the development of Amazonen-Werkes . Not only was capacity expanded with the construction of additional halls, but for the first time my grandfather obtained electricity from outside, which he had previously generated himself with his steam engine.

In 1912, typing was done by hand and standing up.

Large assembly hall, over 25 m self-supporting with nailed wooden trusses, 1912

Right:
Lisette and Heinrich Dreyer at the exhibition stand during the DLG exhibition in Strasbourg in Alsace, 1913

20. May 1913

[...] Business was very, very good in 1912, as the balance sheet also shows. Orders were plentiful and we therefore had to expand the company again. We are now building a large assembly hall, 90 metres long and 25 metres wide, completely without pillars. An architect from Bremen is in charge of the construction and we expect to be able to move in within 3 weeks. As of today, our workforce is exactly 100 people, and we in the office are still to be added.

The number of machines delivered is shown in the sales log. The business prospects for this year are also reassuring for us, as far as we can tell from the enquiries and confirmed orders today.

This year we are attending the D.L.G. exhibition in Strasbourg in Alsace. My brother Friedrich, Teckmeyer & Tüpker are leaving on Sunday, my dear wife & I will follow 8 days later. Hopefully this will bring us a profit that is in balance with the significant costs.

On 1 July we also take electricity from the Niedersächsische Kraftwerke to power the business, contracted for 3 years. The weather in 1912 was not good, constantly wet & always wet. Here the rye was still well & dry under cover, but the wheat was not very good, oats grew long in the stalks. In most places in Germany, almost all the grain is fully grown. A lot had grown, but so much was spoilt again by the rain. The potatoes were still very good, it got a bit drier in the autumn, but most of the time it rained right into the winter, even this spring. We hardly had any frost and snow, only a good week that the ice just held, that was all. Winter is also almost non-existent in terms of snow & ice, in 15 years there hasn't been any significant snow & severe cold and not nearly as I knew it in my childhood.

Then in April & May we have night frosts which, because of the mild winter, often enough spoil the early shoots in trees and bushes. So far, things have gone pretty well. The fruit is still in good condition. Livestock prices have skyrocketed in the last year, piglets (5 weeks) cost and still cost an average of 25 marks. Fat pigs cost 80 Pfennigs per pound of carcass weight last winter, cattle 70–80 Pfennigs (per pound of carcass weight.) Pork is currently somewhat cheaper at 65–70 Pfennigs, grain is currently well priced. Wheat 100 kilos 18 marks, rye 100 kilos 17 marks & oats 100 kilos 16.50. Wood prices are constantly rising. Iron, coal, everything is constantly rising. Where do you think this is going? I felt compelled to raise the prices of my machines on 1 January, otherwise I could no longer survive.

"Winter is almost non-existent. There hasn't been any significant snow or severe cold in 15 years."

Business continued to develop favourably in 1913, although there were already clouds on the horizon. Materials were becoming scarcer and more expensive and there was a growing sense of unrest in politics. At this time, the company was already employing 120 people, while the rest of the economy, especially the construction industry, was complaining about a lack of orders.

Exhibition stand at the DLG exhibition in Hanover, 1914

2. April 1914

[...] The year 1913 was a good one for agriculture, a lot had grown & could be brought in well, at first quite wet, but later during the harvest so dry that most of it could be brought in well & dry. Cattle prices were consistently very high, today they have been falling for 2 months.

Best beef 50 Pfennigs live to the pound. Pork 45 Pfennigs live to the pound. Piglets 3 marks per week of age. Grain prices: wheat 18.90 per 100 kilograms, rye 15.30 per 100 kilograms, oats 16.40 per 100 kilograms, barley 15.00 per 100 kilograms.

Timber prices are constantly rising, but iron prices have fallen sharply. We bought iron at the basic price of 97.50 marks per 1000 kilograms. Industry was not doing so well in 1913. Construction activity was also very weak. Money was very expensive, bank interest rates in the middle of the year were 7 %, at the end of the year they fell to 5 ½ %, currently to 5 %.

Our business went very well, as our balance sheet and turnover account show. The success in Strasbourg will probably not be what it should have been in view of the costs incurred, as this exhibition was not in the right place. We did have one good success: the new potato sorting machine presented at this exhibition will go out for testing, and in December it was tested at the Grauhof estate near Goslar and awarded the large bronze medal. This year's exhibition is in Hanover in June, where we will be exhibiting strongly, and hopefully this will bring us good success.

Our labour force is currently 113 people & our 6 people in the office. We like the new building, the assembly hall, very much, it is light, airy & spacious, we have purchased several machines, so that everything is working well now. However, our storage rooms are now becoming too small again with the increased number of workers, & I am forced to extend them, & I am currently building a very large storage room on a plot of land which I bought from the farm owner Gastmann, a good 2600 square metres, the square metre at 1.50 marks. I hope to have part of it under roof in May.

Today we have also started to build trolleys for electric motors, we have made various innovations in them. We have to wait and see how successful they will be, I am exhibiting 3 of them in Hanover, one as a new device. Hopefully our business will go well again this year, the prospects are not bad. [...]

Then came the unfortunate year of 1914, when the First World War broke out on 1 August. My grandfather also commented on the context, but you have to bear in mind that he got all his information from the newspaper, which probably didn't report objectively:

28. May 1915

A year & 1 month have now passed since I last wrote this, & what hasn't changed since then.

A terrible war, the most terrible the world has ever seen, has broken out.

At the end of June 1914, the heir to the Austrian throne and his wife were murdered by Serbian instigators and perpetrators, and Austria demanded satisfaction from Serbia. The Serbs, however, did not think of this at all, and so Austria declared war on the Serbs, which was just what Russia had been waiting for and wanted to attack Austria.

Germany, as Austria's ally, had to help. Our great Emperor Wilhelm II negotiated with the Emperor of Russia that he would not intervene. He was promised peace by the Tsar, but behind his back the Russians marched with great

"A terrible war, the most terrible the world has ever seen, has broken out."

force against Austria and at the same time against Germany. Our German Emperor then negotiated with England and France as to how they would deal with this unprecedented war. Everywhere the voices were such that Russia, France & England had allied themselves to attack Germany & Austria together & to destroy them completely. The answers our Emperor received made this sufficiently clear, and so the world war was born. I won't go into the details of how the war came about here, there are certainly enough books written that can explain it better than I can. Enough, at the end of July the negotiations of our beloved Emperor were in full swing to avert the war, but in vain.
On Saturday, 1 August, war was declared and the mobilisation order came here at 6 o'clock in the evening. O' how terrible this hour. From the 3rd to the 16th of August, reserve men and marauders had to present themselves daily. Negotiations were held with England to see if they wanted to remain neutral, but no, they also declared war on us, and then Japan joined in.

Business then collapsed abruptly. Turnover fell to a third, stock levels were far too high and some outstanding debts were difficult to collect. All the young men were immediately drafted into the war, reducing the workforce to around 40 employees, after the business had been temporarily shut down completely.

"... that day was probably the hardest I've ever experienced, because I had to tell my people to just go home & look for work elsewhere first."

I will now try to describe our immediate surroundings during the war. Despite the sultriness in July 1914, I personally did not believe in war, I certainly thought it would go away.

The orders in July were quite good & there was already a lot of shipping, until the last day in July whole wagons were loaded. Then mobilisation came at a stroke, rail traffic was completely suspended, only a few passenger trains were still running, otherwise all military and war material.

Our goods, which were on their way to our customers, remained at the railway stations where they had arrived during mobilisation. We had to pick up what was at the station immediately, so on Sunday morning, 2 August, we had to unload a fully loaded wagon of Amazonen early in the morning and pick it up and what was in the goods shed.

On Monday 3rd August my men came to work, those who had not yet had to turn themselves in. 35 men had to turn themselves in immediately. It was only then that the full weight of the war came over me, that day was probably the hardest I have ever experienced, because I had to tell my people that I couldn't let them work for the time being, just go home and look for work elsewhere first. It was terribly difficult for me to have to tell my people this, when I had never had to let a day go due to lack of work.

My stock level, as I found out a few days later, was 336,642 marks, outstanding receivables: 149,298 marks. Bank debts: 83,000 marks, goods debts: 81,000 marks. I thought in the first few days that nobody would pay you any more, that you wouldn't be able to sell anything. Where are you supposed to get the money for your goods, debts & bank debts & where are you supposed to get what you still need?

All this turned out differently, most of the claims have been paid, about 5271 marks are still unpaid by customers who are in the field; about 2000 marks were lost in Russia. Some of the former will still be paid after the war.

Orders were placed & accepted about ⅓ as usual in peace, so that I was able to start work again on 1 September with about 40 men & have kept it that way until today & hopefully can continue to do so. We have a large stock of all our products and what we make every day. This means that we will be able to serve our customers well in the coming season despite the small number of people.

[…] Today, a total of 39 people work here in the company. […]

We still have a large stock here, so that we can still deliver promptly with our few people, and we don't know how the orders will turn out. So far the orders have been quite good over the months. All raw materials are becoming terribly expensive, especially wood, everything in general, iron & ironmongery, oil by double. That's why we, like all the other factories, have decided to increase our prices by 10 % from 15 June.

[…] Because the grain is confiscated by the government, it also controls the price. Rye bread made from coarse meal costs 16 pfennigs a pound. Wheat bread, today called war bread, cost 20 pfennigs a pound. Oats were set at 3 pounds per horse per day. The other fodder had to be taken from somewhere else, such as beans, peas, barley, molasses or something else. We feed ⅓ oats, ⅓ beans, ⅓ barley, the latter two coarsely ground, just crushed through. It works very well, the horses look quite good.

A pound of this feed cost me an average of 25 pfennigs, I bought it in January and February, later it became much more expensive. Last autumn I had bought oats for the whole year, but when the confiscation came in February, I had to give away everything I had more than 3 pounds per day & horse until 1 September. Meat prices have been very different this year. Last autumn in October we sold 2 pigs, for which we received 50 pfennigs for a pound of carcass weight, and today pork, 100 pounds at live weight, costs 110 – 120 marks, so it is 3 times as expensive. Beef, 100 pounds at live weight, 61 – 65 marks. The fact that pork is so rare & expensive is due to the lack of flour for feeding; there is almost nothing left to be had, only barley flour or even corn, beans, peas may be fed, but there is nothing left to be had, & it is so prohibitively expensive.

After around 30 years of continuous positive development, almost 20 years of worry and hardship followed for my grandfather's factory, which was called Maschinenfabrik H. Dreyer until around 1912 and was then renamed Amazonenwerk. The main reason for this was the constant trouble and confusion with his brother Wilhelm, who now called himself Heinrich Wilhelm Dreyer and was competing with him.

10. June 1915

The weather was very good last year and the harvest was mediocre. Today, as I write this, it is tremendously dry, the nights have been long, cold until a few days ago, as a result there is little grass in the meadows, but in the dry meadows it is very thin. The crops are mediocre, if only the rain would come soon so that we could have a good harvest, especially bread grain & oats, if that fails then it looks bad for Germany.

[…] For the first time in my life we can't talk about a surplus in our business, if we stay the same, then things will be fine. The new warehouse was finished in the course of last summer, I am pleased that I have the large storage rooms & can store everything so well.

We visited the Hanover Agricultural Exhibition last summer in June, we had a very large stand and also enjoyed a good attendance and recognition of our spotless exhibits. It would have been a great success if the war hadn't come, then we would certainly have done good business again.

On 16 July 1914, 14 days before the outbreak of war, we had a wonderful celebration to mark the completion of the 50,000th grain cleaning machine. Over 200 guests in all, the party was wonderful. It started at 2 o'clock. First coffee, then all kinds of entertainment, a torchlight procession at dusk, then theatre performances and dancing in between.

The whole party was without alcoholic drinks, which went very well & beautifully. The party

The 50,000th grain cleaning machine, 1914

was marvellous, but if we had known what would happen over the next 14 days, nobody would have been happy. The picture below is the photograph. It was nice that we were still together when we took it. Today we also make trolleys for electric motors in 7 types and sizes.

We were honoured by the jury in Hanover with the title: "New & noteworthy".

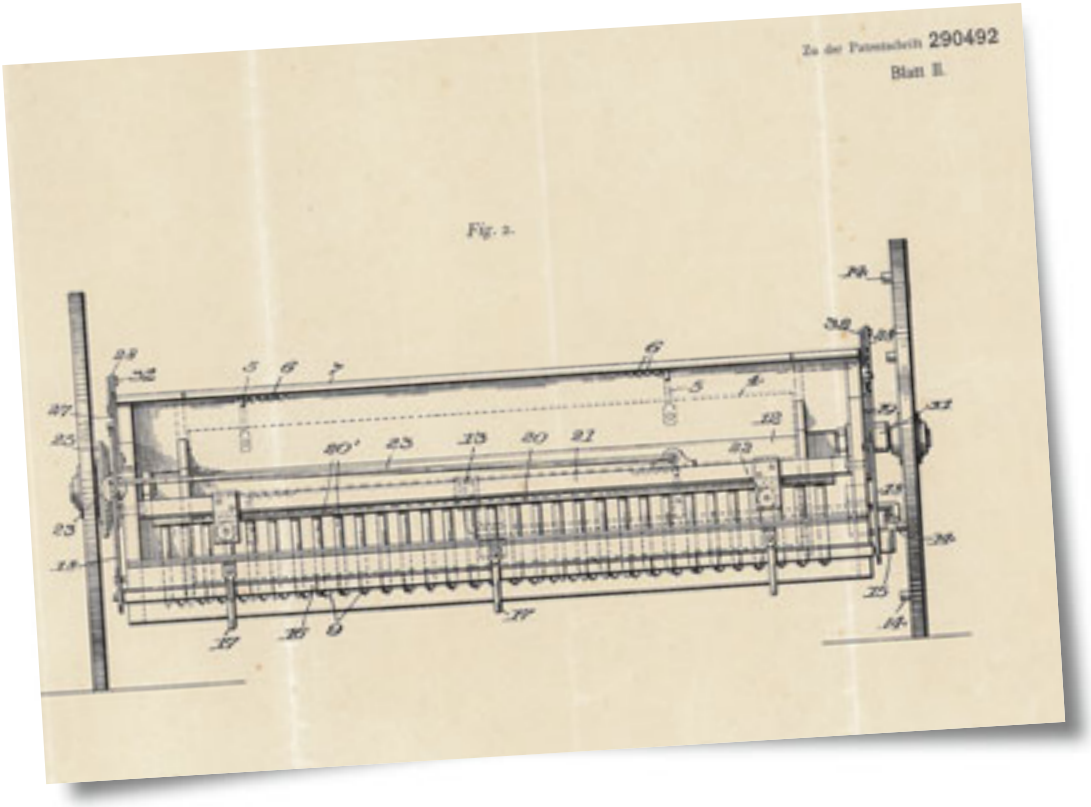
Then we also make specially guarded straw cutters, which we sell a lot of; for the time being, Hagedorn & Sander is the sole distributor.

1915 was a special year for the Amazonenwerk in that my grandfather developed the first fertiliser spreader and applied for a patent for it. It was probably born out of a desperation to revitalise the business, which had gone downhill. Although it took quite a while for it to establish itself on the market, it later became the company's main sales driver.

By 2013, over one million Amazone spreaders had already been built. Fertiliser spreading is still one of Amazone's most important areas of expertise today.

Now this winter I have invented a completely new fertiliser spreader, the design of which is completely different from the ones we have used up to now, and I have applied for a patent for it. We want to make 10 of them first and test them to see how they are accepted. I have sown all sorts of artificial fertilisers in my meadows and fields with the first one,

it worked really well and I have high hopes for it. If it really works, then we want to get started with production as soon as peace is concluded. That the dear peace may soon return & that we may soon receive our dear sons & brothers as victors, may our God, the sole arbiter of battles, grant it.



"Now I've invented a completely new fertiliser spreader this winter." Drawing from the patent specification of 1915

The gold-coloured anniversary spreader was raffled off in a prize draw at AMATECHNICA 2014

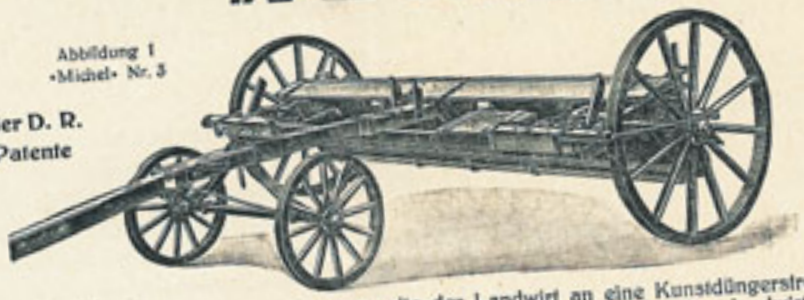
Der neue

DÜNGERSTREUER „MICHEL"

MODELL 1927

Abbildung 1
•Michel• Nr. 3

Vier D. R. Patente



D. R. Gebr.-Muster

Da die berechtigten Forderungen, die der Landwirt an eine Kunstdüngerstreumaschine hinsichtlich Leistung und Haltbarkeit stellen muß, bisher keiner für den landwirtschaftlichen Betrieb brauchbaren Lösung entgegengeführt waren, gingen wir dazu über, dieser für die Landwirtschaft so wichtigen Maschine unsere ganz besondere Aufmerksamkeit zu widmen. Die enge Fühlungnahme mit der praktischen Landwirtschaft sowie die eigenen Erfolge haben uns den richtigen Weg gewiesen: und nun ist es uns gelungen, mit unserm •Michel• **etwas ganz besonderes** zu bieten.

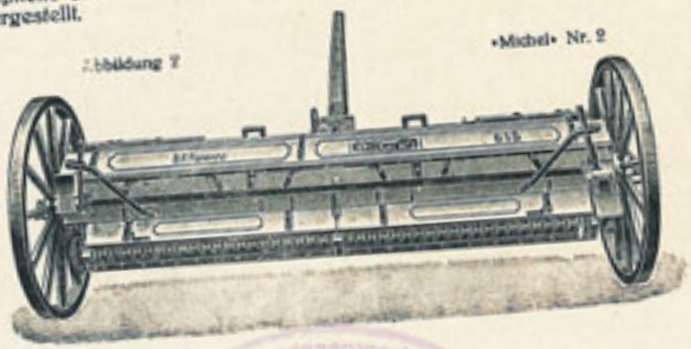
Ein Düngerstreuer muß alle Düngerarten – ob feucht oder trocken – in kleinsten und größten Mengen einwandfrei streuen können.

Der „Michel" streut alle Düngerarten — ob feucht oder trocken — von 8 kg bis 1500 kg per Morgen völlig gleichmäßig.

Die Hauptteile sind aus Holz – nur die Schieber und die Rippen der Streuwalze sind aus Eisen hergestellt.

Abbildung 2
•Michel• Nr. 2

Innerhalb kurzer Zeit



glänzende Zeugnisse

Liste 5

PATENT-URKUNDE

Nr 290492.

AUF GRUND DER ANGEHEFTETEN PATENTSCHRIFT IST DURCH BESCHLUSZ DES KAISERLICHEN PATENTAMTES

an H. Dreyer in Gaste b. Osnabrück

EIN PATENT ERTEILT WORDEN.

GEGENSTAND DES PATENTES IST:

Kunstdüngerstreuer mit in seiner Schräglage einstellbarem Rutschboden.

GESETZ v. 7. APRIL 1891

ANFANG DES PATENTES: 5. März 1915.

DIE RECHTE UND PFLICHTEN DES PATENTINHABERS SIND DURCH DAS PATENTGESETZ VOM 7. APRIL 1891 (REICHS-GESETZBLATT FÜR 1891 SEITE 79) UND DURCH DAS GESETZ VOM 6. JUNI 1911 (REICHS-GESETZBLATT FÜR 1911 SEITE 259) BESTIMMT.

ZU URKUND DER ERTEILUNG DES PATENTES IST DIESE AUSFERTIGUNG ERFOLGT.

KAISERLICHES PATENTAMT.

Pat. Bol. 2
(V. 1915. 11000.)

1917

Despite the terrible war, the effects of which my grandfather reports on in detail, business was already developing positively in 1915 and again in 1916. However, my grandfather was no longer able to meet demand because many of his men were called up as soldiers. Some had even been killed in action. But business prospects were also good in 1917 and for 1918.

"That dear peace may soon return & we may soon receive our dear sons & brothers as victors, may our God grant it."

25. January 1917

Over 1 ½ years have passed since I wrote the last lines here, the terrible war is still going on, and with a force and vigour like never before. More and more people are being drafted, here at home they are becoming fewer and fewer. Since December last year, everyone has been called up for civilian service. Old people who had retired, women and girls, all sign up to work in factories and offices.

Everyone from the age of 17 to 60 is obliged to do military service, so far enough people have volunteered, everyone helps, works on war material & other home labour.

I couldn't get round to writing down what I had experienced during this long time, firstly because there was too much work to do, and secondly because the experiences were too terrible & it stopped me from writing them down.

I always hoped that the hour would soon come when there would be a prospect of peace and that it would then be easier to write down what I had experienced, but in vain. There is still no sign of peace. Our Emperor did offer peace to the enemy in December last year, but they rejected the offer with cries of shame.

Unfortunately, we & our allies now have no choice but to continue the war with all our might, and for how much longer, no one knows, only God alone.

[...] When, oh when will the terrible war end? There's no end in sight today, everything between the ages of 18 and 47 is being conscripted. There are still 34 men working here today, almost all boys, the wounded, cripples and those over 47. Emma Krämer, Hermann Brömstrup & Frida Geselbracht are here in the office, the latter since February 1916. Material is almost no longer available, wood is 4 times as expensive as in peace. Iron is 3 times as expensive, cast iron twice & 3 times as expensive as usual & it is very difficult to find anything. It can't go on like this for much longer, in any case I'll have to shut down my business again. What should I do when I have no more material?

The year 1915 was very dry until midsummer, so that the spring crops dried out almost completely, rye and wheat were good, as were the potatoes. After midsummer, rainy weather set in, & just as the crops had to be brought in, it rotted again outside. The state took everything into its own hands, all grains were confiscated and every German was allotted his share of bread, 2 kilograms of bread per head per week, 3 kilograms for hard labourers. Horses were given 3 pounds of oats per day. Potatoes and meat were still free.

At the beginning of 1916 the potatoes were also confiscated, but because they were good, everyone still got enough of them. Fat and meat became scarce in March 1916, and in the spring cows were forcibly removed for slaughter. Our only cow, which still gave a lot of milk & butter, we also had to give up for slaughter. We got about 900 marks for it, bought a light cow for 1060 marks.

The year 1916 was a good harvest year, even if the rye was probably somewhat worse than in 1915, whereas wheat, oats and barley were much better. Unfortunately, the potatoes were worse, probably not so much here, but in some places there were only half as many. There was much more hay than in 1915, but it came in poorly due to the heavy rain. What had not yet been confiscated has now been so, including the potatoes.

Left:
Willi Dreyer, one of the sons of Heinrich Dreyer

Right:
Fritz Rode, son-in-law of Heinrich Dreyer – husband of daughter Hanna

Bread ration cards remained the same: 2 kilograms per person per week. Maximum price for grey or war bread 35 pfennigs per kilogram, brown bread 26 ½ pfennigs per kilogram, potatoes were added to war bread in 1915 at ⅓, but no longer in 1916. Potatoes were initially supposed to be 1 ½ pounds per head & day, but as it turned out that they turned out so badly, they became less and less, first 1 pound per head & day, then ¾ pound up to ½ pound. Turnips that had turned out well were given away to make up the difference. The maximum price for potatoes was 4.20 marks per hundredweight, turnips 3.50 marks. Fat and butter was 90 grams per head per week. The maximum price for butter was 2.50 marks per pound. Eggs per head & week 1 piece. Price 27 pfennigs. Meat per head and week 250 grams, price: frozen beef 1.80 marks, fresh 2.10 marks per pound. Frozen pork 1.65 marks, fresh 2.00 – 2.20 marks per pound.

In the big cities & industrial districts it is bad, only sick people and children under the age of 4 receive milk.

Here in the countryside, most people are self-sufficient, both in grain for bread and potatoes and in meat.

There are flour cards for the grain, potatoes for self-producers are still worth 1 ½ pounds. If you slaughter and fatten your own pigs, half of the first pig and ⅓ of the second are not credited, so those in the countryside are still better off and probably get by.

Appeals for donations of fat and meat in industrial districts were very successful; this levy applied to those who slaughtered themselves. There are collection centres in every municipality, to which everything produced by the farmer must be brought, minus the needs of the farmer's own household, as determined by the state; nothing may be delivered elsewhere.

Much more meat, fat and butter could be sold, but there is a lack of food: no flour, no potatoes, only some beetroot can be fed, now and then there is some bran and barley flour, depending on who registers pigs for fattening for the army administration, you don't know what to fatten with.

Today, the horses are given 4 ½ pounds of oats per day and head. It's hard to get by on that, but our horses don't have much to do today, the little pony gets almost only hay. Then they all get some artificial feed and good hay added, & you have to help yourself through.

Our business went very well: in 1915 we sold 380,679.00 marks worth of goods, in 1916 382,100.00 marks. I could have sold twice as much last year if only we could have done it. I probably have most of the material I need for this year in stock, I'm only missing some cast iron.

What will happen then is still completely in the dark; if the war is not over by then, it will be terrible. Everything is coming to an end, almost everything has been confiscated & little is left, including all the clothes. [...]

"That a person can endure such a terrible war, which has now lasted almost 4 years, for so long, the majority very often lying in hellish fires in open shell holes in the rain and dirt, is truly incomprehensible."

18. April 1918

[...] Our warriors in the field are doing great things, truly superhuman things.

That a human being can endure such a terrible war, which has now lasted almost 4 years, for so long, the majority very often lying in hellish fires in open shell holes in the rain and dirt, is truly incomprehensible. [...]

All day long, women and children from the big cities & industrial districts in particular run here asking to buy potatoes, bread, eggs, meat or fat, but since the farmer has to give everything up to the fixed quantities, he can't give much to the people asking. Everything needed to feed people and cattle has its maximum price and should not be sold at a higher price. But those who have money usually hoard wherever they can, bidding until they are given it. Otherwise, if you want something from the towns that is not absolutely yours, that you don't have on your supply card, you can hardly get it for money, but you can still get anything for food, especially eggs and butter. Wooden shoes or shoes with wooden soles are worn instead of leather shoes, real leather shoes are no longer available. Shoes are no longer soled with leather. Clothes and underwear are only available on a ration card, and what you get today are mostly paper fabrics that fall apart when damp and then all at terribly high prices. I bought fabric for a suit today, it's still peacetime goods, it costs 240 marks, the sewing and small trimmings will cost another 60 marks, so the suit will certainly cost me 300 marks, which would cost 70 marks at most in peacetime.

The profiteering is terrible & often by people from whom one should not expect it. It is frightening to see the cheek with which fraud & bribery, stealing and robbery are spreading in the German fatherland too. Where so many have to give their lives for their fatherland, someone else who is sitting here in safety doesn't give the slightest thought to the fact that he may be cheating on his wife and children and overgrowing them, while his husband may be fighting before the enemy or may have already died for his fatherland. People are not getting better through this terrible war, probably worse and worse. [...]

Everything is still rising in price, wood costs more than five times as much, iron three to four times as much, malleable cast iron four times as much, sheet metal and wire mesh four to five times as much, grey cast iron three to four times as much & everything else as well. There is still enough wood to be had, but all the iron materials are so bad that you have to buy one piece here and another there. I have most of what I need for this year, iron, sheet metal, screws and nails are still a little short, the worst is the grey cast iron.

We currently work with 40 men, plus 2 men & 2 women apart from me in the office. In the company there are still the older people I claimed & those born before 1869 & the young people. in 1917 I have almost no people left, if only I could keep them.

Business in 1917 was good, turnover totalled 312,744 marks, net profit was satisfactory. I have not even been able to fulfil half the

"It is frightening to see the cheek with which fraud & bribery, stealing and robbery are also spreading in the German fatherland. Where so many have to give their lives for their fatherland."

orders, & at present we have already received as many orders for the whole of 1918 as we can fulfil. Today we write the production number in Amazonen 59 227, Potato sorter 8535.

The prices of our products have of course risen in line with the price of materials; today they cost three times as much as they did in peacetime. My wages have risen by an average of 75 %, the carpenters here earn 80 – 85 pfennigs, labourers 70 – 75 pfennigs an hour.

The weather in 1917 was not the best, May was good, but then there was a very severe drought, so severe that the spring crops almost dried up completely. Rye and wheat were good, they yielded a lot of grain, potatoes were also very good, but barley and oats were very poor. There was very little hay, so there was a great shortage of feed. The horses were allotted about 2 pounds of oats or barley per head per day. It is impossible for a horse to survive on this, let alone work. Many horses died as a result. As I said, straw and hay were and still are so terribly scarce today, so the cattle are noticeably reduced due to this lack of feed.

Today a hundredweight costs up to 15 marks. You have to make sure that you at least get something for the horses on the side. If you want to remain honest in this way, then my business will inevitably collapse, my horses have to remain fit for work, there's no other way. I took a roundabout route to get oats, they didn't even supply me with the ones I was entitled to, they cost 75 pfennigs a pound, I had to sacrifice several thousand marks for them.

Horses, normal working horses, cost up to 5000 marks each, normal cows 1500 marks, 5 – 6 week old piglets 70 – 100 marks and so on. Hoarders often pay 75 pfennigs for an egg, for butter and fat even 15 marks per pound, for ham 20 marks and more per pound. In general, the rich will pay any price if they can get something. The highest prices are set for all this, but the rich bid, and so such things are only useful for the quantity that the farmer is forced to deliver.

Inspectors walk around every moment & search through everything you have. Woe betide anyone who keeps anything back, they will be severely punished, but some things are done anyway.

The first quarter of 1918: the winter was bearable, sometimes with a lot of snow, but not very cold, which was fortunate for people and livestock. So people & cattle got through the winter even better than in 1917, all the more so because the weather has been mild & fertile to this day. On 22 March we sowed oats & barley, today on 18 April all the cherry trees are already in full bloom, the rape is also beginning to flower, the cows have been grazing for 14 days. All the crops are doing very well, if it stays like this, we will have a good year, which will be particularly good for us during the difficult war period.

It is interesting to note that not only my grandfather, but the entire population still believed in a German victory in mid-1918, as they were informed accordingly from the newspapers and had no way of knowing what was really happening. Meanwhile, the people suffered and starved endlessly:

Now I have probably written down the most important experiences to date, oh, if only I could soon write down the experiences of peace, the reception of our dear sons & brothers as victors from the field, that would probably be the happiest day of my life. I couldn't write down many, many things, and many books will be published about them, immortalising this difficult time. When will the war end? What do we still have to experience from the war? These are still the big questions. But we will win, and our Creator will help us. Today I have more faith than ever, and every true & insightful German feels the same!

"What was written in our newspapers was lies and deception."

Then the capitulation came very suddenly and unexpectedly and the population was disillusioned:

12. March 1919

[...] What was written in our newspapers was lies and deception.

My grandfather was horrified by the political developments that followed:

The dance around the golden calf begins all the more: completely unconcerned about what threatens us; completely unconcerned that millions of our brothers have fallen on the battlefields; unconcerned that 800 thousand of our brothers are languishing in captivity. What can we be surprised if our Creator's hand is completely withdrawn from us and we sink deeper and deeper into the abyss every day after all our madness. [...]

The armistice began at 11.55 a.m. on 11 November. A more shameful armistice than that dictated to the German people has probably never been dictated to any people in the world. On 9 November, our Emperor abdicated and fled to Holland, as did the Crown Prince. From then on, the disintegration of our otherwise marvellous, armoured army began in earnest. A large part of the troops, including the officers, no longer cared about anything, about where all the war material remained, almost everything was left where it was stored. Foodstuffs in particular should have been guarded, as the country was still starving.

He reports in detail on the development of the party landscape at the time. Reading this, you can perhaps understand how it was possible for the National Socialists to slowly but surely gain influence a few years later.

At first the revolution took place without any particular bloodshed, but soon several parties formed among the revolutionaries, the Social Democrats in the majority, alongside the radicals, called Independent Social Thinkers, and even more sharply the so-called Spartacists.

The latter are opposed to all order and justice. Violence, robbery and murder is their aim, regardless of whether the fatherland is perishing. The German government has to contend with these last brutes and with the mob as their supporters, and recently in a very frightening way. Especially in the larger cities, in Berlin it has been very bad in the last few days, with hundreds of dead and wounded. There was also a parade in Osnabrück three weeks ago, and there were also disgraceful performances, but thank God it didn't cost any lives.

On 19 January of this year, the election of representatives to the German National Assembly took place. The Social Democrats received by far the most representatives, but not an absolute majority. The same applied to the election of representatives to the Prussian National Assembly.

The elections have been almost entirely calm. Today, however, it is fermenting almost everywhere, it is not a civil war, no, the Spartacus people, the independent Social Democrats, i.e. the radical far left, with whom the Social Democratic government is waging war today. Everywhere the most insane strikes, robbing, plundering, murdering with all the terrible material shortages. The future lies dark and black as night before us. The long war, the

"The future lies dark and black as night before us. The long war, the hunger has probably made mankind ripe for the greatest madness, otherwise I can't explain today's events."

hunger has probably made mankind ripe for the greatest madness, otherwise I cannot explain today's events.

It is a plague and a terrible disease among the German people, even many in the countryside, who have no reason for it, show a desire to join in the weeping. On 1 December 1918, the 8-hour day began in all factories, including here in our company, with the same daily earnings as in 10 hours.

At the end of January this year, some of my people also thought they had to join the metalworkers' federation, they were stirred up by the Osnabrück agitators, and unfortunately the majority fell for it, which makes a good milk cow for the Osnabrück federation. My people could achieve the same thing without the association and save the unnecessary expenses, but these had to be added to all the nonsense. But you can't stop something like that today, sensible advice is laughed at, the craziest is cheered. Everywhere citizens and community defences are set up, also here in Gaste, 12 men go here every night in 4 sections, they take turns night after night, in total there are probably 120 people, in order to be somewhat protected against robberies and thefts.

Recently, everything has risen in price even further, wood costs seven times as much today as it did in peacetime, iron four times as much, nails and screws likewise, thin sheet metal probably six times as much. Today, grey cast iron costs 1 mark per kilogram. Coal is 4 – 5 times as expensive as in peacetime, depending on where you can get it from, and so it is with everything. There is hardly anything to be had and only with the greatest difficulty, and it seems that things are getting worse.

There are 2000 grams of bread per person per week. This bread costs 25 pfennigs per pound. Potatoes cost £5 a week for those who grew their own, i.e. self-sufficient farmers, £7. These cost 6 marks for 100 pounds. Meat was 200 grams per person per week and cost 2.20 marks per pound. So the price of food is not high, in fact it is very low compared to other things and compared to what is earned today.

In our company, trained older craftsmen earn 1.30 marks, the older ones who have been trained here earn 1.25 marks, including the labourers. The older foremen earn 1.40 marks an hour. In the cities they are said to earn 10 – 20 per cent and more. I don't know what's true about that. So, the food that you can only get on ration cards is really cheap compared to everything else, but unfortunately you can't live on the little you get on the ration cards. That's the sad thing, this hunger and not for one year, no, for over three years now, which is really driving some people to madness and crime. Here in the countryside everyone can get by, but in the big cities it's terribly bad.

Honour your memory:
Dedicated to our brothers who died in the World War 1914 – 1918, by the workers, employees and owners of the company H. Dreyer, Amazonenwerk, Gaste.

15. February 1919:

Price list 114 of the most famous grain cleaning and sorting machine, tub mill and wind sweeper

After the war, the production of agricultural machinery slowly but surely got going again. The main problem at the time was not selling the machines, but how to procure the necessary materials. However, peace had not yet been officially concluded, but everyone was waiting for it because they hoped it would normalise the situation and supply the population.

Our borders are still blocked by the enemy, they won't let anything in. The peace is said to be finalised soon, but we don't know what the conditions will be.

We are not being negotiated with, no, we are being given conditions and we have to accept them. This is what has happened to Germany, we have been led to this abyss. What will become of Germany? There is so much to write about our current situation, but I truly feel too tired, it is so terribly disgusting for me to write down our sad situation. There will be enough writers who will put everything down on paper better than I can. The heavy fate of Germany is always a terrible burden.

[...] It will be very difficult to get enough material in to keep everyone working here. I would rather work with the same people, but the returning warriors must and want to have orderly work, so everything must be done to get everything back on track as soon as possible. It is everyone's duty to see to that, and mine in particular.

We also had to raise the prices of our machines in line with the prices of materials; the last increase was on 15 February 1919 according to price lists 114, 115 and 116. Our business was again quite good last year, but the taxes taken together are such that we will soon have to give up everything we have earned. It seems very doubtful that there will then be anything left over for our painstaking endeavours and special intellectual work. The orders are enormously large, much larger than in peacetime. Everything we are doing this year has already been pre-ordered. The weather last year was very dry until June, everything dried up almost like the year before. There was very little hay, then rain came at the end of June, which helped with the spring crops, so that oats and barley were much better than in 1917. The whole harvest was mediocre, the hay harvest very poor, and in addition so much had to be given to the army. The hay was terribly expensive, I paid 20 marks per hundredweight. The prices are terrible: rye, wheat, oats, barley 80–100 marks a hundredweight, potatoes 15–18 marks a hundredweight, bacon, fat and butter 20–25 marks a pound. Eggs up to 1 mark a piece, piglets 7 marks live weight per pound. So a 5-week-old piglet costs 25 x 7 = 175 marks, yesterday it was said here that a 5-week-old piglet cost 200 marks. The maximum prices for agricultural products are too low compared to all other prices, which is probably why the farming industry is so terribly torn. The farmer says to himself: "What you have to buy, you are asked to pay enormous prices for, so I take what I can get for what I can spare apart from the obligation to deliver.

[...] We now hope for an early peace with our enemies, one assumes at the end of April, and that food will then also come into the country, hopefully humanity will then gradually calm down and there will be peace on earth again.

I have never appreciated the song of the angels, peace on earth and goodwill to men, as much as I do today.

Soon this blissful song would resound again. Almighty Creator, ruler and sustainer of all things, return to the forsaken erring humanity.

"I have never appreciated the song of the angels, peace on earth and a favour to men, as much as I do today."

this was followed in 1920 by the terrible period of inflation, which led to the economic ruin of many companies. Not so for my grandfather. Of course, he also suffered, but thanks to his tactic of never taking major risks, he got through these unimaginably difficult times. But the period after the inflation also drove an active businessman like Heinrich Dreyer to despair. He writes about his business activities and the political situation:

"Everything should be fine now, if only there was peace in the country, if everyone wanted to work and, above all, if the racketeers and usurers were put to death, the harder the better."

17. March 1920

[...] Our debt burden is getting bigger and bigger. What it will become, I don't know. This time last year we thought the misfortune had reached its highest level, and today: how much more terrible. On Saturday, the 13th of this month, a counter-revolution from the extreme right began. The government and members of the National Assembly, who were elected by the people at the beginning of this year, have been driven out of Berlin, and a new government has installed itself. The previous government is said to have fled to Stuttgart. The Reichswehr is said to have gone over to the revolutionaries. These and similar things are said, but nothing definite is known. Everything is at a standstill, no railway, no post office is working, the general strike has broken out for the whole of Germany, no work is being done anywhere. Not even here since Monday. They say there's heavy fighting going on in the larger cities. Everything is still quiet in Osnabrück. What's it going to be, where is it going? Everyone is asking and no one is able to give an answer.

The current situation is terrible. Everything is so incredibly expensive, people from the big cities are flocking to the countryside and buying everything they can get. They pay 1.20 – 1.50 marks a piece for eggs, up to 25 marks a pound for butter, fat and meat, and 0.50 marks a pound for bread on cards. What is available on cards is relatively cheap, but the common man can't afford it on the open market. Oats on the open market cost 250 marks and more per 100 pounds. Straw 30 marks and more per hundredweight.

Piglet, one pound live, 12 marks, so a good 5-week-old piglet weighing 25 pounds costs 25 x 12 = 300 marks. A suit of ordinary cloth about 1500 marks, shoes 250 – 300 marks, probably more. Wood, in planks, German goods, 1500 marks per cubic metre. Sheet metal 9 – 10 marks. Iron 6 – 7 marks per kilogramme. Grey cast iron 6.50 marks, malleable cast iron 11.40 marks per kilogram. Screws 70 times as much as in 1914. In the last quarter of a year, some things have quadrupled. I've got most of it in for 1920, but what will it be like then? I can no longer buy for 1921 at current prices.

Today, on the 20th of the month, my products are being sold at a 1100 % mark-up on 1914 prices, but soon these prices will have to go up again. Competitors are already charging a 1700 % premium. Soon no farmer will be able to buy any more. There are still enough orders today. But with prices rising so rapidly, who can say what will happen next.

[...] The prisoners are finally all back, Driemeyer, Suhre, Bültmann, Hinnersmann and Laumeyer, all still healthy and looking very well. Everything should now be well again, if only there was peace in the country, if everyone wanted to work and, above all, if the racketeers and usurers were put to death, the harder the better.

I forgot to mention today's wages, which are paid 5 ½ times as much as in 1914. 2.65 marks an hour for skilled craftsmen, 2.60 marks an hour for semi-skilled workers, the piecework rate must be such that 20 % more can be earned, also 5 ½ times as much as in 1914. Anyone who has to buy something first will hardly get as far with these wages as with the wages of 1914 at that time. Wages will certainly continue to rise. I also have to report that we bought two new horses in

January, black in colour, and together they cost 16 thousand marks. For our two horses, which I returned, I received 4000 marks, so I paid an additional 12 thousand marks.

Apparently these horses are good again. I can't go forward like before the war. How far I would have got if the war hadn't come. I couldn't realise my plans to enlarge the factory next to the new hall with two similar buildings, to move the whole joinery there, along with the steam engine. Will I ever be able to realise them? I'm condemned to inactivity, I'm working, yes, but it's not the work I did before the war, when I could see my business grow and work on it all the time. We didn't make any munitions or other war equipment during the war, we only ever worked in our profession.

Mr and Mrs Dreyer on the occasion of their silver wedding anniversary

27. March 1920

Today, the second revolution is underway in Düsseldorf and Wesel and all the neighbouring towns, a veritable fratricidal war. Government troops and troops of the Spartacist insurgents are at war with each other, often with several hundred dead. Terrible, when will humanity come to its senses? Everything is quiet in Osnabrück, hopefully we will be spared the horrors of this fratricidal war.

Extracts from the pasted-over price lists no. 136 (dated 28 December 1920) and no. 158 from the time of inflation

Amazone Nr. 5 und 6

Marke	Telegrammwort	Preis ab Fabrik Mk.	Länge m
Amazone Nr. 3 B	Anna	630	1,68
Amazone Nr. 6	Dora	840	1,68
Amazone Nr. 5	Karola	950	1,78
Amazone Nr. 4	Lisa	1120	1,88
Amazone Nr. G 4	Emma	1540	2,10
Amazone Nr. 3	Franziska	1330	2,00
Amazone Nr. 2	Sophie	1510	2,00
Amazone Nr. 1	Olga	1650	2,00
Amazone Nr. G 1	Irma	2300	2,10

Liste Nr. 136

Amazone Nr. 5 und 6

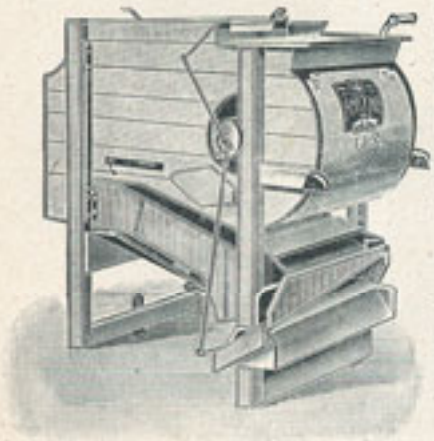
Marke	Telegrammwort	Preis ab Fabrik Mk.	Länge m
Amazone Nr. B 3	Anna	56000	1,68
Amazone Nr. 6	Dora	74000	1,68
Amazone Nr. 5	Karola	84000	1,78
Amazone Nr. 4	Lisa	100000	1,88
Amazone Nr. G 4	Emma	136000	2,10
Amazone Nr. 3	Franziska	118000	2,00
Amazone Nr. 2	Sophie	133000	2,00
Amazone Nr. 1	Olga	145000	2,00
Amazone Nr. G 1	Irma	198000	2,10

Liste Nr. 158

Neue Getreide-Putz-Sortier-Maschine
Windfege Amazone GPS

geschützt durch mehrere D. R. G.

Diese Maschine ist in erster Linie eine Windfege zum Getreide-Nachputzen. **In kleinen Mengen** kann aber auch sehr gut grobe Spreu damit abgetrennt werden. Die Außenmaße sind klein, dabei aber große Leistung. Diese Maschine ist ungeheuer vorteilhaft und für jede Wirtschaft, die mit Körnerfrucht umgeht, unentbehrlich. Sie reinigt und sortiert alle Getreidearten, Hülsenfrüchte, Sämereien, Kaffee, Reis und sonstiges in einer vorzüglichen Weise, wie man es bisher nicht kannte. Alle leichte Unkrautsamen und leichte Frucht scheidet sie restlos aus und trennt Mischfrucht voneinander. Steinbrand scheidet sie vollständig aus. Die Absiebung in Kornform ist eine ganz vorzügliche. Wegen ihrer geringen Außenmaße ist sie bequem treppauf und treppab zu tragen: Nr. 1 durch Türöffnungen von 0,65 Meter, Nr. 0 durch solche von 0,80 Meter. Der Bahntransport der Amazone GPS ist billig als Stückgut, wegen ihres geringen Gewichtes, als Waggongut, wegen ihrer geringen Außenmaße; es gehen von Nr. 1 wohl 90 Stück auf einen Rungenwagen. Für große Mengen Spreu abscheiden ist stets eine **Staubmühle Amazone** zu wählen.



Marke	Telegrammwort	Preis ab Fabrik Mk.	Länge m	Breite m	Höhe m	Gewicht kg	Zahl der Siebe	Länge m	Breite m	Leistung pro Stunde: Reinigen aus der Spreu	Sortieren zu primo Saatgut	Entgrannen oder Lüften
Amazone Nr. 1 GPS	Putzmarie	780	1,05	0,62	1,20	65	8	0,64	0,45	bis zu 800 kg	bis zu 1300 kg	bis zu 2000 kg
Amazone Nr. 0 GPS	Putzmarta	990	1,20	0,77	1,24	85	8	0,73	0,60	1200 kg	2000 kg	3000 kg

Extrasiebe liefere nach wunsch; diese kosten zu **Nr. 1** Mk. .....; zu **Nr. 0** Mk. .....

Extract from the pasted-over price list no. 136

15. April 1921

Another year has passed since I last wrote to you, and the dismal state of affairs still prevails in our fatherland. Although some things have improved, many things have become worse. Potatoes, eggs, meat, fat, margarine, clothes, shoes and oats are all available on the open market again, but they are terribly expensive. Eggs cost an average of 1.20 marks a piece, meat 12 marks, margarine 10 marks a pound. Oats today cost 150 – 180 marks per hundredweight, coal in wagons 15 marks per hundredweight, corn 125 marks per hundredweight, potatoes last autumn 30 marks, today 40 – 50 marks per hundredweight.

The hoarding from the coal region has slowed down a lot here, as there is supposed to be enough to go around if you can afford it. Everything seems to have improved temporarily. Nobody can say what will happen next. Otherwise, however, the situation is bleaker than ever before. Almost nothing is being ordered here today, one or two machines a day, that's all. Everything has to be put into stock and with the current high material prices and such high wages, that requires enormous amounts of capital. I don't yet know how long I can stand it. As far as I can judge today, we will probably have to stop working. We have almost nothing to do in the office. It's almost unbearable and so dreary for me when I have no work and have to see that the others have nothing to do either. Until the end of last year, business was very brisk and we couldn't fulfil all the orders for a long time. The buyers' strike started again in mid-January and is still going on and will probably last until July or August, if things get better. Wages and salaries rose sharply in April last year and again in October. Today, skilled craftsmen over the age of 21 earn 4.90 marks, semi-skilled workers over 21 4.85 marks, younger workers under 21 3.90 marks an hour, and married people get a bread and child allowance, on average 20 pfennigs an hour. For piecework, many people got over 20 per cent more. In terms of wages, my first employees receive 1,600 marks per month. I don't want to say that these wages and salaries are too high, especially for those who have a family. But the young people earn too much, most of them spend it all on drinking and dancing. It is sad to see this, especially at a time when our country is sinking into the abyss. [...]

9. October 1923

I stopped writing for a year, I couldn't get round to it. The situation has become increasingly bleak. Who can say whether today will soon be the peak. [...]

Today, as I write this, the dollar is priced at a billion marks, so 2 ½ million paper marks is equal to 1 pfennig in 1914. What you pay for various things in paper marks is easy to calculate, because almost everything is based on it. An hourly wage today is 40 million marks. Who could have imagined such a bleak economy six months ago? Every day the mark sinks further and nobody seems to be able to stop it. We've had almost no orders for six weeks, everything is at a standstill, and because you can't sell, you can't buy anything. I still have some foreign money to pay my wages. But that will also run out in a good 4 weeks. We've only been working 24 hours a week for four weeks, I don't know how much longer. I'm very unhappy, you can't even estimate what you have to have for the machines, and with the mark getting worse every day, you lose enormously on every deal.

I would now like to describe our situation as follows, without any exaggeration:
Germany is like a madhouse! Where have we come to in Germany? How did we get there? Where are we heading irrevocably? Organising, joining together in associations, that could improve the situation of each individual, that is what we were preached in Germany for years before the war. Helping ourselves would not lead to happiness. That's what we were preached, and those who wanted to lead us made life quite cosy for themselves. They lost sight of the whole country, and each individual was only of any use to the organisation and its members, who ruthlessly influenced everyone else. If the leaders didn't do that, then they were no good. A person with insight could see for a long time that in the long run this would lead to misfortune for our entire fatherland.
So what was the development like? Let's start with coal: The miners' union leaders preached: you have the hardest work, you have to work at least 2 hours less than all the other workers and earn more. Who wants to claim that this was wrong? Then came the workers of big industry who stood in front of the fires and blast furnaces. Their leaders preached the same thing. No one can say that was wrong. Then came the leaders of the skilled workers, who preached: "You have learnt four years, the miners and fireworkers for the most part have not, so you must work just as little and earn just as much as the aforementioned. They were often not wrong either. Then came the semi-skilled workers, who claimed that they had worked for 4–6 years with the skilled workers in factories and were now doing the same. That's often true too, they would have to earn the same. Now come the labourers: Yes, they say, we have to do the dirtiest work in all weathers, we have much heavier work, we use much more stuff, so we should earn just as much. Every leader of

"Germany is like a madhouse! Where have we come to in Germany?"

his organisation knows how to put it so that he is right. If their demands are not granted, then they go on strike, and during such a strike, often for the most unworthy of reasons, the entire operation of an often large factory comes to a standstill and the trial of strength begins. It's something different from working every day. Those who are married must have married and child allowances. Who wants to claim that this is wrong? But the unmarried man is disgruntled, he works like his married neighbour, but receives significantly less pay than the latter because he has no family. But he wants to save something for his future family. But he can't do that, as he would like to, because he doesn't earn as much as his married neighbour. He is certainly not wrong either. So, despite all the associations, there are plenty of opportunities for constant dissatisfaction, and the main conversations at work also centre on this.

The association secretaries make every effort to get a lot out of it for their association, if they didn't, they wouldn't be any good and their nice job would be jeopardised. So they are happy when there is a lot of material to talk about.

Now imagine all the different groups, then one is one distance ahead, then another group, and so the race goes on. Nobody cares about the whole situation, and nobody usually wants to. If they did, their group could fall behind. This is the race of the manual labourers. The race is the same for the head labourers.

Now come the employers, the smaller, the medium-sized and the large companies. The first two have the worst position, they are completely dependent on large companies, they can neither strike nor exert any other pressure anywhere, they have to patiently accept what is imposed on them. Of course they have to do their bit in the organisation, often as followers of the large companies, but where is the success? They can put forward their wishes, but they can't force anything.

Big industry is well aware that it has power over everyone. It does what it likes, but in my opinion only up to a certain limit, unless it fraternises internationally. And then we only have a few people who rule the whole world, and the others are the servants. How long such fraternisation lasts when there is a shortage of labour is another question.

We've come this far now, everyone is well organised in their own association, or, to be on the safe side, in several associations. Everyone is bound and gagged hand and foot by

paragraph so and so, cannot pay too little, for which he basically has nothing more than that he himself is no longer allowed to do anything of his own free will. No-one is allowed to look after the whole of his fatherland; that's what the association representatives are for, who themselves know better how far one can go so as not to harm the association.

What has been achieved with all this? What has the majority of the German people achieved?

No more work, and therefore hardly any bread, and those who are now in the fortunate position of still having work, bread and clothing will certainly soon experience the same misfortune themselves.

Just open your eyes: Where does work move the fastest? Where nothing productive is created: Banks, tax offices, health insurance companies, unemployment offices, insurance institutions, payroll offices, these are all institutions that can only live off other people's labour. All the large armies of civil servants for this would be superfluous under orderly conditions and are an outgrowth of our totally muddled ideas.

Where is productive work still being done? In mines, perhaps half as much as before the war. Only large-scale industry and the railways can still have German coal; all other companies have to buy it from England. Here in our country we have enough coal in the ground, but the conditions of our organisation described above do not allow coal to be supplied as cheaply as from abroad.

The result is that our products become too expensive and can therefore no longer be sold abroad. Soon nobody will be able to buy anything at home where 2 ½ million paper marks are worth 1 pfennig. So soon everyone will be completely unemployed. The small and medium-sized companies are already unemployed today, and the large companies will follow. Then everyone will soon be on unemployment benefit, the laws for this are all there, gold market calculation, food index and trade index, everything is so nicely finalised. Then it will go on like this, the state-owned companies will only quote the index and salaries and wages will be finalised. The freight rates are then increased, as is the postage. Nobody cares whether there is anything left to ship and whether there will still be a letter to send. The tax is supposed to cover everything, but I'm curious to know who will pay these increasingly necessary taxes. Whoever can do it from the members of the health insurance scheme will call in sick, which will probably result in such enormous health insurance contributions.

Nobody cares about the whole country anymore, just everyone for themselves and God for us all.

Now you would probably like to ask any reasonably normal person where the milk-producing cow is that you can get everything from. Why it never occurs to anyone to think about how to start getting milk from it. Taxes with hundreds of different names, unemployment benefits, all kinds of health insurance contributions, the high bank interest rates of recently 10 % per day. Then there are the enormous sums we have to pay to the powers that have defeated us. Anyone who believes that we can do all this without every German having to renounce everything that is dispensable is an idiot.
The German as thinker and poet, praised by us for many years, has become a sad idiot. It seems to me that we will all soon be hopelessly lost, simply because everyone has looked after themselves and never thought of preserving the whole, the German fatherland.

"We have enough coal in the ground here in our homeland, but the conditions of our organisation as described above do not allow coal to be delivered as cheaply as from abroad."

"Nobody cares about the whole anymore, just everyone for themselves and God for us all."

Not individual people, not individual estates and organisations can preserve a country, only if everyone wants to suffer for what has been done wrong, if everyone wants to help build it up, wants to take on all the hardships, only then can we think of rising out of the mire in which we sit. Even today, very few Germans seem to realise that help can only be found in the latter way; the majority run away from resistance as if in a madhouse, which can only be overcome with great deliberation and self-denial.

Today, as I write this conclusion, it is 17 December 1923, just before Christmas. The situation has not improved at all since October, only one thing is more bearable: we have had an artificial fixed currency again for a fortnight. A so-called Rentenmark has arrived, which is worth 1 trillion paper marks. 4.2 trillion paper marks is equal to one American dollar. Until a good fortnight ago, our paper mark was going down again every day and every honest person was losing many, many marks every day, and the usurers and racketeers were making great money. They bought grain or other supplies on 4 – 6 weeks' bills of exchange. If this was payable, the goods were often 20 – 50 times the price. The pusher could then use the proceeds from one wagon to redeem the entire bill of exchange and then had 19 – 49 wagons left over. In many cases this is no exaggeration, it really was like that. Today, after the introduction of the new Rentenmark, this whole racketeering business has become quiet. Now they can't earn any more, everything has fallen in price. Rye cost up to 25 trillion per hundredweight a fortnight ago, today you can buy a hundredweight for 8 Rentenmarks. Everything has not fallen to the same extent as grain, but now all business life has come to a standstill. Nothing is being bought any more, everything is at a standstill.

Yesterday, a large-scale business in Osnabrück is said to have sacked all its workers because the workers did not want to accept the 10-hour working day it had demanded. So the workers and everyone else are crying out for improvement, but they don't want to work 10 hours a day instead of 8. Who knows what the next few days will bring.

Two Rentenmarks, issued on the basis of the decree of 15 October 1923

17. February 1926

More than 2 years have passed since I wrote the last lines here. I want to pull myself together to write down what I have experienced since then. The mark has remained stable, 1 gold mark equals 10/42 dollars. At the beginning of 1924 we had to celebrate 2 to 3 days a week until we had to close the business completely on 13 June 1924. The people in our flats started working again after about 14 days, then sales became brisker again and little by little we were able to hire people again, so that by the end of the year everyone was able to work again. So business was relatively good for 1925, the warehouses were empty.

But then in October came the collapse of a huge number of businesses, one bankruptcy, one business closure after another. Old customers with whom we had worked for 25 – 30 years collapsed and we no longer received our money for the goods we had delivered. We will have to record enormous losses, will it end with 20 thousand marks?

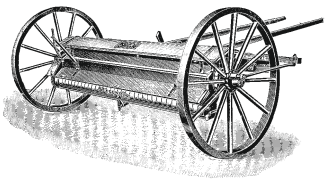
The collapse of large factories is no longer a rarity. Workers are laid off by half, then here, then there, and the same goes for civil servants. There will soon be as many unemployed people as there are workers. Unemployment benefits have to be paid half by the worker who still has a job and half by the employer. We are getting further and further into the abyss, how will this end? Those who have money can have everything today, and nobody wants to live frugally, they would rather not pay what they owe. We, the nation of poets and thinkers, have become a nation of indifference and dishonesty, a nation of cheats and bankrupts. Abroad, where we sold 10 % of our annual production in 1925, we have not lost a single mark, but at home we have suffered appalling losses. Loyalty and faith are gone in our German fatherland. Our people live on with indifference, as if everything were in perfect order. How will it end? We are told that it will soon get better, that it must soon get better, as if help were descending on us from the clouds.

The year 1924 was a very wet and rainy year, almost half of the grain in the fields spoilt. Nobody could remember such a wet year. Taxes were therefore waived or deferred for the agricultural sector, but other taxpayers had to pay.

On 1 September 1923, we converted our company into a Gesellschaft m.b.H. (limited liability company). The shareholders were: my 5 children and myself. Our turnover in 1924 was: 3593 Amazonen, 1025 Federkraft, 64 Michel, for which there was a total cash amount of 345,535 Marks; 1925: 3685 Amazonen, 1380 Federkraft, 116 Michel and 318 Ama wagons. Total amount: 479,296 marks. [...]

What more can I write? History will probably record the fate of Germany in every respect for posterity, better than I am able to write.

You can't go to work today as cheerfully as you used to before the war, not me. If I didn't still have my dear wife, I would probably despair. As long as I still have her, everything has to go on. They want to keep the business at least at its old level and I can't see it collapsing bit by bit. Hopefully my sons will soon help me if I flag; for the time being, things are still going well thanks to my good authorised signatory Wilhelm Thies. [...]



"Michel" fertiliser spreader

"Loyalty and faith are gone in our German fatherland. Our people live on with indifference, as if everything were in perfect order. How will it end? They blather that it will soon get better, that it must soon get better, as if help were descending on us from the clouds."

Heinrich and Erich Dreyer

20. June 1930

More than 4 years have now passed since I last made a note in this book. I have lost the desire to write down some of the unpleasant days I have experienced. There is still no ray of hope to be seen. Today in summer there are over 3 million unemployed and the number is sure to rise. The Reich is in great distress because of the support money and the ever-increasing Reich expenditure. The taxes will soon be impossible to collect. One asks the other: Where is this going? What does it want to become? Rationalisation was the name of the game years ago to help us. Now that this has been achieved in many places, there is a lack of sales, people are being made redundant and there is no work to be found anywhere. Overproduction of the highest order.

Factories or parts of factories are at a standstill and purchasing power is falling daily. The prices of agricultural produce are sometimes as low as in the pre-war years. Farmers are therefore very reluctant to buy agricultural machinery. We had 104 workers at this time in 1928, 125 in 1929 and 125 today

Unfortunately, sales have been very poor since the end of March and our warehouses are now overfilled, so we have no choice but to lay off most of our staff for the time being.
We have given notice to 100 men who have to leave on Saturday 19 June. It is very difficult for me to take this step, but there is no other way. There's no telling how long this poor sales situation will last. The people are getting their unemployment benefit, but of course not as much as if they were able to work.

Heinrich has also been here in the business since June 1927, he has passed his diploma exams and is a very good support for me. He puts a lot of effort into improving our machines, hopefully he will succeed in some things. He has made some recognised improvements to the fertiliser spreaders. Improvements to fertiliser spreaders in particular are very difficult to make,

The 'Hadega' roller spreader further developed by Heinrich Dreyer, ca. 1930

and the competition is so fierce. He is also constantly looking for ways to improve the other machines. He is also in the process of creating a sorting machine for all sensitive fruits. He has one ready and it seems to be good. It would be so much to wish that we could find a few more good items to add to our existing ones.

Our Erich has also been working here as a businessman since March 1929. He would like to work in another business, but there is nowhere to be found today. After his apprenticeship at Dierks & Söhne in Osnabrück, he attended the Nöllesche Handelsschule for one year, then another year at the Oberhandelsschule in Bielefeld, all with good results. He puts a lot of effort into raising our business. He is very popular with our customers, as far as he knows them, and he has the gift of being able to deal with them very well. [...]

12. December 1931

I want to write something down again, even though I hardly have the courage to do so. Even last year, it was thought that the economic hardship could not get any worse, but things are still going from bad to worse. There are already over 5 million unemployed in Germany and other countries. England and America in particular are said to have the same misfortune, but there the state still has money, whereas Germany is destitute. The state no longer knows how to help itself other than to send the Reichstag home and to administer the empire only through the government. It is not possible for me to list all the measures taken here; they will certainly be recorded by writers and preserved for posterity. How and in what way help will come, no one knows. What else is in store for us? Our accounts for 1931 have not yet been finalised and nothing definite can yet be said about the result. I will publish the results after the accounts have been finalised.

The weather was consistently rainy in 1930 and also in 1931, but in both years there was still an average harvest. The problem, however, is that agricultural produce is so low that farming is no longer profitable. Everywhere one hears of heavy indebtedness, possible collapses, farmers can no longer buy the necessary machines and those who still buy no longer pay their debts. As a result, traders stop paying and the factory owner loses out. The collapse of factories has taken place at an alarming rate and continues unabated. Whether Europe with its large population is to collapse completely, it looks almost as if it will. Certainly there are still people who must be hard up. Especially the bakers and butchers here, who can still build and do so in such conspicuous luxury that one wonders how it is possible.

Moreover, the furniture factories have been the busiest in the last six months. It seems as if those who still have assets fear the devaluation of the Deutschmark and are now buying all sorts of things for it and apparently most of all in luxury items. It is now very difficult for us to decide which way to go. We have to have money in reserves, we can't manufacture with borrowed money. I don't know what it will be for us. Almost nothing is being sold in our factories any more, we are now working with around 45 people four days a week, and the warehouses are almost completely full, which was usually only the case in June. The unavoidable consequence is that we have to shut down operations completely again. This summer we were at the D.L.G. exhibition in Hanover, last summer in Cologne. There were enough interested parties, and there was a good level of buying on call, but only some of the calls were made.

[...] For a good year now, the people up there who are in charge of Germany have realised that we have to make savings. Until then, nobody seemed to have thought anything other than that it would always go on like this, just keep borrowing. Apparently, hardly anyone

DLG exhibition, Stuttgart, 1932

thought about paying back, and salaries and wages kept rising.

Today we stand on the yawning abyss, and one wrong move can cause us to fall. Today we grovel before our creditors, but they say: Pay what you owe us, you have brought about your condition yourselves. And if you want to be honest, you have to confess: Our leaders were totally incapable of leading a nation that had lost the world war and sacrificed its wealth back to the heights. Their highest priority was to crowd the feeding trough. First they were in the leading position, then they helped themselves and their peers to salaries that plunged the people into the sea of poverty. Unemployed, breadless, thus degenerating in body and soul, that is where we stand today. We have organised exhibitions for the German Agricultural Society:

1927 in Dortmund,
1928 in Leipzig,
1929 none,
1930 in Cologne,
1931 in Hanover,
1932 in Stuttgart, also
several times at the 'Green Week' in Berlin.

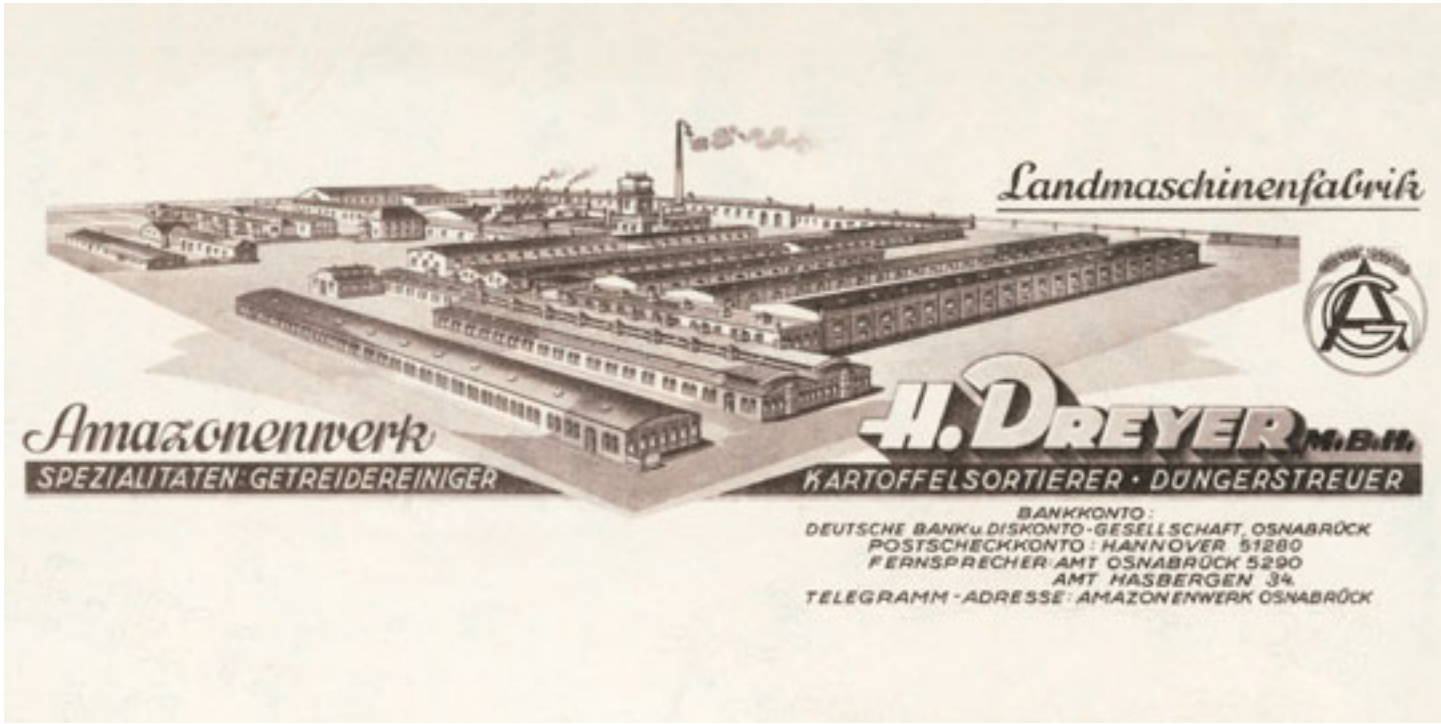
These are the words of my grandfather, which he wrote down by hand in his chronicle. I have refrained from adding my own commentary, so the reader can form his own opinion. I can only state that it was the intolerable political conditions before 1933 that brought a man like Hitler to power with such a large popular vote.

8. August 1933

i didn't write anything down in 1932, but I want to do so today. This past year was no better for us than 1931. In both years we had no profit in our business, we just about stayed even. The sloppy state economy continued, we sank deeper and deeper in Germany, the party system and the party fights got out of hand, Reichstag elections every few months, and the results of the negotiations were mainly brawls in the meetings of the meanest kind. It looked as if our people and their representatives had emerged from a madhouse. In this confusion came a man who apparently saved Germany: Adolf Hitler. He knew how to get the majority of the German people behind him. His movement was called the National Socialist German Labour Party.

The election to the new Reichstag on 5 March 1933 and the state parliamentary election on 12 March 1933 ended with a large majority of National Socialists, the majority of other parties were dissolved and the entire Reichstag was sent home. The entire government consists of National Socialists and they rule all of Germany. We now have a united Germany, including all the states. Today there is a prospect of improvement again, although it will not be quick, but if this unity lasts, which we hope it will, then there will be no lack of progress.

Efforts are being made with all their might to create jobs so that the many unemployed, over 5 to 6 million, can find work again. Since May of this year, there are said to be 2 million fewer unemployed.



"It will be better for us if the farmer also gets more money for his products, especially the livestock and meat prices must be increased so that the farmer can also produce them with some benefit."

The 1st of May was a bank holiday where all the workers took part in a parade, including our entire workforce with the managers.

We are now continuing with all our strength to restore order, work and bread for every German, and it is generally hoped that the right path will be taken today and that success will not fail to materialise. Although we are not yet able to ascertain an increase in sales compared to 1932, the coming months of August, September and October will be decisive. It will be better for us if the farmer also gets more money for his products, especially the cattle and meat prices must be increased so that the farmer can also produce them with some benefit. Milk and butter have already risen in price to such an extent that it is bearable for the farmer. Everything else is recorded in books and can be looked up by anyone.

We celebrated the 50th anniversary of our factory on 15 July this year. In 1883, I took over the business from my father and at the age of 21 I set up a factory for grain cleaning machines. After 50 years, i.e. today in 1933, we are still in good health, which is quite something in this day and age after all that we have experienced in 19 years. [...]

[...] The weather has been good this year, the crops have turned out well and everything will probably be harvested in a week's time. The potatoes and turnips, i.e. all root crops, are doing very well. We have to thank God for all the good things we have received and ask for his help for the coming time. This year we attended the D.L.G. exhibition in Berlin on 20–28 May and the 'Green Week' in February. The success of both exhibitions was, as we have experienced so far, relatively good and, as is well known, always has a lasting effect.

"In 1883, I took over the business from my father and, at the age of 21, set up a factory for grain cleaning machines. After 50 years, i.e. today in 1933, we are still in good health, which is quite something in this day and age after all that we have experienced in 19 years."

Despite the most difficult conditions, the AMAZONENWERK reached its 50th anniversary in 1933.

Finally, in 1934, a silver lining appeared on the horizon again at Amazonenwerke and in the German economy in general. This was the last time my grandfather wrote in his chronicle, after which he made no further entries. The worries of the bad times had sapped his strength. His two sons Dipl. Eng. Heinrich Dreyer and Erich Dreyer had succeeded him. Heinrich Dreyer senior was able to rest for a few more years after this successful life's work.

27. May 1934

At the beginning of this year, in January, February and March, we had a lot of work, unexpectedly a lot of fertiliser spreaders in particular. We sold three times as much as in previous years, so that we were not always able to deliver on time, despite the increased number of workers. We have cleared the stock in machines well, but today it has been very quiet in the business since the middle of April, and we have to work with our many people, 120 men, everything in stock.

We are working full time again today and hope that things will get so much better in the season that we can continue working like this. It's always very bad here from mid-April to mid-July, as it was before the Great War.

Although the balance sheet on 31 December 1933 did not show a significant profit, it did not show a loss either. And so we are right to hope that we will soon be able to make a profit again with higher sales.

We attended the 'Green Week' in Berlin again in February, and today we are setting up, for the time being Wilhelm alone in Erfurt, [...] hopefully this year will be worthwhile again.

[...]

This is the end of my grandfather's personal notes.


H.Dreyer

1935–2021

The AMAZONE Chronicle

by Klaus Dreyer

Things are looking up

My grandfather's hope that things would pick up again in Germany was realised. Business picked up again in the middle of 1933 and the company was able to increase its turnover again – over 1,000 fertiliser spreaders were then sold.

The bad years were finally over, the economy was slowly recovering and unemployment was falling rapidly. Sales of grain cleaners remained constant at around 1,000 machines per year for several years. In contrast, sales of potato graders increased from 900 to over 5,000 in six years and sales of fertiliser spreaders increased tenfold from 1,000 units. With this rapid development, the production capacities were soon no longer sufficient and had to be expanded.

In 1934, the metalworking shop was initially enlarged using a modern shed construction. Additional metal-cutting machines and a group assembly line were installed in the extended metalworking shop. in 1935, the new forge with a floor area of around 1,000 m² and an adjoining 500 m² iron store were built. Six forging presses, an air-powered forging

DLG exhibition, Berlin 1935

hammer and a 250 tonne eccentric press from the company HILO from Aue in Saxony were installed in the forge, which was used to forge the crankshafts of the potato graders, amongst other things. The Hilo eccentric press was still in service at AMAZONE until 1975. Today it stands as a monument to technology in the front garden at head office. In 1936, a large timber storage hall with a floor area of 1,500 m² was built in the west of the factory premises. A timber drying plant and the wheel-making shop for the many wooden wheels of the fertiliser spreaders were installed in this hall. The rims of the wheels, made of beech wood, were also heated in a large oven and bent round. They were then placed in a metal clamp in which they cooled and dried.

In 1937, AMAZONE built the new boiler house with a 300 hp Buckau-Wolf steam engine, which generated the required electricity; the heating systems in the various halls could be operated with the residual steam. This steam engine was fuelled only partly with coal, but mainly with waste wood from the joinery shop. The new steam engine was the particular pride of founder Heinrich Dreyer, who personally took visitors into the new boiler house until shortly before his death to show everyone his steam engine. The golden wedding

1937: 300 hp 'Buckau-Wolf' steam engine for our own power supply and heating, It was heated with waste wood from production.

The staff of AMAZONENWERKE with the founders on the occasion of their golden wedding anniversary.

anniversary of the founders, Heinrich and Lisette Dreyer was also celebrated in 1937. On this occasion, a photo of the entire workforce with the Dreyer family was again taken on the neighbouring Stöhrenberg. The situation was similar to that in 1914: a terrible war, in this case the Second World War, was imminent. Many of the men in this photo were drafted and died in the war, including Erich Dreyer.

The celebration of the golden wedding anniversary. The new joinery shop was cleared out for the occasion.

Finally, in 1938, the inauguration of the new 'Gefolgschaftshaus' took place, which was later converted into a guest house and is now used to cater for groups of visitors. It contained spacious washing and shower facilities for

the majority of employees. In addition, air-raid shelters with appropriately reinforced ceilings to protect against falling bombs were installed in the basement of the building, as was already mandatory at the time.

When bombs fell in Osnabrück, these rooms served as a refuge. I myself spent several nights in these rooms later on. However, the actual purpose of the Gefolgschaftshaus was to provide a nice large lounge for the employees, where they could have breakfast and lunch during their breaks. Small meetings and celebrations were also held here, as they still are today.

Heinrich Dreyer died on 11 June 1939, just a few months before the outbreak of the Second World War. The funeral service took place in one of the halls, which was cleared out and festively decorated for the occasion. Heinrich Dreyer's coffin was carried from the factory premises on the shoulders of six of his employees. The steam whistle of the new steam engine sounded, a moving event. The funeral procession went through the entire community to the Gaste cemetery and was kilometres long. All employees and their families, sales partners and suppliers followed Heinrich Dreyer on his last journey and thanked him for his remarkable life's work.

The AMAZONE auger spreader conquers the market

In the meantime, his son, Dipl. Eng. Heinrich Dreyer, had taken over the on-going development of the machines and his brother Erich, the expansion of sales. Until his death, Heinrich Dreyer senior looked after the company and enjoyed the success of his Amazone factory. For 18 years he had suffered during the wretched war and through the post-war times. Now things were finally moving forward again, as he had continually wished for all along.

Erich expanded the business considerably in the eastern regions. Silesia, Pomerania, East Prussia and Saxony had previously been neglected, although a lot of farming was carried out there. Efficient representatives were now appointed and all exhibitions were intensively attended. The result was that Amazone eventually made two thirds of its sales in the 'German East'. This was not easy, because up to this point the company Kuxmann had virtually 'owned' the fertiliser spreader market with its chain spreader. However, the Amazone auger spreader was lighter, easier to clean and also cheaper. As a result, it gradually overtook the chain spreader. Because potato sorting

Fertiliser spreader, 1939

machines also experienced a huge boom, the workforce in Gaste was increased to over 500 employees by 1939 – what a huge development!

Unfortunately, the upturn in the German economy was not without its flaws. Once again, thick clouds loomed on the political horizon. Agriculture in Germany was heavily subsidised in order to become independent of supplies from abroad. At the time, people spoke of the 'producer battle'. It was later recognised that these self-sufficiency efforts were part of the preparations for the next war.

The successful AMAZONE auger spreader 'HDG' (Heinr. Dreyer, Gaste), 1943

War scenery up close

After the German campaign in Poland, the entire 'Panzerregiment 6 Neuruppin' was quartered at Amazonenwerk for the period from November 1939 to 1940. The tanks and lorries were parked in the neighbourhood, in the woods or on the factory premises and were repaired, maintained and polished to a shine by the soldiers.

For us children, of course, this quartering was an attraction. We were constantly in the factory, with the soldiers on the vehicles, if not even in the tanks. Our parents only saw us – if at all – at mealtimes and in the evenings when the soldiers sent us home. At that time, they were as exuberant as if the war had already been won and none of us expected it to continue in France afterwards, let alone the catastrophe that awaited them. In the course of the war, this particular armoured regiment was completely destroyed and only a few of them survived.

Conditions in Germany quickly resembled those in the First World War: materials became scarce and expensive and ration cards were issued to the population so that the little food was distributed more or less evenly.

The men among the employees who were fit for military service, including Erich Dreyer, the company's commercial manager, were called up for military service. As a result, the number of employees was gradually reduced considerably. Heinrich Dreyer took over the sole management of the company.

The company's business was initially unaffected by the war. Agriculture was greatly subsidised by the government so that sufficient food could be produced. As a result, the company continued to receive plenty of orders. This situation led to the problem of getting enough staff and materials, which was initially successful. However, this was only true for the first few years of the war, after which staff and materials became so scarce that machine production had to be cut back. Attempts were then made to replace employees who had been called up for military service with prisoners of war, but this proved difficult as they were not trained for this work.

Quartering at AMAZONE: The entire 'Panzerregiment 6 Neuruppin' was in Gaste for about three months.

Bombing of AMAZONENWERK

In the summer of 1944, the Amazone factory experienced a dramatic bombing raid. I can still remember it very well: I was standing next to the 'Gefolgschaftshaus', in the basement of which air raid shelters had been set up, and I saw a whole squadron of aeroplanes flying very low towards the factory. It was around midday and the sun was shining. I watched as the aeroplanes dropped many bombs, which flashed clearly in the sun. All the people who were still outside ran into the air-raid shelter and it started. That's how I imagined an earthquake: the walls shook and a terrible crash, which only lasted a few seconds, terrified everyone. Then there was a deadly silence.

When the raid was over, everyone ran outside, where a fog of dust limited our visibility to about ten metres. I first ran to our house and saw that it was undamaged. Then I ran on to the company premises. No damage was visible there either. The carpet of bombs had only fallen about 50 metres behind the factory premises, a total of about 500 bombs. Most of them had fallen in the surrounding fields and woods. Only three houses had been damaged, including the home of Johann Dreyer, my grandfather's comrade-in-arms. Miraculously, there were no major casualties. Only one old woman was hit on the head by a whole ham from the Wiemen on her way to the cellar, but without any serious consequences.

The badly damaged house of Johann Dreyer, in the summer of 1944

Accommodating other companies at AMAZONE

During the war, three other companies were forcibly quartered at Amazone, an electrical company Koch from Osnabrück, which wound armatures and manufactured motors in one hall, the company Dahms, produced pianos in our test workshop, and the company Weserflug from Bremen, which cannibalised damaged *Fokke Wulf 190* fighter planes in two halls and reused the usable parts.

For this reason, in those days there were always a number of aeroplane fuselages and wings in appropriate racks on our premises, well camouflaged with nets so that they could not be seen from above, between the stacks of boards from which fertiliser spreaders and sorters were made.

There was plenty of space in the Amazone factory, as the huge warehouses that my grandfather had built were no longer needed. We lived 'from hand to mouth' and stocks could hardly be built up.

We children were naturally magnetically attracted to these aeroplanes. So we soon created opportunities to get closer to them, despite being heavily guarded. At weekends, we could even sometimes buy the opportunity to play with a fully assembled aeroplane in a hangar with a few chicken eggs as 'payment', i.e. we were allowed to climb around in the cockpit and also in the fuselage. The guard just kept reminding us not to make so much noise.

The consequences of war

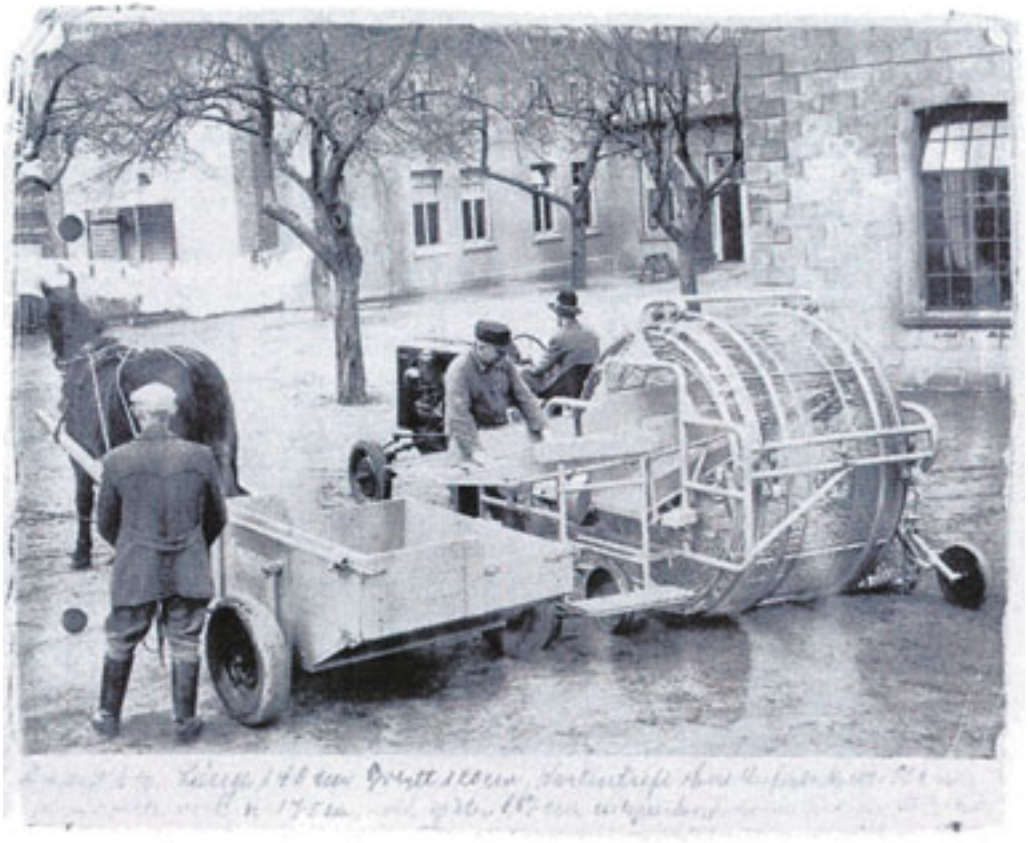
In general, the war years were a very interesting time for us children. If a plane crashed somewhere in the neighbourhood, we would immediately ride our bikes there. On these occasions, we would also come across crashed aeroplanes whose occupants had died. Some of the bodies were scattered around the area. However, we were mainly interested in the armament and technology, small motors, compasses and complicated control parts. Once we even removed a complete cannon from a bomber and transported it home on a handcart together with the ammunition. Of course, we had our own positions there where the weapons were installed. Unfortunately, the soldiers later took our beautiful equipment away again. We were also regularly urged to cycle to Osnabrück after a bombing raid to inspect the damage – we were just kids. But the war became more and more terrible, many people – soldiers and civilians alike – were killed and 85 per cent of Osnabrück's city centre was destroyed by air raids during the war.

The first potato harvester

During this time, Heinrich Dreyer worked with his favourite machine, the potato harvester. As early as 1942, he began producing individual prototype harvesters, which were tested on the larger farms in the wider neighbourhood. This made Amazone the first company in Germany to specialise in potato harvesting. Heinrich Dreyer did considerable pioneering work in this field. The design of the harvester was characterised by the fact that a large sieve drum rolled over the ground on support rings. A conventional centrifugal harvester threw the ridge of potatoes and soil into this drum, which was guided to the end of the drum by spiral flaps.

Practical use of the first potato harvester 'S 42' with Heinrich Dreyer, 1942

Photographs for brochures taken in the yard



At the same time, the soil was sieved off. Conveyor flaps were attached to the end of the drum, which lifted the potatoes upwards onto a vibrating sieve. A blower was installed on the vibrating screen, which blew the haulm and root residues back onto the field. The potatoes then fell into a container that emptied every 10 metres or so, so that the harvested potatoes lay in large rows in the field and could dry out. Later, they could be loaded onto a wagon using a loading fork. From 1944, however, overall production fell sharply, mainly because not enough materials were available.

Erich Dreyer's death

On 18 April 1945, Erich Dreyer, my father, fell in what was then Czechoslovakia on the retreat from the Russian campaign, which he had had to take part in from day one. Splinters from a stray 'Stalin organ' had smashed through the roof of his radio measuring van and penetrated his chest. A few days later, on May 8th, 1945, the terrible war finally came to an end. Heinrich Dreyer was now forced to run the company alone, as he had done during the war.

Erich Dreyer was the commercial manager of the AMAZONENWERKE until 1941

Erich Dreyer

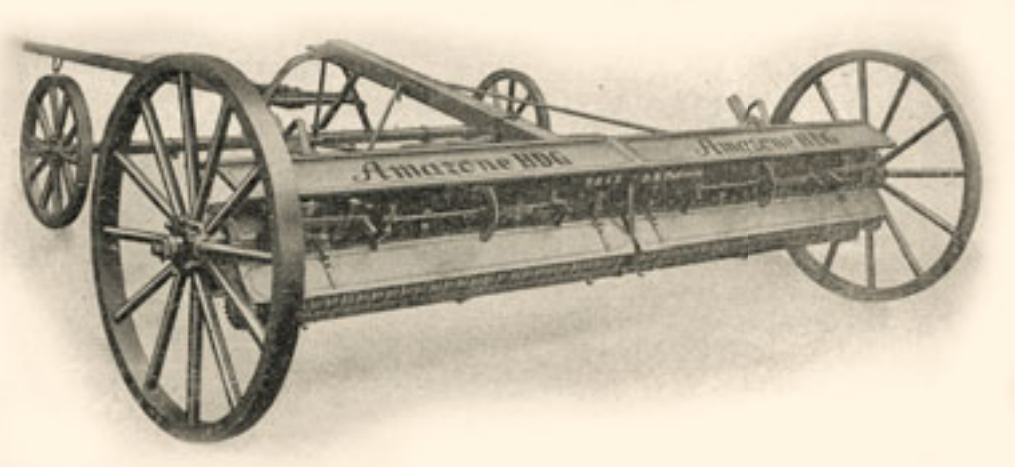
Looking back: the life's work of the businessman, Erich Dreyer

The youngest of 8 children, Erich was born in 1909. He was chosen by his father to look after the commercial side of the company. After leaving school in Gaste, he began a commercial apprenticeship at the Dierks & Sohne machine factory in Osnabrück, which he successfully completed. To further complete his training as a businessman, Erich then attended the well-known "Nöllsche Handelsschule" in Bielefeld. Afterwards, his father was pleased that he was able to employ his son in his Amazone factory as early as 1927 in order to promote the sale of machines. In 1933, Erich married Erna Mauermann, the daughter of an Osnabrück master oven builder. This happy marriage produced three children: the eldest son Klaus, who was later to succeed him, the second son Rolf and the daughter Doris Dreyer.

Erich Dreyer with his wife Erna

Erich Dreyer was a typically cheerful character and, with his positive attitude and persuasiveness, quickly attracted many new business partners and made numerous friends. Erich was present at all the important exhibitions and promoted the sale of Amazone products with unbridled energy, especially the Federkraft potato graders and the Amazone HDG auger fertiliser spreaders. His specialist area of activity was eastern Germany, where the large agricultural estates were located. Here, the Amazone factory and its products had only been weakly represented until then. The large estates mainly worked with the Kuxmann chain fertiliser spreader. Gradually, however, Erich Dreyer succeeded in convincing the landowners that the Amazone auger spreader was not only better, but also cheaper than other systems. In areas where Amazone had previously only been represented directly, he employed additional factory representatives

AMAZONE HDG
for large companies



Erich Dreyer with his sons Klaus and Rolf (†)

Erich Dreyer's hobby: beautiful cars

and was thus able to increase sales considerably. by 1939, the AMAZONE FACTORY already employed around 500 people.

The start of the war interrupted this positive development and Erich was soon called up for military service. As he hoped that the war would soon be over, he made no attempt to be exempted. Erich Dreyer then had to take part in the particularly terrible Russian campaign from 1941 to 1945. Erich survived the terrible winter of 1942 without suffering frostbite and was awarded the Eastern Medal, the so-called "Frozen Meat Order".

In the last days before the end of the war, in April 1945, Erich Dreyer was hit by shrapnel and so badly injured that he died a few days later in a military hospital in what was then Czechoslovakia. After the war, when AMAZONE's operations started up again, Erich Dreyer was greatly missed by his brother, and now sole managing director Dipl. Eng.Heinrich Dreyer.

Today, only a memorial plaque in the cemetery of Polanka a. d. Oder near Märisch Ostrau commemorates Erich Dreyer, the businessman and representative of the 2nd generation. He would certainly have been pleased to see how his beloved company has developed in the meantime.

"From the field"

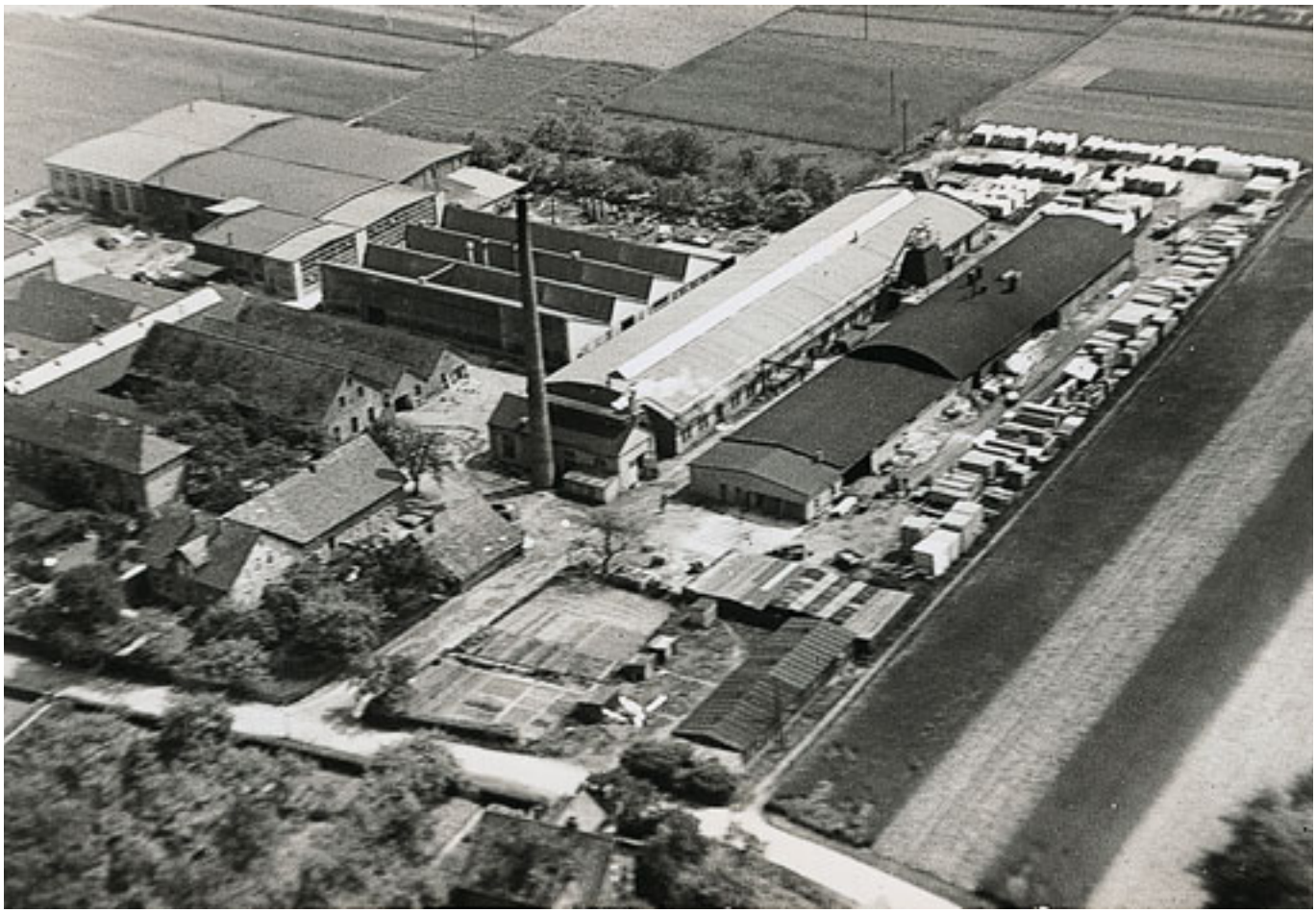
Erich Dreyer's last holiday at home

Post-war period

After the end of the war, there was great uncertainty. For Amazonenwerk, the end of the war initially meant closure. A short time later, the entire factory was confiscated by the British occupying forces. In the first few weeks, the factory served as a discharge camp for German soldiers and later as a so-called transit camp. On average, 10,000 German soldiers were 'delivered' by the British on their lorries every day. They were fed here, spent the night on the wooden floors in the factory halls and were transported onwards the next day. The stay at Amazone was certainly not comfortable, but everyone involved was happy that they had survived the war alive and that they would soon be home again. I can still remember the soldiers – some of whom were still children aged 15 and 16 – very well; they were emaciated and dressed in uniforms that were far too big, but they were happy that they would be reunited with their parents and families soon.

My parents' house, which my grandfather Heinrich Dreyer had built for himself in 1900 – at least the front wing – had also been taken over by the British, where the guards were housed. In the meantime, my mother and us three children had to retreat to the rear agricultural wing. After all the German soldiers had been discharged, the British military government in charge released Amazonenwerk's production facilities again and granted them the necessary authorisation to manufacture agricultural machinery. My uncle Heinrich Dreyer got the business up and running again. In the early days, around

View of the Gaste factory, 1948



50 employees worked in the extensive facilities and began the clear up and repair work. You can imagine the state they were in after having been used as a lay-off camp for over six months. Everything that could have been used in the bad times or used as a swap had been stolen: motors, contacts, switches, electrical cables, tools, office equipment, etc.

Once the production facilities had been cleaned up to some extent and the most important machines had been repaired, agricultural machinery such as fertiliser spreaders and potato sorting machines were once again produced in Gaste. Grain cleaning machines were initially no longer produced because demand had fallen significantly in recent years. As some threshing machines were now equipped with an appropriate cleaning system, additional cleaning had become superfluous in this case. During this time, the large influx of refugees who had been expelled from former German territories such as Silesia or East Prussia began to arrive throughout West Germany, including Gaste. In order to accommodate the many destitute people, the Amazonenwerk guest house was requisitioned. Around twenty families with children, mainly people from the Wroclaw area, camped there for a few days.

In order to accommodate as many refugees as possible in a humane manner, a 'housing commission' travelled through the community, determining which rooms were not absolutely necessary and then assigning refugees to them. Two parties, with a total of nine people, were accommodated in the Dreyer house. The landlady, my mother, Erna Dreyer, gave them all the furniture and clothes that were not currently needed.

The Cortege house is now used as a guest house

Hartmut Neumann's ticket and catering pass for the Leipzig Spring Fair, March 1947

A spirit of optimism

After the war, an incredible spirit of optimism set in in Germany. Everyone was happy that the war was over and now set about repairing the damage and establishing a decent standard of living. Food was still in short supply and, as in the bad times of the First World War, the farmers were besieged by so-called hoarders who were starving and wanted to trade potatoes, bacon, meat or similar for the last of their belongings that they had saved during the war. The trains travelling from Osnabrück to the Ruhr were so overcrowded that we, the Dreyer schoolchildren, often travelled on the footboards of the carriages to get home from school in Osnabrück.

Heinrich Dreyer was able to fall back on his tried and tested employees, who had only been waiting to be able to resume their usual work: Wilhelm Thies, the authorised signatory, was back in charge of the finances. The master carpenter was still Heinrich Meyer, the master blacksmith was Oskar Dreyer (a son of Friedrich Dreyer), the master machinist was Arnold Dreyer, Oskar's brother, and the master of the training workshop was Karl Sindt. Finally, the businessman Willy Meyer, who had returned from the war unscathed, took over the purchasing department.

Willy Meyer, like several other employees, has had a typical Amazone career. He started as an apprentice at Amazone in 1936 – in my grandfather's day – and retired in 1992 as an authorised signatory and member of the management at the age of 70. Willy Meyer, head of purchasing and personnel manager, worked at Amazone for a total of 56 years, with a brief interruption during the war when he was a soldier. He worked with three generations of Dreyers and made a great contribution during this time, which is why he was specially honoured with a certificate from the management. He was not an isolated case in our company; Friedhelm Brömstrup, a businessman who later became our sales manager, and Karl Wilhelm Wiendieck, a graduate engineer who became plant manager of the main factory in

Gaste, also had such a career: from apprentice to management. These and a number of other employees have rendered outstanding services to the success of Amazonen-Werke. With this management team and some tried and tested skilled workers, the company slowly but surely started up again.

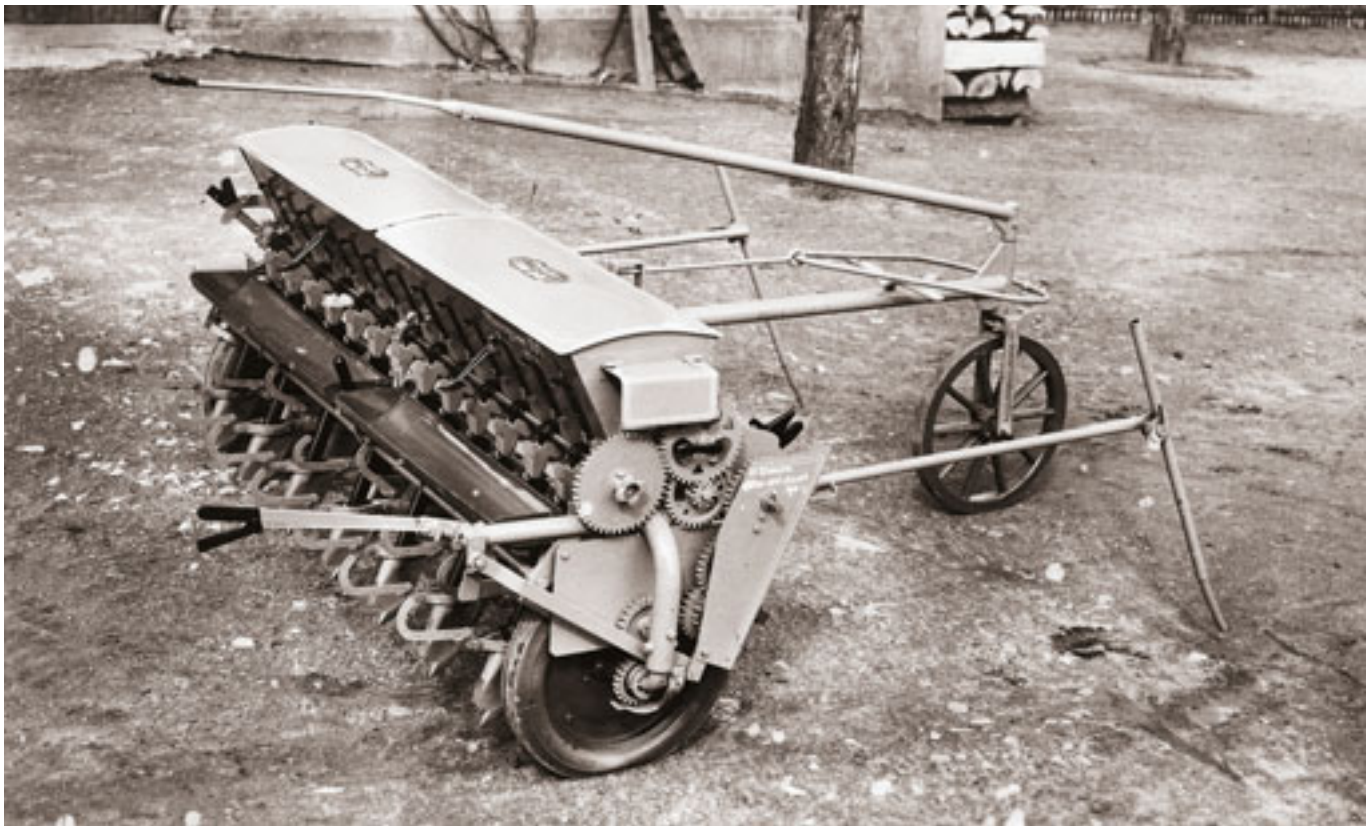
The production programme consisted of the most important products, which were also manufactured until the end of the war: auger fertiliser spreaders, potato sorting machines and handcarts, with which it was possible to 'compensate' well, i.e. procure material for production. In 1945, 653 fertiliser spreaders and 342 potato sorting machines were delivered. But the procurement of materials was indeed the biggest problem for all factories until the currency reform in 1948. Willy Meyer, often accompanied by master craftsman Oskar Dreyer (who made the most respectable impression and was called Dreyer, so that the suppliers believed he was the boss of the company), visited the steelworks with a briefcase from which a sausage or a piece of bacon was sticking out in order to get hold of a few bars of iron or a few sheets of tin.

The supply situation for the population was also extremely inadequate shortly after the war. Food was still available on ration cards and clothing on reference certificates issued by the mayor according to need. The company often had to ensure that its employees had enough to eat if it wanted to make sure that they could work properly. One day, there was a whole trailer full of white cabbage in the factory yard for the workforce, which had been exchanged for a piece of agricultural machinery. Oatmeal was also good for bartering, as it was a source of energy for the employees.

Meanwhile, Heinrich Dreyer took care of the further development of the programme. Of course, the potato harvester continued to take centre stage. But Heinrich Dreyer had also hired reinforcements: Hartmut Neumann and Hans Splete, both graduate engineers from the aviation industry, and engineer, Mr. Kahdemann, who came from the Siedersleben company in Bernburg.

Potato harvester testing with basket collection wagon

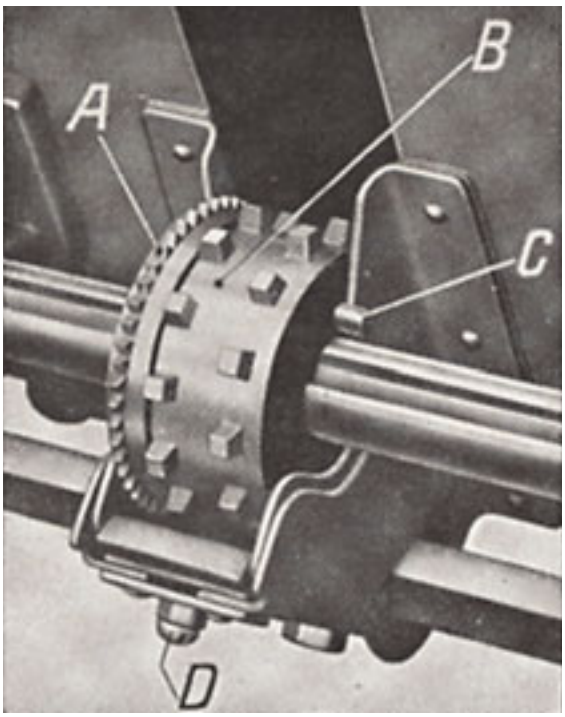
Potato harvester testing with bunker wagon under the watchful eye of Heinrich Dreyer (on the right in the picture with light-coloured coat)



The first seed drill
AMAZONE 'D1', 1949

The first AMAZONE seed drill

Mr. Kahdemann had brought along the patent for the 'Elite seed wheel' for seed drills. The elite seed wheel is a combination of a normal cam wheel and a fine seed wheel, which can be separated from the normal seed wheel at the touch of a button and is therefore suitable for all fine seeds without conversion. The founder of Amazonenwerk, Heinrich Dreyer, had already toyed with the idea of including seed drills in his production programme. This patent now offered a good opportunity to enter the seed drill business.



Elite saw wheel
A = Fine seed wheel
B = Normal saw wheel
C = Coupling pin for fine seed
D = Stud bolt

Today, seed drills are one of Amazone's main pillars. The principle of the Elite seed wheel is still used today and has been 'modelled' on by many

Top left:
AMAZONE 'D1' seed drill, 1949

Top right:
AMAZONE 'D2' seed drill, 1952

competitors. Originally, the cam wheel had two rows of square teeth with which the seed was conveyed into the seed tube. Next to it ran the fine seed wheel, which was used for stubble beet, grass and clover and sowed the small seeds in small quantities, while the standard seed wheel was stopped from turning. The principle has remained the same to this day, but the wheel has been enlarged and the cams have been redesigned to make metering more precise and prevent damage to the seed.

Further development of the AMAZONE 'D3' seed drill, 1954

Manure spreader, 1949

AMAZONE manure spreader

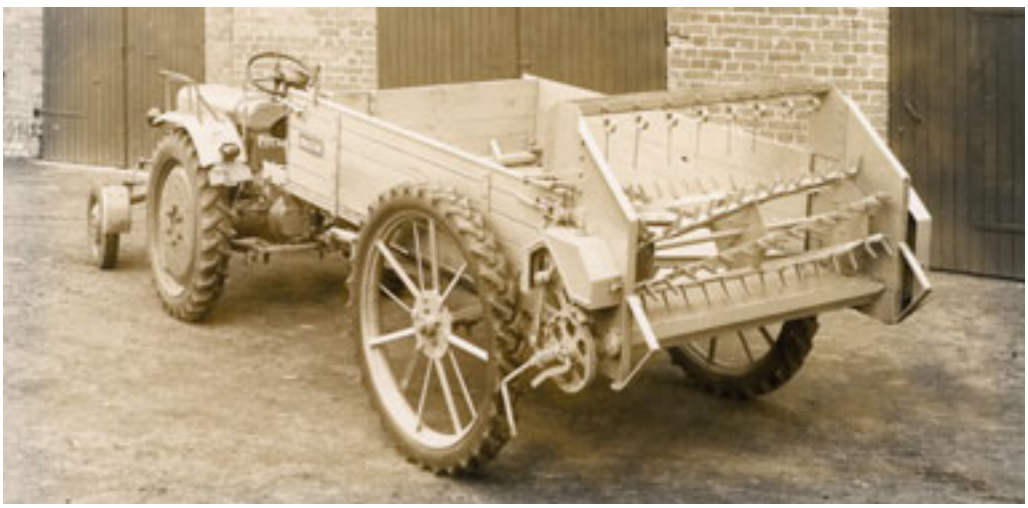
Further new ground was broken the following year, 1949, when Heinrich Dreyer began developing and producing the manure spreader. Amazone started with conventional single-axle tipping trailers with hydraulic or rack and pinion tipping, to which a spreading unit could be attached at the rear for spreading manure. Over time, however, experience taught us that very few farmers had tractors powerful enough to spread manure. Heinrich Dreyer therefore soon developed smaller spreaders for tractors with 15 to 18 hp.

A speciality in the industry was the small Amazone UK1, a small tipper with large rubber wheels that required very little power and could even be operated by the small 11 hp tractors that were still widely used in Germany in the 1950s.

The wheels and frame of the UK1 were universally usable and could be converted into a crop protection sprayer, a large mineral fertiliser spreader or a haulm topper in the potato field with the appropriate attachments.

The next generation of Amazone manure spreaders was a lightweight transport vehicle with a scraper floor and large auger spreading drum. The machines of this generation were called SK15 and SK17 and were able to spread the manure slightly wider than the vehicle. This was a very practical solution when driving behind.

Manure spreader UK1

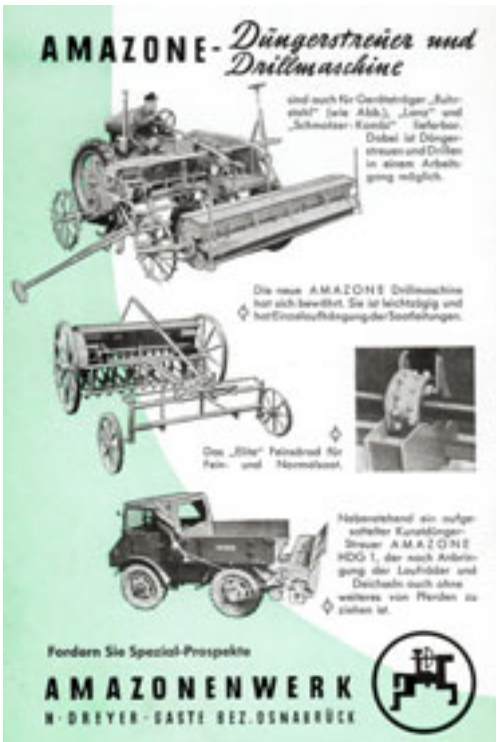


The last generation of Amazone manure spreaders were robust vehicles with a thick tube as a frame support. The practical auger spreading drum was retained. The spreaders worked very reliably and some of them are still in use today. By the 1970s, the market for manure spreaders was fairly saturated. In addition, a number of competitors had appeared on the scene over time. As a result of this development, it was decided to concentrate on the core competences. As a result, the production of manure spreaders was discontinued.

AMAZONE machinery for tool carriers

At the beginning of the 1950s, a controversial fad in agriculture came onto the market: the tool carrier. It was enthusiastically welcomed and recommended by all agricultural scientists and all tractor manufacturers – there were still many at that time – felt compelled to follow this trend: Fendt, Lanz, Deutz, Güldner, Ritschler, Ruhrstahl, Schmotzer and, from abroad, David Brown, to name but a few. All these manufacturers or their dealers now expected Amazone to develop attachments for the tool carriers, although, of course, all these tractors had different mounting dimensions and set-ups. Amazone was also expected to offer different working widths. The result was a large number of machines standing around in the warehouse, which of course cost money, quite apart from the effort and costs associated with this development alone. However, this phenomenon quickly passed, so that by 1960, only one tool carrier had survived the development. This was the Fendt tool carrier, which was still being built until 2004.

Brochure: demount machinery for Unimog and tool carriers, 1956



Stand team with a visitor from Gaste (Heinrich Dreyer in the centre with the bright hat) at the 40th DLG travelling exhibition in Frankfurt a. Main, 11–18 June 1950

Upswing after the currency reform

After the currency reform in 1948, when the Reichsmark was replaced by the D-Mark, Germany began what was later called the 'economic miracle'. This upswing was also felt in agriculture and brought with it a great surge in mechanisation. For Amazone, this meant an enormous increase in sales. In the years from 1947 to 1951, the number of potato graders increased from 900 to 5,600 units per year, and the number of fertiliser spreaders from 1,000 to 10,500 (!). Even the production of the original machine, the grain cleaner, was resumed. Although grain cleaning was installed in the threshing machines, this was not thorough enough for many farmers, so they purchased an additional winnower – especially for their seed.

The rapid increase in turnover naturally made it necessary to hire additional employees. However, this was only possible until full employment was reached in the region, which was the case in the Osnabrück area around 1951. It was particularly difficult to find workers in the Osnabrück area because the large companies such as Klöckner, Karmann and Osnabrücker Kupfer- und Drahtwerke hired all the labour they could find.

5 DM banknote, first issue by the Bank deutscher Länder, 1948
© Deutsche Bundesbank, Frankfurt

The first branch of AMAZONE

The plant in Delmenhorst-Hoykenkamp with a direct railway connection

Heinrich Dreyer thought about how he could continue to meet the increasing demand for Amazone machines despite full employment and came up with the solution of setting up a subsidiary in a region where labour was still available. One such region at the time was the Bremen area. In Delmenhorst-Hoykenkamp, there were even unused production halls of the Weserflug-Gesellschaft, where Amazone was able to quickly start production. Production began as early as 1956 and in the first year, 1,000 potato graders, 250 seed drills and 115 grain cleaners were manufactured there. From then on, the company was called Amazonen-Werke.

Major fire at AMAZONE

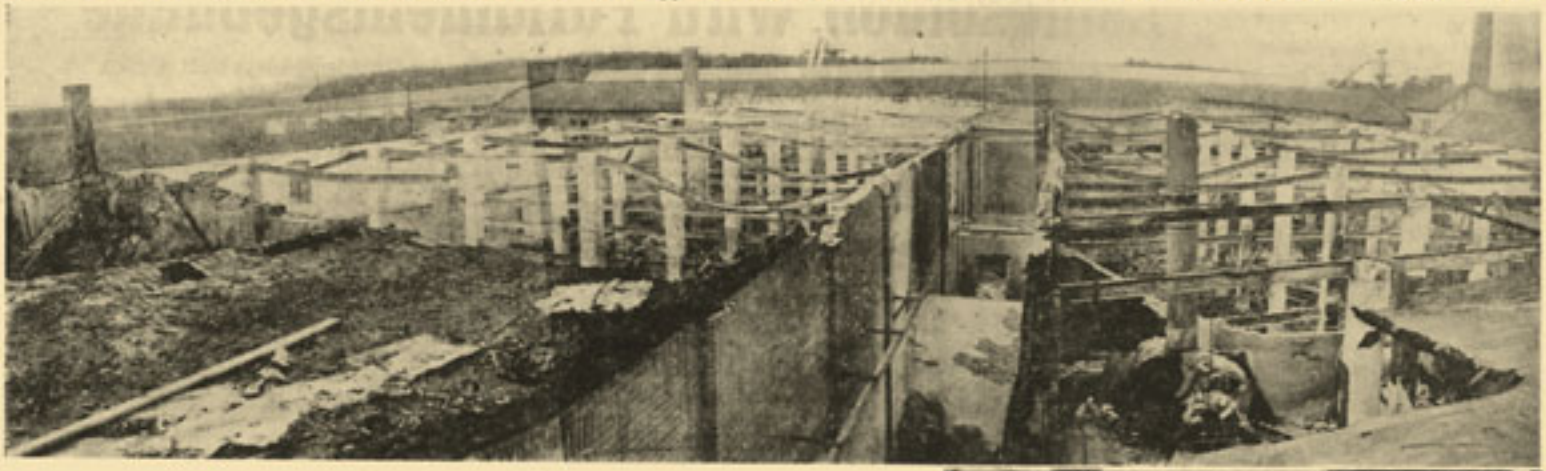
In 1956, Amazonen-Werke in Gaste suffered a fateful blow. A major fire destroyed the paint shop and large parts of the storage halls one night. Experts later discovered that the waste-paper basket in the 'paint shop' recreation room was where the fire had started to burn, probably due to a carelessly discarded cigarette butt. The paint store was located next door, which gave the fire a huge amount of fuel. The night watchman on duty had not noticed the fire, but a neighbour who had got up during the night saw flames coming out of the two-storey building complex. At this point, however, there was not much left to save. All the fire brigades from the entire region rushed to the scene and at least managed to stop the fire at the fire walls and thus save the neighbouring buildings.

Gas and oxygen cylinders were also stored in the halls, which exploded in the fire, so the firefighters had to enter the burning buildings through the roof in order to fight the fire directly. Amazone owes these men a great debt of gratitude as they prevented even greater damage. My cousin Heinz Dreyer, who happened to be in Gaste at the time, personally helped with the fire-fighting work and showed the firemen where important places were, while his father, the head of the company, was away and so was spared the excitement.

The damage was enormous and production naturally had to be interrupted, but the day after the fire, the flexible employees started to set up temporary spray booths in the garden behind the burnt-down 'paint shop'. This meant that the painting department was soon able to resume work and the machines on order could continue to be delivered. However, it took months to clear out the burnt-out building complex. The remains of the machines stored in the two-storey halls were stored on a remote site for assessment, an unimaginably large scrap yard. An expert later established that the total

Major fire, 1956

GASTE: Zwei Fabrikhallen im „Amazonenwerk“ durch Großfeuer zerstört



Schaden: Über 500000 DM

Brand wurde erst bemerkt, als die Flammen aus den Dächern schlugen – Die Produktion geht uneingeschränkt weiter

Das Großfeuer, das in der Nacht zum Mittwoch das Amazonenwerk H. Dreyer in Gaste heimsuchte, hat zwei Werkshallen in der Gesamtgröße von etwa 50 x 45 m erfaßt. Ihm sind nicht nur die Einrichtungen der beiden Hallen, sondern auch die dort - saisonbedingt - in großer Menge gelagerte Fertigware zum Opfer gefallen. Man muß nach den ersten Schätzungen den Schaden auf mindestens 500 000 bis 600 000 DM beziffern. Es kann aber durchaus sein, daß er noch höher ist.

Das Feuer wurde um 3 Uhr von einer Frau in einem 600 bis 800 m entfernten Wohnhaus bemerkt, als sie ihre Küche betrat, um etwas für den erkrankten Ehemann herzurichten. Da schlugen die Flammen schon aus den Dächern. Die Frau schickte ihren 15jährigen Sohn zum „Amazonenwerk“ hinüber, wo dann der Alarm gegeben wurde. In schneller Reihenfolge waren bald Wehren aus Hasbergen, Osnabrück, Gmhütte, Hagen, Holzhausen, Ösede und Lotte versammelt, um dem verheerenden Element Einhalt zu tun. Trotz der Riesenmengen von Wasser, die sie bei der Bekämpfung verbrauchten, reichte der Löschteich bis morgens gegen 7 Uhr aus. Um diese Zeit war aber auch der Brand niedergekämpft. Die beiden Werkshallen waren, da das Feuer verhältnismäßig spät bemerkt wurde, natürlich nicht mehr zu retten. Die Umfassungsmauern blieben jedoch so erhalten, daß sie größtenteils wiederverwendet werden können.

Die Hauptarbeit der Feuerwehrmänner, die unter schwierigen Verhältnissen besonders von den Dächern der benachbarten Hallen aus den Kampf führten, mußte sich darauf erstrecken, die übrigen Teile des Großwerks zu sichern. Das ist ihnen auch restlos gelungen. Die Produktion kann also weitergehen, besonders dann, wenn in wenigen Tagen die verhältnismäßig wenig betroffene Spritzkabine provisorisch überdacht ist.

In den Werkshallen, die zerstört wurden, befanden sich in den Erdgeschossen die Malerei und die Versuchsabteilung, während darüber Fertigware dicht an dicht gelagert war. Sie werden durch einen Zwischenraum getrennt, der überdacht war. Nach den bisherigen Feststellungen dürfte der Brand von der „Malerei“ oder dem Zwischenraum her, in dem sich ein Farbenlager und ein Aufenthaltsraum befanden, auf die „Versuchsabteilung“ übergegriffen haben.

*

Das Amazonenwerk ist mit seiner Produktion an Landmaschinen (vor allem Dung- und Düngerstreuer, Kartoffelroder, Getreide- und Kartoffelsortiermaschinen, Universalkipper, Fördereinrichtungen für die Landwirtschaft) in der Bundesrepublik und im Ausland bis Norwegen und bis Griechenland und zur Türkei bekannt. Sogar nach Übersee wird geliefert. Erst am Tage vor dem Brand hatte man den 150 000. Düngerstreuer fertigstellen können, deren tägliche Produktion sich auf etwa 60 Stück beläuft. Die Belegschaft beträgt z. Z. 350 bis 360 Köpfe und zählt viele Jubilare, die schon 25 und 40 Jahre dem Betrieb angehören, der 1883 von dem 1939 verstorbenen Seniorchef Heinrich Dreyer gegründet wurde. Schon bei Beginn des zweiten Weltkrieges nahmen die Werkshallen eine Fläche von 16 000 Quadratmeter ein.

Blick in die zerstörte „Malerei“ Foto: NT - Uhlmann

Assembly of the ZA-TS fertiliser spreader in the former paint shop

damage amounted to over one million Deutschmarks. A year later, a new, modern paint shop was built on the site of the fire, which is still in use today, although it has since been converted into an assembly hall.

Upswing in new products

Heinrich Dreyer's efforts to complete the AMAZONE programme began to bear fruit. Both the manure spreader and the seed drill, as well as the potato harvester, achieved recognition in the agricultural sector and thus sales success. As early as 1952, over 300 seed drills were sold, and in 1955, the AMAZONE manure spreader sold over 500 units.

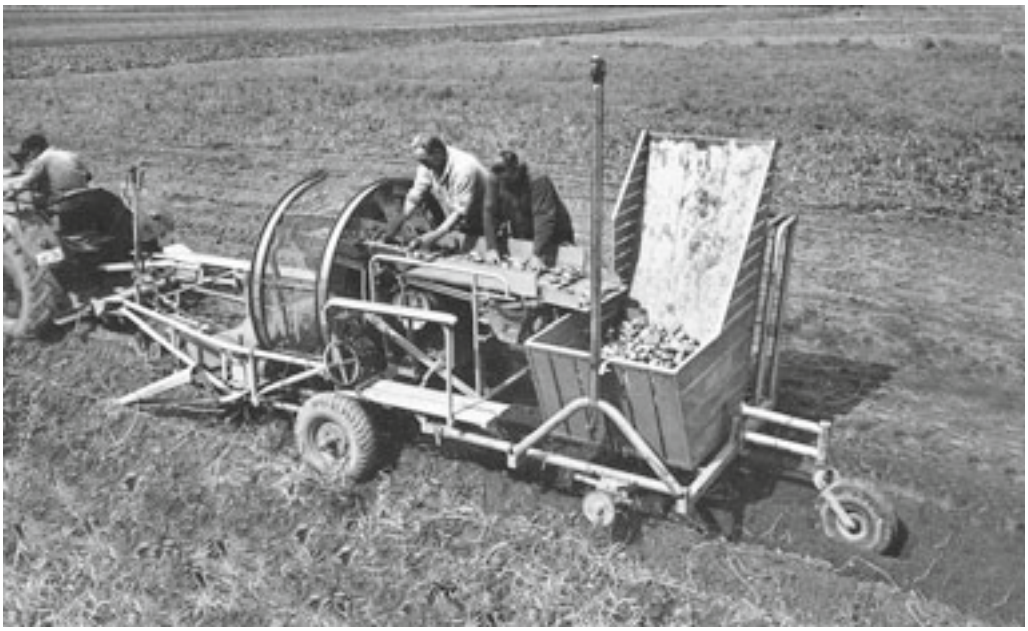
New Hall, Paint shop

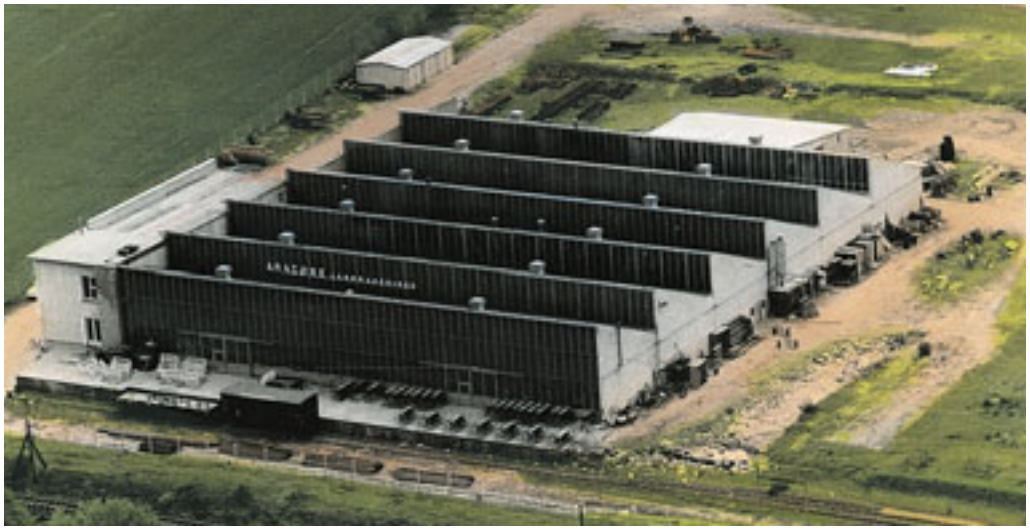
In order to relieve the main factory, the production of seed drills, grain cleaners and manure spreaders was set up entirely at the Delmenhorst factory, while Heinrich Dreyer concentrated more on the potato harvester, which was managed at the main factory. The pick-up harvester reached its peak in 1957 with the famous S 56, with which Amazone achieved market leadership.

As the name suggests, this successful harvester was created in 1956. 500 of them were produced in 1957 and they were so popular that they were ordered and even paid for many months in advance.

The technology had been refined. The sieving drum was arranged in a frame and rotated at right angles to the direction of travel. The potatoes were transported on a conveyor belt with a shaking device, in front of which two shares picked up the potatoes and soil. Up to four operators could sort out clods, stones and haulm residues. The potatoes then fell into a bunker, which was emptied on a trolley at the edge of the field.

Collector harvester 'S 56 R'





Hude subsiduary plant,
1st construction phase 1957

The subsidiary plant moves to Hude

In 1956, the lease for the subsidiary factory in Delmenhorst-Hoykenkamp was terminated and Heinrich Dreyer had to look for an alternative. In order to be able to keep the employees who were now qualified for production in the company, he looked for a location in the surrounding area. He found this location in Hude near Oldenburg, where a spacious plot of land with a railway connection was available on the outskirts of the town. Heinrich Dreyer built the new factory there. Council director Berentz from the town of Hude came to his aid and, with his active support, drove the decision forward. It was thanks to him that the town of Hude was able to establish this company, which now employs around 430 people and is one of the largest in the region.

Heinrich Dreyer

Heinrich Dreyer's death

1957 was a fateful year for Amazonen-Werke. When Heinrich Dreyer died suddenly and unexpectedly on 28 November at the age of 57, his death presented the company and his successors with huge problems. Dipl. Eng. Heinrich Dreyer, the son of the founder of Amazonen-Werke, had dedicated his entire life to the development of advanced agricultural machinery. He developed the Amazone auger spreader to perfection, invented the *Amazone* manure spreader and, of course, pioneered the development of the Amazone collector / harvester. The first Amazone seed drill was also developed under his guidance. He held countless patents and made a great contribution to the modernisation of European agriculture.

Dipl. Eng. Heinrich Dreyer

Looking back: the life's work of Dipl. Eng. Heinrich Dreyer

By Prof. h.c. Dr Dr h.c. Heinz Dreyer

At this point, I would particularly like to recall the period from 1926 to 1957, a period of around 30 years that was largely characterised by my father, Dipl. Eng. Heinrich Dreyer, as Managing Director.

Two of the founder's sons, Heinrich and Erich, joined the company in 1926/1927. Heinrich focused on the technical area (development and production), his brother Erich on sales. They worked together with their father until his death in 1939, a year that also saw the beginning of the Second World War. Just one year later, in 1940, Erich had to become a soldier. He was caught up in that terrible war, from which he unfortunately, like millions of other people, never returned. For my father Heinrich, this meant that he had to run the company practically alone from 1940 until the end of his life in 1957. How did that work, what happened during this time, what kind of personality was he?

He initially grew up in Gaste, surrounded by his family, his parents and his siblings. But he gradually worked his way out of this environment, which was still very simple and rural at the time. After school in Gaste, he went to Hamelin, where he completed his A-levels and eventually studied mechanical engineering at the Technical University in Hanover – where he also met his wife Lieselotte, née Günther.

He was the first of the Gaster Dreyers to successfully complete a university education, which was unusual at the time and an outstanding achievement in itself. And that also characterised him in general. He wanted more, worked harder, dared to put in more effort and therefore wore himself out more quickly.

He and the company found themselves in an extraordinarily difficult time, with unprecedented conditions and consequences of the war. That meant: increasing material procurement problems, working with prisoners of war and older employees. Forced transfer of factory halls to other (partly bombed-out) companies. Constant air raid alarms – even during the day – work interruptions, bombing raids.

And in the post-war period, this meant that the entire business was temporarily handed over to the British military, as a large release camp for German prisoners of war was set up here – later a so-called transit camp for German POWs (Prisoners of War). Restart of agricultural machinery production with enormous and very

Left:
Heinrich Dreyer with his wife Lieselotte

Right:
Lieselotte Dreyer with her five children: Heinz, Bärbel, Uwe, Ruth and Burkhard (from left)

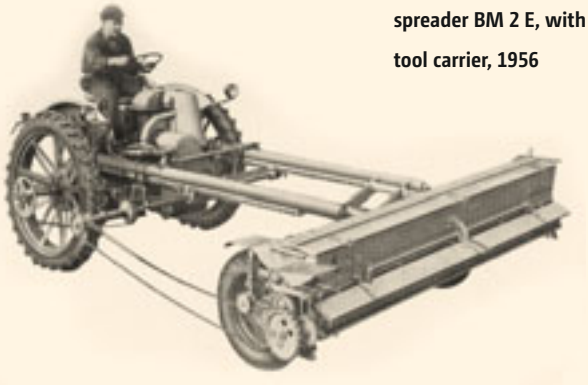
Practical use of the first S42 potato harvester with Heinrich Dreyer, 1942

unusual difficulties in obtaining materials (bartering with bacon and ham, with self-built handcarts "AMA" etc.) – from black market transactions to "getting" tyres. It's hard to imagine all this today. The currency reform finally brought a normalisation of conditions, but with the reconstruction of the economy, a steadily growing international competition developed that had to be withstood.

My father was a passionate designer. He saw the key to the company's continued success in constantly coming up with new, better and more effective ideas. He significantly improved our auger spreaders, began developing and manufacturing seed drills, was a pioneer in the design of potato harvesters and potato harvesters, and developed new manure spreaders. He thus significantly expanded our product range and saw the goal of agricultural machinery development not only in terms of optimum function and reliability, but also emphasised the beauty and appealing form of the construction. Today we call this design!

What always particularly struck and impressed me in discussions with him was his strategic thinking with regard to the continuation of the company. He repeatedly emphasised the importance of the "East" for us, tried to set up Amazone production in what was then the Sudetenland in 1942/43, and even built a factory in the Ukraine (occupied by German troops at the time) in 1944. And finally, he founded our subsidiary factory in Hude near Oldenburg, the first buildings of which were inaugurated in 1956 – here he was able to realise his own railway connection, acquire sufficient and affordable land, recruit enough employees who contributed to our competitiveness through moderate wages and salaries. He loved "his" Hude and would have liked to live there himself – he would have liked to retire there for the rest of his life. The favourable attitude of the local community representatives also made this venture easier for him.

He was a calm, always friendly man – also towards his five children, whose upbringing and care was mainly the responsibility of his wife, Lieselotte, our mum ("Mummy"), who in turn supported him wherever she could – as far as her strength allowed. Our father ("Dad") was always in control, never abusive, never loud, always ready to understand. He was a consistently goal-oriented, creative type who never went easy on himself, indulged in very few personal luxuries, but who wore himself out more and more for the company without anyone realising it. This was another reason why his early death – he was only 57 – came as a huge shock to us all. We, who were lucky enough to take over this company Amazonen-Werke, owe him an extraordinary debt of gratitude – he did not have an easy time, an easy life or an easy retirement.



Front-mounted fertiliser spreader BM 2 E, with tool carrier, 1956

The third generation joins the company

Heinrich Dreyer – initially alone, then with a good team of engineers, test fitters and fitters – ensured that Amazone was able to offer a good product portfolio and thus the company remained an interesting partner for trade and agriculture. His son and nephew, who were intended to succeed him, were only 23 and 25 years old respectively and were still in education. They were my cousin Dipl.Eng. Univ. Heinz Dreyer, who had already graduated from the Technical University of Munich and was currently working on his doctorate, which he was able to complete five years later (1963) after studying agricultural policy and agricultural management at the Justus Liebig University in Giessen. The second member of the group was me, Klaus Dreyer, the author of this chronicle. Following my studies at the Cologne University of Applied Sciences, I completed a commercial apprenticeship at Maschinenfabrik Cramer in Leer.

As I didn't attach much importance to academic titles, I wanted to perfect my practical training. Our mothers decided that we should interrupt our training immediately and appointed us at Amazonen-Werke. We both started work on 2 January 1958. The year 1958 was also the year of Amazonen-Werke's 75th anniversary. However, it was decided to keep the anniversary celebrations to a minimum in view of Heinrich Dreyer's death. Therefore, only a reception for the most important customers and suppliers was held in the guest house on 2 May.

The jubilarians along with representatives of the third generation of Dreyers: Dipl. Eng. Univ. Heinz Dreyer and Klaus Dreyer in the top row and their two mothers, Mrs Lieselotte and Erna Dreyer in the bottom row, 1958

Top left:
Auger spreader assembly of the lightweight 'L200' and 'LZ200' in the so-called 'Kochhalle'. The KOCH company from Osnabrück had wound its amatures here during the war.

Top right:
Wood processing in the huge joinery shop, which was built in 1913 with a width of 30 metres.

A thorough review of the situation revealed to us young entrepreneurs that although considerable development successes had been achieved in the previous years, production, commercial organisation and the financial situation were not in the best possible state.

Production, which was in the hands of the long-serving foremen, had hardly been modernised since the economic upturn before the Second World War. In addition, the Amazone fertiliser spreader, the company's most important profit and image driver, was now under severe threat from competitors and had lost a lot of market share. The main reason for this was that the centrifugal spreaders had come onto the market in the meantime, which had already gained a large market share due to their better performance.

On the one hand, simple single disc spreaders were sold, which had been available long before the Second World War, but had not played a role until then. A new development came from Holland in the form of the pendulum spreader, which used a rapidly reciprocating pendulum tube to spread the fertiliser over a width of around ten metres on the field. Around 5,000 of these were sold in Germany alone in 1958.

At that time, at the end of the 1950s, Amazonen-Werke's turnover was just under ten million Deutschmarks and the number of employees was around 500, of which 420 were in Gaste and 80 in Hude. So there was a lot for us third-generation Dreyers to do. The 'bankers' put us under additional pressure, as the company's debts were quite high and there was still a lack of trust in us, the young new bosses.

This pressure from the banks to provide additional collateral has brought us back to the basic principles of our grandfather, the company founder: You should have as little debt to the banks as possible in order to minimise risk and thus dependence on the banks. So our main endeavour after taking over responsibility was to reduce our debts. We succeeded in doing this within a few years and have followed this principle to this day.

Anniversary publication from 1958

75 years of AMAZONE and its employees

From the anniversary publication of 1958

"Anyone who follows the history of Amazone-Werke H. Dreyer, Gaste, involuntarily searches for the key to the success of this 75-year development. Human labour, technical and commercial skills, the courage to take risks and familiarity with the economic issues of the time characterised the people who built up the company.

Heinrich Dreyer went his own way as a true son of the Osnabrück region. His sons continued building where he had left off. Many families from Gaste and the surrounding area live off the factory today.

Heinrich Dreyer sen.

What did Heinrich Dreyer Sr. write in his diary about his relationship with the workers? None of the people who only strive for appearances are worthy of tying the shoes of even one of his workers. Heinrich Dreyer valued his workers and helped wherever he could. It was no different among his sons. Anyone who worked at Amazone-Werke was part of a large family. It grew as the factory became a large-scale operation. We are proud to mention that this close connection found its special expression last year in the creation of an exemplary factory housing estate in Hude. This means

Wheel production

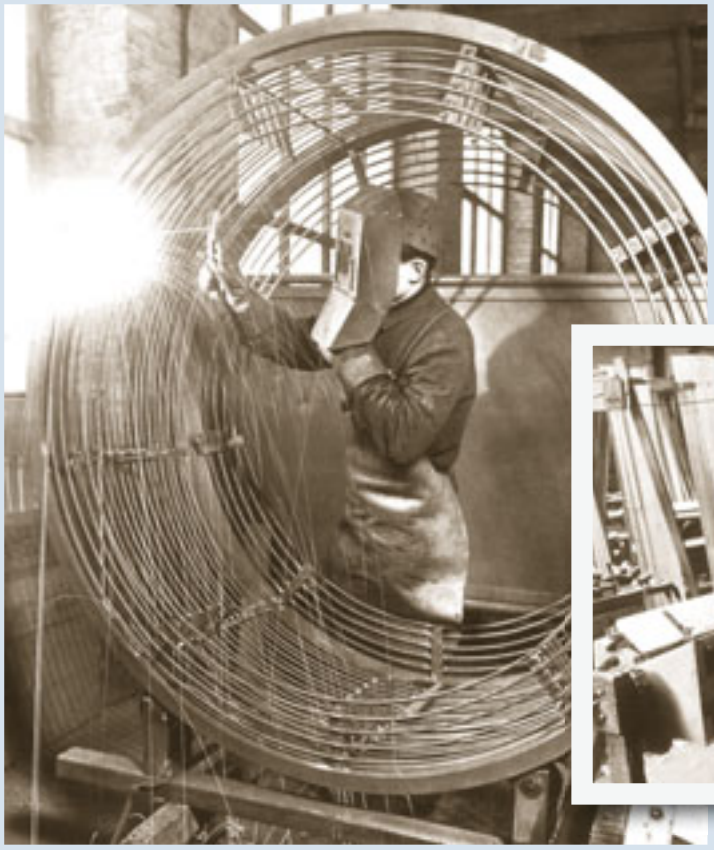
Rim bending machine

Part of the design office

that the path we have been following for years at the Gaste headquarters is now being continued on an even broader basis.

Daily work moulds people. Due to the complexity of machine processes, the individual worker takes on ever greater responsibility. The labourer thus becomes a skilled worker and – if all the positive values of a community are addressed – a true employee.

Anyone looking for the key to the success achieved by Amazone-Werke will find it in this attitude to work, this close connection between people and work."



Welding work on the collecting harvester drum

Fertiliser spreader assembly

The birth of the legendary twin-disc fertiliser spreader

How was it possible to improve the situation at Amazonen-Werke so fundamentally within just a few years? After joining the company, we both got our hands dirty and set to work with the proverbial youthful vigour.

We realised that Amazone also needed a centrifugal broadcaster. Shortly after joining the company, my cousin Dipl. Eng. Univ. Heinz Dreyer had the great idea that a centrifugal broadcaster would work better with two spreading discs rather than with one. So he developed the world's first fully functional mounted fertiliser spreader with two discs. The principle of two discs, which always produce a symmetrical spreading pattern, was later adopted by many other manufacturers and has now become established worldwide.

My cousin named the spreader Amazone *ZA* (centrifugal spreader-mounted machine) and it was an instant success. Compared to the box spreaders of the time, it was characterised by its larger working width and, compared to the single-disc and pendulum fertiliser spreaders, by its greater precision. In 1959, just one year after its development, around 1,500 such machines were delivered, and a further year later around 5,000 spreaders. So it became a real bestseller! Amazone soon delivered more than 10,000 of the tried and tested auger spreaders per year and achieved a market share in Germany with these two types that at times exceeded 75 per cent. At the same time, I took care of rationalising production and setting up an efficient tool shop. Forklift trucks were quickly purchased, appropriate stacking boxes were developed and manufactured in the factory so that in-house transport using handcarts and old paint buckets could be discontinued. It was therefore no wonder that business and margins developed favourably and that debts to the banks were rapidly reduced.

The absolute peak of Amazone fertiliser spreaders was reached in 1964. In this year, almost 40,000 spreaders, over 10,000 auger

'ZA' twin disc spreader: the success machine

The 1,000th AMAZONE 'ZA', 1959

DLG exhibition in Cologne with AMAZONE 'ZA', 1960

spreaders and around 30,000 twin disc spreaders were sold. Subsequently, however, the structural change in agriculture made itself felt. The number of farms declined and with it the number of machines sold. However, the remaining farms and the machines used on these farms became larger. The farmers' demands on the technical content of the machines also increased. AMAZONE has kept pace with this development and has thus been able to maintain the leading position it held then to this day.

Crane hall with modern bar and tube store, 1960

Modernisation is the key!

Of course, the enormous increase in turnover could not be handled in the existing, largely outdated production buildings. As early as 1960, work began on demolishing outdated facilities and building new, bright and modern assembly halls and a new iron warehouse with a crane system. Up to this point, all material had still been moved 'by hand' (!). When a delivery of bar material arrived at the factory, employees from production had to interrupt their work and pull the material, bar by bar, by hand into the iron store, where it was placed in appropriate compartments on the floor. production of our grain cleaning machines came to an end in 1961: They were no longer required, as the grain was now cleaned well enough during threshing in the combine harvester. This was an easy decision for us to make, as we were fully occupied with the rest of the programme. Nevertheless, there was a drop of bitterness: after all, our grandfather had started out with this machine and had established the company's good reputation and the term 'Amazone' with it. the last Amazone *GPS* model machine was sold in 1962.

AMAZONE 'D4'

Seed drill
AMAZONE 'D4', 1963

Successful seed drill AMAZONE 'D4'

Amazone had been represented in France since 1948 by the company L. Bara, which sold many thousands of Amazone *ZA* centrifugal broadcasters in the 1960s. One day, Mr Dezort, the owner of the company, came to us and offered to sell our seed drills in France if we developed a modern machine that met French requirements. My cousin, Dipl. Eng. Univ. Heinz Dreyer, took up this suggestion and in 1963, the year in which he also completed his doctorate at the Justus Liebig University in Giessen, developed his second successful machine, the famous Amazone *D4* seed drill, within a very short space of time. It was a modern tractor-mounted machine with a large hopper and large, robust and individually supported coulters, which allowed it to travel faster than before. These coulters were equipped with adjustable compression springs so that they could not jump out of the ground when travelling at speed. The Amazone *D4* also had dual wheel drive and an automatic track marker control. Another new feature was the particularly robust, folding lid, which was folded backwards and on which the grain sacks could be placed.

Until then, we had been able to sell around 700 seed drills a year, mainly in northern Germany, but this changed fundamentally with the *D4*. The machine was so well received that just four years later Amazone was producing around 4,000 machines of this model per year, making it by far the market leader in Germany. However, our main competitor at the time, the company Isaria, helped us a lot by focusing on cars (Gogomobil).

'RE-D4' combination

The world's first modern seed drill combination

As turnover increased, the production capacities in our subsidiary factory were also successively expanded, i.e. an additional production hall was built in Hude approximately every two years. Dr Scharmann, who originally came from a farm in Münsterland and knew how to combine the demands of agriculture with his understanding of engineering in an ideal way, had meanwhile taken over the management of this plant. As early as 1966, he realised that the tractor was not working to capacity with the seed drill alone and was the first to combine the sowing process with seedbed preparation (harrowing the ploughed soil) followed by reconsolidation, so that the seed receives sufficient moisture from the groundwater even in dry conditions.

The result was an extremely close-coupled, PTO-driven harrow and a following tooth packer roller, which Dr Scharmann fitted in front of the seed drill. This harrow also became a bestseller. Only a few years after its development, more than 2,000 units were sold to France alone every year. This technical solution quickly found its way into agriculture.

Amazone had thus entered a new field of activity – soil cultivation. Today, this is one of the four core competences: Fertiliser spreaders, seed drills, soil tillage and plant protection.

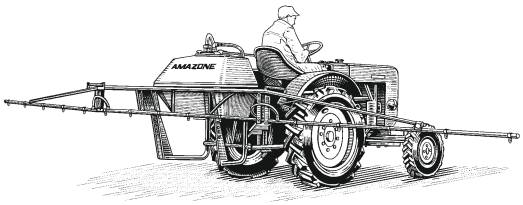
The last AMAZONE harvester

In 1968, Amazonen-Werke also discontinued the production of potato harvesters, a decision that was particularly difficult for us, as Heinrich Dreyer had devoted much of his time and energy to the development of this machine since 1942 and had achieved great success with it. His son, Dr Heinz Dreyer, had also dedicated himself to the further development of this machine and had driven it forward with great commitment. To make the decision easier for us, we decided to stop building the harvesters for a limited period. This decision was then tacitly changed to 'indefinite' after one or two years. This allowed us to concentrate our energies on our main sales drivers, today we would say on our 'core competences'.

In the meantime, sales in Germany and abroad had also been expanded: In the countries where Amazone was not yet represented (Denmark, Sweden, Norway, Italy and others), further strong agencies were set up, ten sales areas with their own distribution centres were created in Germany and the independent sales agents were gradually replaced by factory representatives.

The sales representatives were freelance agents who received a commission for every machine sold and also represented other companies in addition to Amazone (e.g. Eberhard and Cramer). The factory representatives were our employees and were able to concentrate fully on selling the Amazone range.

Collector harvester 'S4'



Portfolio extension: the AMAZONE crop protection sprayer

1969 was also an important year for Amazone. News came from France that the importance of liquid fertilisers was increasing rapidly. If this development continued, we had to reckon with a rapid decline in centrifugal broadcasters. This led us to the decision to launch a sprayer on the market that was also suitable for liquid fertilisers. We thus entered a new sector and realised that the market had not been waiting for us, but was already in firm hands. With the patience that had been the Amazone way for generations, we slowly but surely made progress. We realised that it would not be possible to gain a foothold with particularly favourable prices and/or conditions.

There was only one way to conquer the market, and that was with technical advantages. After we had realised that our competitors' problems lay with the booms, the design engineer responsible for this at the main factory, Dipl. Eng. Oberheide, developed a boom from 'aircraft construction' which was lighter and more robust than anything that had been on the market before. With this boom and many other practical details, we succeeded over time in acquiring a very good reputation and a good market share, even though the sprayers were in the upper price segment.

In the years that followed, Amazone also became the market leader in this sector in Germany and the sprayers were exported to numerous countries as far afield as Australia and New Zealand.

AMAZONE 'S 400' sprayer with a plastic tank from our own production – the entry into a new sector, 1969

Overview of 50 years of crop protection

1969 First mounted sprayers *S* (sprayer) and *US* (universal sprayer) with manually-folding boom up to 10 m; 300 l to 600 l tanks made of glass fibre-reinforced polyester.

1971 *US 401* and *US 601* with polyethylene tank

1973 *US 602-T* with its flat, wide tank

1976 *US 1000-T* with 1120 litre actual volume and 12 metre boom, manually-folding

1980 Initially manually-folding booms using the vertical-fold technique in 15 m, 16 m and 18 m

1985 *US 04* series with vertical-folding booms

1986 H-boom up to 16 m, hydraulic, vertical-folding

1987 H-boom up to 21 m, hydraulic, vertical-folding

1989 *UF 600* to *UF 1200* mounted sprayers

1990 Q-booms up to 15 m, cross-folded, manually- or hydraulic-folding

1991 FT front tank with 800 litre stainless steel tank and injector system for fully automatic circulation

1992 First trailed crop protection sprayers – *UG 2200* and *UG 3000*

1994 Super-S boom up to 24 m, hydraulic, vertical-folding

1997 Super-S boom up to 28 m, hydraulic, vertical-folding

1998 *UG 4500* trailed sprayer

1998 Takeover of BBG Bodenbearbeitungsgeräte Leipzig – including the S trailed sprayer

2000 Q-Plus booms up to 15 m, cross-folded, manually- or hydraulic-folding

2003 First mounted sprayers *UF 1501* and *UF 1801*

2003 Trailed crop protection sprayers, the *UX 4200*, *UX 5200* Super-L boom up to 36 m, hydraulically-folding lengthways

2006 Super-L boom up to 40 m, hydraulically-folding lengthways

2006 *UF 901* and *UF 1201* mounted sprayers

2007 Separate spray agent tank *Pre-Mix* for crop protection sprayers

2009 *UX 6200* trailed sprayer

2009 LED single nozzle lighting

2010 First self-propelled sprayer *Pantera 4001* from our own production

2011 *UX 11200* trailed sprayer

2011 *AmaSelect* electric single nozzle control (» see page 214)

2014 *Pantera 4502-H* self-propelled sprayer with height-adjustable chassis

2015 *AmaSpot* – Intelligent sensor-nozzle system

2015 Electric single nozzle switching *AmaSwitch*

2017 *UF 02* mounted sprayer with *SmartCenter*

2017 *UX 01* trailed sprayer

2017 *ContourControl* – active vertical vibration damping
SwingStop – active horizontal vibration damping

2021 *UX 7601 Super* and *UX 8601 Super trailed* sprayers

2021 DirectInject direct injection system

1980: First spray booms with vertical-folding technology on US

1998: Takeover of BBG Bodenbearbeitungsgeräte Leipzig

2003: UX 4200 trailed sprayer

2006: mounted sprayers and UF 1201

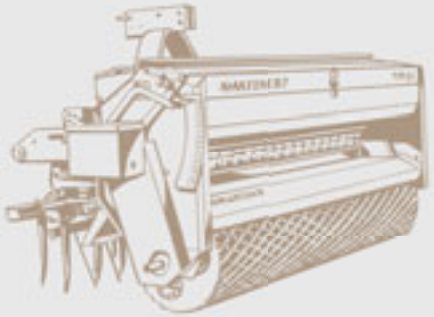
2011: UX 01 trailed sprayer with ContourControl, SwingStop and SmartCenter

2014: Pantera 4502-H self-propelled with 1.7 m ground clearance

2021: UX Super 7601 trailed sprayers

Forbach branch, 1970

Grass seed combination
and hard court rejuvenators



Overview: the second subsiduary in Forbach

In 1970, Amazonen-Werke decided to set up a production facility in France. France is still one of the most important customer countries for Amazone today. It is always an advantage in France if you can point out that you also produce in the country itself. For this reason, a factory was purchased in Forbach. The factory was located in the centre of Forbach, directly on the German-French border, near Saarbrücken. It even had two railway connections. Although the purchase price was very favourable, the factory was in a deplorable state. As a result, we had to make an enormous effort to bring the factory, the administration, the workplaces and the social facilities into a decent condition.

Up to this point, the company had mainly manufactured equipment for the neighbouring coal mines. This continued for a while until the company's own Amazone programme was able to utilise the plant to capacity. Over time, Forbach became the Amazone factory where the Amazone groundcare equipment programme developed steadily. The conventional power harrow was developed into a so-called hard-pitch rejuvenator for sports field maintenance, on which a seed box with a trailing mesh roller was placed: this is how the grass seed combination for green areas was created.

Forbach factory, 2010

Left:
'Groundkeeper': the universal green space maintenance tool for mowing, scarifying and leaf collection, 1986

Right:
'Groundkeeper GHL-T 1500' with SmartCut precision cutting rotor, 2013

However, the most important product was the so-called *Groundkeeper*, a universal grass mower that is also very suitable for scarifying and collecting leaves. The *Groundkeeper* works according to the forage harvester principle, i.e. with a horizontal mowing shaft on which the mowing tools are suspended 'on the fly'. This development was modelled on an American design, which we were able to improve considerably with the special support of the then plant manager, Dipl. Eng. Wilfried Schomäker, and even received our own patents for it. Another Forbach speciality was the tooth packer roller for our soil tillage implements, the automated production of which was transferred from our subsidiary factory in Hude to Forbach. These were the mainstay of sales for a long time, until the *Groundkeeper* outstripped them. In 1997, we also developed a self-propelled mower collector with an integrated 25 hp engine, which we called the *Profihopper*. It proved to be an excellent success and has since been used very successfully by local authorities and gardening and landscaping companies. At the European "GaLaBau 98" trade show, the *Profihopper PH 125* was honoured with the GaLaBau Innovation Medal.

The original size of the factory was around two hectares, with the halls used for production taking up around 8,000 m². In 1983, we were able to purchase the neighbouring property with one modern and two older warehouses and a total size of around 10,000 m² at a favourable price. This gave us sufficient scope for future expansion in Forbach.

In 1999, we added a large new hall to house the cutting and material storage areas. In 2005, the factory was also given its own paint shop with dip tank and curing oven. As a result, the importance of groundcare equipment at Amazone has steadily increased and developed into another strong pillar.

Profihopper SmartLine
» see page 221

Left:
'Profihopper', 1997

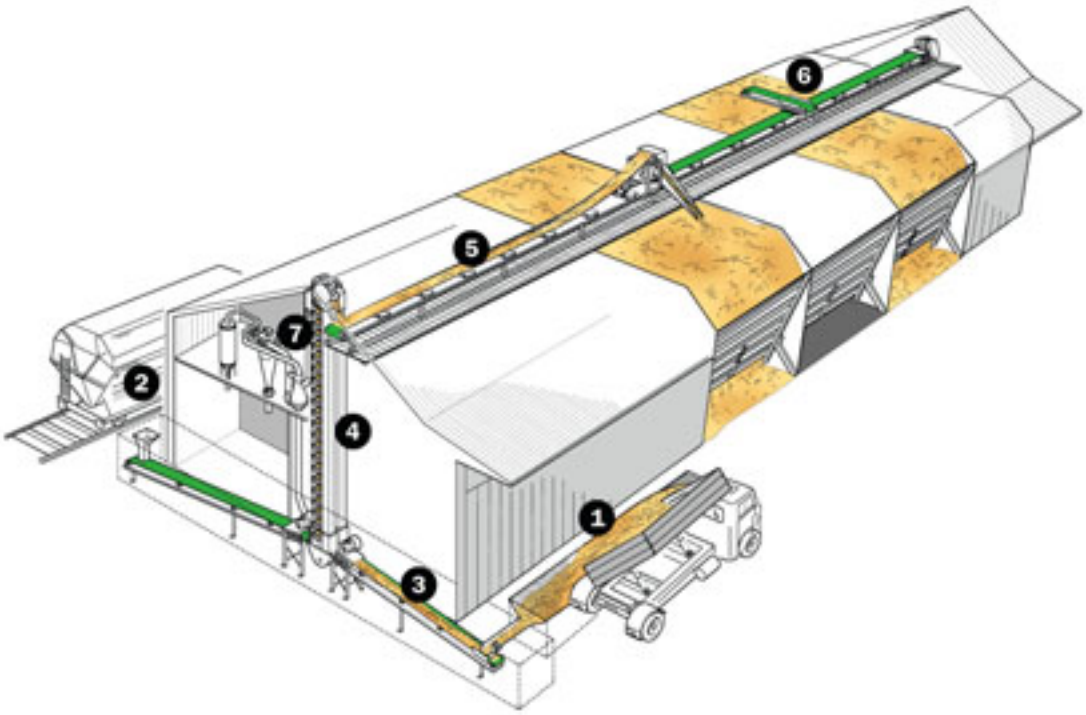
Right:
Profihopper 4WDi with intelligent all-wheel drive, 2010

'K 17' manure spreader

The last manure spreader

In 1971, the construction of manure spreaders was discontinued. This was because the competition had become overwhelming and it was foreseeable that this sector would sooner or later fall victim to rationalisation. Farmers were increasingly switching to slatted floors for dairy and beef farming, as the handling of manure involved a great deal of effort. The alternative was slurry management. This did not require a manure spreader and involved less labour and costs. The business with fertiliser spreaders, crop protection sprayers and seed drills had also grown to such an extent that we decided to become even more involved in these areas. This was the final step in our decision to concentrate on crop establishment. This has – to this day – proved to be a fortunate decision. Crop establishment plays a dominant role in agriculture and farms are dependent on efficient machinery in order to be able to produce agricultural products at favourable prices.

'K 17' manure spreader with V-spreading unit



1 = Large intake capacity
2 = Rail wagon reception
3 = Inclined conveyor belt
4 = Elevator
5 = Distributor belt
6 = Cross-distribution conveyor belt
7 = Cleaning

Bulk goods warehouses from AMAZONE

At the same time, a new era began at Amazone: the bulk fertiliser warehouses. The trend towards liquid fertiliser resulted from the fact that the use of conventional mineral fertilisers was associated with unpleasant physical work. Farmers were tired of 'dragging sacks', whereas liquid fertiliser could be handled with pumps. In order to create a solution in favour of mineral fertiliser, Amazone developed special bulk goods warehouses in which the so-called 'loose fertiliser' could be delivered and stored by wagon or lorry. This fertiliser can be transported on conveyor belts and loaded directly into the fertiliser spreader using shovel loaders. The tedious manual labour is eliminated and you even save the cost of the fertiliser bags. This department was installed at Amazone's Hude factory and developed very favourably over the years. As early as 1971, the first storage hall was built at the Allgaier company. In the following years – mainly in the Federal Republic of Germany – several hundred Amazone storage facilities were built. The main feature of these bulk goods warehouses was

Conveyor belt

Bulk goods warehouse, 1971

that they were made entirely of rustproof materials. Walls and box partitions as well as the entire roof construction and all doors were made of wood, all conveyor systems such as conveyor belts and elevators were made of stainless steel, plastic and wood. In summer, the facilities could also be used for storing grain after appropriate cleaning. This also ensured their economic efficiency.

However, bulk material storage building was a fundamentally different business area to the other core competences of Amazonen-Werke in agricultural engineering. For this reason, Amazone sold this division in 2011 to Dipl. Eng. Wilfried Schomäker, who in the meantime had set up his own business and continued the warehouse construction business as AM Technik GmbH.

New successful AMAZONE 'D7' seed drill

The development of seed drills at Amazone did not end with the *D4*. After a general lull in the agricultural machinery sector, Amazone launched the new Amazone *D7*. It was not only characterised by its low design with a practical folding lid on which the full sacks of grain could be placed, but also offered some special technical features. The coulters were sprung by tension springs. These were arranged in such a way that the spring tension was equally strong in every position. This ensured an even depth placement of the seed. The *D7* also offered many other technical advantages, such as a continuously variable transmission that was operated with just one lever. The advantages were quickly accepted by customers. This advanced seed drill even surpassed the success of the *D4*. By 1973, over 6,000 units of the *D7* had already been sold.

Building on the successful *D7*, the *D8* and finally the modern *D9* were later developed, which perform reliable drilling all over the world.

Seed drill 'D7', 1972

As an alternative to the mounted seed drills, Amazone also launched the *AD* harrow-mounted seed drills a few years later. Their decisive advantage is that they provide a more favourable centre of gravity by being mounted directly on the soil tillage implement.

Advertising from 1974 on the subject of "Everything from a single source"

The first AMAZONE Museum

In a company as rich in tradition as Amazonen-Werke, a factory museum is of course a must. This was set up around 1972 in the former home of the founder, which is located on the factory premises. The house is an agricultural building with stables and storage rooms. It was built in 1900 and was still used for agricultural purposes until around 1960 – with pigs and chickens, and even cows. It also used to house the horses that brought all the machinery to Hasbergen for the railway.

Many interesting items have now been collected in this museum, such as an approximately 300-year-old tub mill, which was built entirely from solid oak wood by the founder's ancestors. There is also an old auger fertiliser spreader from around 1920 and the first Amazone seed drill. Of course, there is also an Amazone *ZA* from the first series. Today, this part of the building is an integral part of the ActiveCentre Gaste and is viewed with great interest by all visitors.

Relocation of the museum to Gut Wambergen

» see page 228

Factory museum: Hallway and floor, 1972

Plastic parts from our own production

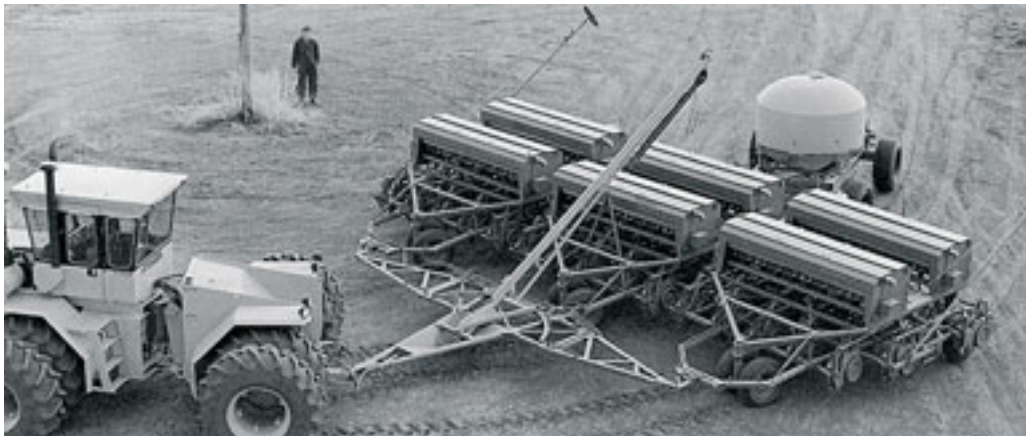
In 1975, we were annoyed that the plastic bellows on the seed tubes of our seed drills cost so much money, even though we had several different offers made. We then calculated what they would cost us if we made them ourselves. We came up with a much more favourable price.

Our plant manager Dipl. Eng. Karl Wilhelm Wiendieck was of the opinion that he wanted to embark on this adventure. So Amazone purchased the first plastics machine and set it up provisionally in the far corner of the joinery shop. That's where we started making our own plastic parts. We soon realised that we had picked the most difficult part: a bellow. A bellow must be blown off the mould because it does not fall out of the mould voluntarily. In order for it to be blown off, the mould must be constantly sprayed with a so-called release spray. It took us quite a long time to get to grips with the problems which arose. But when we did, the production process worked perfectly.

After the bellows for our seed drill, of which we needed more than 100,000 a year, we manufactured many other parts that had previously been made of metal and which our designers had redesigned accordingly. As the quantity of these parts increased, further plastic machines were gradually purchased.

Today, our plastics department is located in a separate building. We have five plastics machines that are in operation around the clock every day, even at weekends at peak times. The number of plastic parts used at Amazone has now exceeded 540. Almost all the moulds for these parts are produced in the company's own toolmaking shop. However, one thing that has turned out to be particularly important: our design engineers think about which parts are better made from plastic as early as the design stage. These parts are not only lighter and more elastic, they are also usually much cheaper than the metal alternative and do not rust. The entry into plastics processing has helped Amazonen-Werke to achieve an outstanding position in the market.

Plastic parts from our own production



AMAZONE 'NT' and 'Primera DMC' direct seed drill

Left:
The AMAZONE 'NT' in action in Canada

Right:
Chisel coulter for the AMAZONE 'NT' direct seed drill with carbide tips, 1975

1975 was also an important year because it was in this year that my cousin Dr Heinz Dreyer began developing the no-till drill. The main field of activity for this device was in Canada, whose prairie areas are predestined for direct sowing, so to speak. Direct sowing means that the seeds are placed in the soil without any tillage. This method is particularly important in prairie areas because it protects the soil from wind erosion. This wind erosion is often so bad in Canada and similar countries that tonnes of valuable soil are torn loose by the wind during a spring storm and blown through the air so that you can barely see ten metres away and day becomes night.

Together with our partner at the time, Henry Rempel, Amazone even acquired its own company in Brandon, Manitoba. Unfortunately, the agricultural machinery business in this region developed very poorly, so we had to give up this company again. The direct seed drill, called Amazone *NT*, was nevertheless successful, as it is still being used successfully today, albeit in a further developed format – it is now called the *Primera DMC*. One of the special features of this design is the patented chisel coulter, which gives this machine significant advantages. It allows you to work even in the hardest and driest of soils and the seed is still placed at the correct depth – better than with any other system. In 2001, my cousin Dr Heinz Dreyer was awarded the title of honorary professor (Prof. h.c.) at the State Agricultural Academy in Samara for the successful use of this system.

'Primera DMC'

The 100,000th seed drill

100.000th seed drill

The strongest year for seed drills was 1976, when almost 7,000 machines were sold. After that, the structural change in European agriculture also made itself felt in this sector: The number of machines produced slowly but surely declined. However, this did not mean a decline in value for our company, as the machines became larger and more complex, so that turnover continued to rise. in 1983, Amazone reached the proud figure of 100,000 seed drills delivered – a great success.

The new fashion: pneumatic fertiliser spreaders

The period of pneumatic fertiliser spreaders began at Amazone in 1976. The fashion came from France and was started by the Nodet company. The owner of our French import company Bara, François Dezort, urgently asked us to build a pneumatic fertiliser spreader as well, as the success of the Nodet spreaders was having a considerable impact on the good business with our twin disc spreaders. The reason for the emergence of pneumatic spreaders was that they could also spread poorly granulated fertiliser evenly in the field. They were also almost insensitive to wind.

Above:
AMAZONE 'Jet 2000'

So we decided not to miss out on this development and first designed a pneumatic large-area spreader, i.e. a trailed spreader with a capacity of 2,000 litres, and called it the Amazone *Jet 2000*.

Below:
AMAZONE 'Jet 1502'

The machine worked well, but was not as successful as we had hoped. We came to the conclusion that we needed a pneumatic three-point spreader! So we developed the Amazone *Jet 1200*, which also met the technical requirements of our customers, but was very heavy and expensive, making it difficult for us to earn any money. So we decided to build a lightweight jet that was particularly competitive in terms of price. The result was the Amazone *Jet 801*, which met all the requirements: It was light, looked very good, did a great job, was very practical to operate and was decidedly inexpensive. For large farms, we developed the *Super Jet 1600* with a working width of up to 24 metres. Both were sold successfully until 1996, when production was discontinued.

In the meantime, my cousin Dr Heinz Dreyer had further developed the *ZA* twin-disc spreader so that this machine spread even problematic fertiliser types no worse than a pneumatic spreader. The *ZA* was even much easier to operate and, above all, didn't even cost half as much.

At the time, however, we kept the option open to resume production of pneumatic spreaders if the market demanded it. Competitors' pneumatic spreaders also slowly disappeared from the market, with only Rauch still producing a few.

First rotary cultivator 1978

The new idea: rotary cultivators

Efforts to rationalise agriculture continued and agricultural experts discovered that it was often possible to dispense with ploughing when preparing fields. This realisation led to the slow demise of the reciprocating harrow. The reciprocating harrow does an excellent job, but only if it is ploughed first, as it 'collects' plant residues in the field. After all, over 50,000 units were built and they were still in the programme until 2002.

Amazone had to look around for alternatives. This search led to the realisation that agriculture needed an implement that could mix straw and other plant residues with the soil. The result of these considerations was the Amazone rotary cultivator developed by Dr Scharmann and Dipl. Eng. Bernd Gattermann, which we launched on the market in 1979. The task was clearly defined, but the solution was difficult, so it took some time before the rotary cultivator with its 'on-grip tines' fully met the expectations placed on it. Today, the rotary cultivator is one of Amazone's main image drivers and has recouped its high development costs.

In 1984, the rotary cultivator received its 'little sister', the rotary harrow. In contrast to the rotary cultivator, this works with tines that are trailing. This means they can easily avoid the stones in the soil and are therefore exposed to much less stress. However, they cannot mix the plant residues with the soil as well and it is almost impossible to maintain the desired depth of work with the rotary harrow because it lifts itself and floats on the tines in heavy, dry soil and when travelling fast.

KG rotary cultivator with AD mounted seed drill in the field

The rotary harrow was also equipped with the tried and tested double trough of the rotary cultivator, making it the most robust rotary harrow on the market and gaining a large market share despite fierce competition from Germany, France and Italy. In addition to the strong frame, the rotary cultivator and harrow have another huge advantage to offer: the tines can be replaced in seconds with just one pin.

Own base in the south of Germany

In 1979, we decided to set up our own base in southern Germany. After much deliberation, we decided in favour of the Gablingen site near Augsburg, where the German Federal Railway was able to provide us with a suitable plot of land. We built a large hall there with a built-in crane system for storing the most common machines, a training room, a spare parts store and finally an office. A lorry was also stationed there, which was used to deliver machines and organise demonstrations.

In the early years, the storage of our machines, mainly fertiliser spreaders and seed drills, played a major role. Today, this is no longer the case, because the complexity of the technology means that orders are becoming increasingly customised and hardly any 'standard machines' are sold.

Gablingen site, 1979

Training and advice are playing an increasingly important role in this, and we are able to provide both in Gablingen. Many machines from our large programme are in stock there. We can show them to interested parties and train our dealers' sales staff on them. The presence in Bavaria has really helped Amazone to achieve similar market shares as in northern Germany.

Following extensive renovation work, the Gablingen site has been shining in fresh new splendour since May 2017.

Gablingen plant branch after the renovation in May 2017

New technology for the twin disc spreaders with a working width of 24 metres

AMAZONE 'ZA-U' with tool-free interchangeable disc system

1980 saw the birth of yet another success from AMAZONEN-WERKE, the AMAZONE *ZA-U* twin disc spreader. It was the first fertiliser spreader in the world with an effective working width of 24 metres. This further development became necessary because the large farms demanded larger working widths and capacities and because many other fertiliser spreader manufacturers had also brought out a twin-disc spreader in the meantime and were competing with us. This spreader, like all other AMAZONE twin disc spreaders, was designed by my cousin Dr Heinz Dreyer himself.

This spreader had particularly striking features such as the slow-running agitator shafts to protect the sensitive fertiliser granules. Its interchangeable disc system was revolutionary: different spreading discs were offered for different working widths and different types of fertiliser, which could be easily fitted by hand and without tools. There was also a special border spreading disc for spreading at the edge of the fields. This prevented the fertiliser from flying over the edge of the field, which is particularly important along ditches and river courses. In addition, the *ZA-U* had dished spreading discs', i.e. the surface of the spreading discs rose outwards. This meant that the fertiliser was ejected upwards at an angle and flew further and finally fell gently into the cereal crops, even at lower speeds, without damaging the ears of grain. Another special feature was the late topdressing fertiliser blades. This allowed the operator to spread fertiliser even when the grain had grown quite high and was already coming into ear. Fertilisation is very important at this stage because it improves the grain's bread-making properties. To enable this late fertilisation, the spreading vanes on both spreading discs were tilted up on the ends, raising the entire spreading pattern by around half a metre. To achieve this effect, AMAZONE and other manufacturers had previously designed complicated and expensive additional equipment. These were now superfluous. Another advantage of this machine was that nothing had to be adjusted except the spread rate.

Swivel blades for late fertilisation

The AMAZONE *ZA-U* fertiliser spreader was a great success and almost 50,000 units had been sold by 1993. It was followed by the next generation of twin disc spreaders, the AMAZONE *ZA-M*, with a working width of up to 36 metres. The *ZA-U* spreaders are still in use on various farms today and are traded at a very good price as used machines.

AMAZONE Harworth: our own distribution company in England

Our own distribution centre in Great Britain

In 1983, Amazonen-Werke decided to set up its own sales company in Great Britain, Amazone Ltd. This was because the importer responsible for Amazone products up to that point was in dire straits and could no longer adequately represent Amazone's interests. We bought a plot of land with buildings on a disused military airfield, which was cheap to acquire, and set ourselves up there simply but comfortably. The property was called *Cuckoo Copse*, which means cuckoo grove. The newly founded company was under a favourable star, operated at a profit right from the start and developed very well. Turnover in the UK soon doubled and tripled, and the Amazone name became increasingly important on the British Isles. A special department was created for Amazone groundcare equipment, which also developed favourably. In the meantime, our company had relocated to Harworth, near Doncaster, where we created spacious storage, administration and training facilities. The company's previous headquarters in Cuckoo Copse was sold.

Opening of the AMAZONE Sales, Parts and Service Centre in Harworth on 4 September 1990 by Klaus Dreyer

The ‘crowning glory’ of this development was that the KRONE company in Spelle transferred its representation for the whole of Great Britain to our subsidiary there. The AMAZONE equipment for intelligent crop production and the Krone programme for grassland farming were an ideal combination. Unfortunately, this positive development was interrupted from 1996 onwards, as sales of agricultural machinery in general in the UK declined enormously, compounded by the BSE and foot and mouth disasters. Our AMAZONE LTD. made considerable losses and we had to react appropriately to this situation. The company was reorganised and the workforce, particularly in the administrative area, was adjusted downwards in line with the lower sales. This enabled us to bring the company back into profit in 2001. The co-operation with Krone in the UK was then dissolved by mutual agreement in 2009. AMAZONE LTD. has remained a very successful subsidiary, achieving high market shares in the UK for AMAZONE.

In 2013, we took the opportunity to celebrate the 30th anniversary of the British AMAZONE sales subsidiary together with the employees and their families.

Malu and Klaus Dreyer with employees and their families at the celebratory event to mark the 30th anniversary of AMAZONE LTD Harworth, 2013

New location of AMAZONE Ltd – “Orchard Farm” in Auckley, Doncaster 2019

» see page 226

Grand celebration and ball with approx. 700 guests in the decorated shipping hall

100 years of AMAZONE

In 1983, Amazone celebrated its 100th anniversary on 2nd and 3rd May. The entire dispatch department was cleared out and festively decorated for the occasion. Many speakers, such as the farmer president Freiherr von Heeremann from Riesenbeck, praised the successful activities of Amazone-Werke and wished us continued success for the future. On the first evening, the celebration was intended for all our partners

The management team 'FG 1' at the time of the company's 100th anniversary, 1983: from left: Dr Rolf Friederichs, Klaus Dreyer, Willy Meyer, Dr Heinz Dreyer, Dr Franz Scharmann

Open day for the 100th anniversary on 1st and 2nd May 1983

abroad. It turned out to be a great party where everyone felt like a member of the AMAZONE family. The next day was the anniversary party for all employees and their partners, naturally with a big feast and music. There was also a large delegation from our branch in Hude, who had travelled there by bus. The atmosphere was excellent, so it took a long time for the large family to make their way home. The band had to play much longer than originally agreed. This wonderful celebration once again brought the whole AMAZONE family together.

1983: The first spreading hall for testing our fertiliser spreaders and new types of fertiliser

Right:
Fertiliser test laboratory – 5 kg of fertiliser is enough to create a setting recommendation

Precision in fertilisation

The history of the fertiliser spreader test hall in Hasbergen-Gaste

In 1983, the first spreading hall for fertiliser spreaders was put into operation at the main plant in Gaste in order to test and further develop our centrifugal spreaders. For the first time, it was possible to precisely measure the lateral distribution of fertiliser spreaders with a working width of up to 36 metres. Of course, we had already tested our spreaders in previous years, but in a much more primitive and time-consuming way. In the new hall, a test only took about a quarter of an hour.

As one of the largest fertiliser spreader manufacturers in the world, Amazone was a pioneer with this hall on the way to even more precision and environmental protection in fertiliser spreading. The many different types of fertiliser could also be tested here and the correct setting data for the spreading charts could be determined. As a result, even the fertiliser manufacturers came to us in Gaste to have their new fertiliser types tested with our spreaders.

The setting recommendations can still be found today – continuously updated – in the well-known spreading charts. In these tables, farmers and contractors can read off the optimum settings for their fertiliser spreaders depending on the machine model, working width, fertiliser type and application rate.

The 'FertiliserService' determines the fertiliser spreader settings for fertilisers of unknown origin, among other things

AMAZONE FertiliserService – a blessing for agriculture

In 1992, Amazone set up a fertiliser test laboratory, also at the main factory in Gaste, a sensational achievement for the agricultural sector. Since then, this laboratory has not only determined the necessary data for our own development, Amazone customers can also call here directly to request setting data for their fertiliser spreader. This is necessary for fertilisers that are not specified in the fertiliser chart.

In the case of fertilisers whose origin is unknown, farmers have the option of sending a 5 kg sample to the laboratory for testing. The sample is then tested within a few hours and the farmer receives the correct setting data for his Amazone spreader by fax. The facility is called 'FertiliserService' at Amazone and has been enthusiastically accepted by our customers right from the start.

View of the world's most modern spreading hall, newly equipped in 2009

Most modern fertiliser spreader test hall in the world

As a further milestone, the spreading hall was once again extensively remodelled in 2009. Since then, we have had the most modern fertiliser spreader test hall in the world in Gaste. The completely redesigned test equipment, including measurement and evaluation technology, which was installed during the conversion, led to a number of further improvements. Fertiliser spreaders with spreading widths of up to 72 m can now be tested. The spatial distribution during fertiliser spreading can now also be analysed. The capacity has increased to up to 100 tests per day.

Fertiliser service also via the Internet

The FertiliserService App for Android smartphones or iOS devices

Since 1998, the ability to call up the exact settings for fertiliser spreaders via a spreading chart database on the web at www.amazone.de has been an integral part of the FertiliserService. All current spreading tests are transferred to this database so that farmers and contractors can always call up the correct setting values for new fertiliser types or less well-known spreading materials on a daily basis.

In 2011, Amazone was the first fertiliser spreader manufacturer to introduce a fertiliser service App. Since then, farmers and contractors have been able to look up the correct fertiliser spreader settings via their smartphone directly in the field if required and make the settings on the machine immediately on site. The App, which is available for both iOS and Android devices, is free to download and use. This service was very well received right from the start. The time saved is probably the decisive factor that explains this success. Being able to call up the current settings for Amazone fertiliser spreaders anytime and anywhere is a decisive advantage in practice.

Left:
Fertiliser laboratory

Right:
Spreading hall

Spreader Application Centre

The right setting is crucial!

Amazone is expanding its customer service even further with the new *Spreader Application Centre*. In addition to the already established areas of fertiliser service, material laboratory service and spreading hall, the *Spreader Application Center* also includes the pillars "Test and Training", "Data Management" and the associated "Knowledge Transfer".

Fertiliser service

In order to provide our customers with the best possible support in the application of fertilisers and other spreading materials, we offer comprehensive advice as part of our *FertiliserService*. This service is available to our customers by phone, e-mail, fax and WhatsApp.

Material laboratory service

To obtain the optimum spreader setting, we recommend using our laboratory service. This service is available to all our customers. By sending in a fertiliser sample of 5 kg, which is then tested in our laboratory, it is possible to provide each customer with a recommendation tailored to their specific fertiliser sample.

Spreading hall

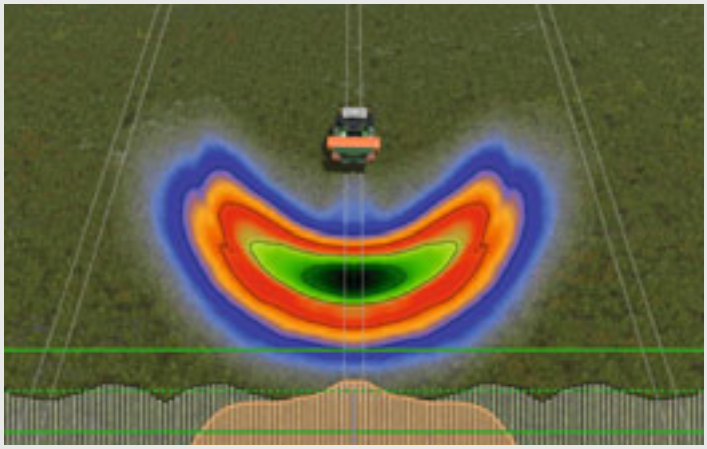
The spreading hall at Hasbergen-Gaste is the central location for testing new spreaders, for testing new spreader developments and for determining spreader settings.

Test and training

Environmental conditions, such as wind or slopes, cannot be simulated in a spreading hall, or only to an insufficient extent. For this reason, we have created a new "Test and Training" pillar in which, in addition to the spreading hall tests, spreading tests are also carried out under real field conditions for specific issues.

Left:
Test and training

Right:
Data management and knowledge transfer



Data management and knowledge transfer
State-of-the-art data processing, simulation and analysis tools are used to create our spreading tables and setting recommendations. Many of these tools are created and developed by the *Spreader Application Centre* itself. The knowledge acquired in this way can in turn be incorporated into the development of new machines and methods.

Today, spreading tests are simulated and optimised on the PC. We can therefore guarantee not only the effectiveness, but above all the peace of mind and therefore the reliability of our spreader settings.

This already offers our customers the advantage that spreading recommendations can be created automatically in some cases. This shortens the processing time and, at the same time, significantly increases precision.

EasyCheck digital mobile test bench

Instead of the test trays, as with the classic mobile test kit, the *EasyCheck system* consists of just 16 lightweight rubber test mats and the *EasyCheck App* for smartphones. The test mats are laid out at certain distances from the tramline. The corresponding tramlines are then spread and the mats with the collected fertiliser granules are photographed using a smartphone. The App now automatically compares how much fertiliser was collected on each test mat and compares the results of the individual rows. If the spreading result is not optimal, the App suggests appropriate corrections for the setting of each respective fertiliser spreader.

mySpreader App

The mySpreader App bundles three App functions for Amazone fertiliser spreaders in just one App. The all-in-one package for perfect spreader adjustment consists of the fertiliser database, the EasyCheck digital mobile test kit and the EasyMix App for blended fertilisers. Intuitive operation and convenient adjustment of the fertiliser spreader are the focus of the all-in-one concept.

As a special feature, a Bluetooth adapter and licence activation for ISOBUS machines are available with the mySpreader Connect equipment.

Branch extension Hude-North

1984 was also a special year for Amazone, when we bought Huder Mühlenbau in Hude, on the other side of the Hude-Bremen railway line opposite our subsidiary factory. The premises covered almost 2 hectares; in its heyday, the company provided work for around 250 people. The founder of this company was August Heins, who manufactured mills and later grain storage facilities here. the company went bankrupt in 1983 and the buildings had been unused ever since.

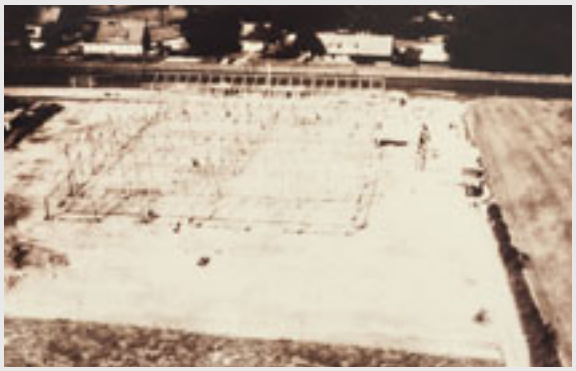
We received an offer to buy the company with all its equipment for 1.8 million Deutschmarks, and the town of Hude offered to contribute half of a connecting tunnel under the railway so that the two plants could be brought together. The town was particularly interested in revitalising the plant so that it would not fall into disrepair. We could make good use of the facilities because our own plant had already become very cramped and we had already drawn up plans for expansion.

After the purchase, the testing, design, bulk goods storage, spare parts warehouse, training workshop and large-area spreader production departments moved into 'Hude-Nord', as the plant was called to distinguish it from the original factory. We also installed a modern training and information centre in the former paint shop.

In the administration building, right next door, there was a spacious lounge that we could also use for our guests. Although the purchase price of the facility was low, the cost of renovating the buildings and remodelling the individual departments was enormous. There were many sheds on the site that were in poor condition. We tore them all down, paved the courtyard and created pleasant green spaces. Today, the premises make a good impression, as befits an Amazone factory.

Hude factory, 2002

Overview: the development of the Hude factory



1957

1962

1965

1970

1974

1976

1981

1985

Electronics are becoming increasingly important

Amazone's own electronics development beganwith the first *AMATRON* on-board computer in 1985.

The *AMATRON II* and *AMATRON II A* followed later. The special feature of these terminals was their versatility: the AMATRON could be used to control and regulate Amazone fertiliser spreaders as well as plant protection equipment and seed drills. This gave rise to the advertising slogan "One for all".

Left:

AMATRON operator terminal, 1985

Right:

AMATRON II A operator terminal for ZA-M

AMATRON+ operator terminal, 2003

First satellite-controlled fertiliser spreader

Amazone has always been a pioneer in various trend-setting electronic developments: In 1995, we launched the first satellite-controlled fertiliser spreader on the market. The process was developed in cooperation with the Swedish company Drønningborg and was used for the cost-effective spreading of fertiliser across large areas. With this method, the fertiliser is applied as required, i.e. only as much is spread as the soil needs. For this purpose, a so-called field file is created in advance for each field, in which the different soil conditions are recorded. The amount of fertiliser is then automatically dosed via satellite control (GPS = Global Positioning System). This not only saves a lot of money on superfluous fertiliser, but also protects the environment.

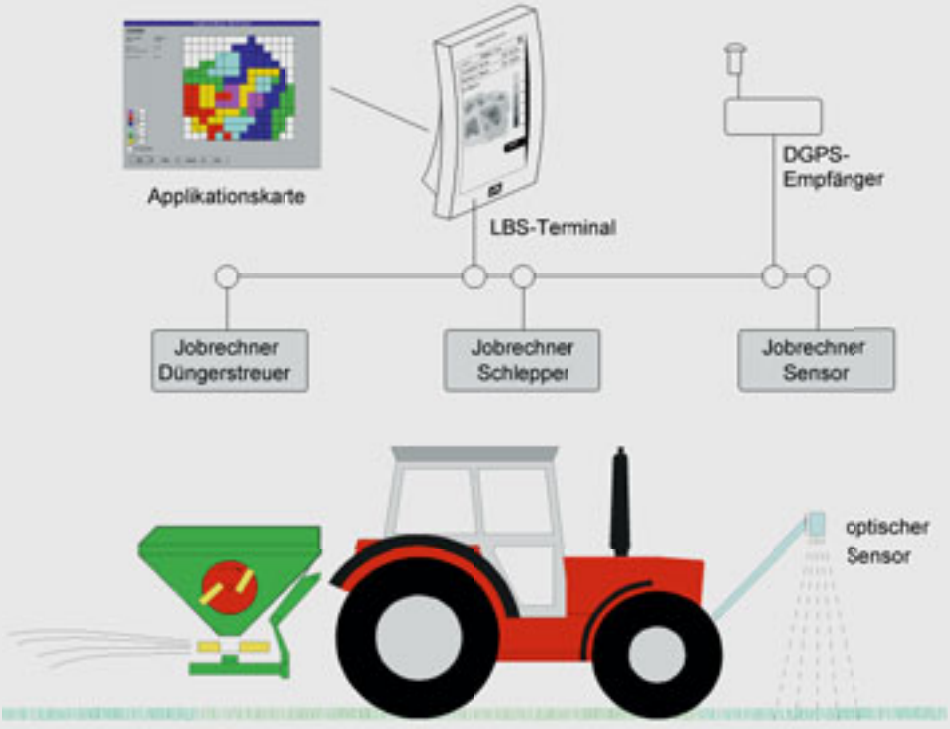
The *AMASAT* Duo Application Technology (D.A.T.) presented in 1997 marked the beginning of precision farming technologies. It was also the first step towards satellite-controlled agricultural machinery. Amazone was even awarded a gold medal at the SIMA in Paris in 1997 for the *AMASAT* system for site-specific management, which was specially tailored to the needs of fertiliser spreaders.

The basis for today's N-sensor technology was the SGN sensor-supported nitrogen application system. Amazone also received a gold medal for this system at the Agritechnica 1997 together with the companies Massey Ferguson and Hydro Agri. At Amazone, the development of electronics began at a very early stage and grew over the years to become a significant factor.

The year 2003 was also an important milestone for Amazone electronics. Amazone received one gold and three silver medals at Agritechnica 2003. One of the silver medals was awarded for the *AMATRON*+ on-board computer, combined with a mobile setting aid for fertiliser spreaders.

Amazone now offers various operating terminals that are tailored to the different needs of our customers and the various applications. There are the machine-specific terminals, which can only be used to operate one specific machine, and the cross-machine ISOBUS terminals.

Sensor-assisted nitrogen application SGN, Agritechnica Gold Medal 1997



ISOBUS technology arrives

As a cross-machine terminal and successor to the *AMATRON+*, we launched the *AMATRON 3* with pioneering ISOBUS technology in 2011. It can communicate not only with Amazone ISOBUS machines, but also with ISOBUS machines from a wide range of other manufacturers. It is also downwards compatible with all Amazone machines that could previously only be operated with the *AMATRON+* terminal.

ISOBUS characterises a globally valid communication standard between operating terminals, tractors and implements on the one hand and farm office software on the other. In addition, you can now control all ISOBUS-capable implements with just one terminal, whereas previously you needed a special terminal for each implement.

Just how important the electronic control system has become at Amazone can be seen from the fact that well over 50,000 *AMATRON+* and *AMATRON 3* terminals were delivered between 2003 and 2015.

In addition to the *AMATRON 3*, Amazone has had two other ISOBUS terminals in its programme since 2011: the *CCI* and the *AMAPAD*. The *CCI* terminal is the result of cooperation with several agricultural machinery manufacturers in the CCI (Competence Centre ISOBUS e.V.) and was awarded a gold medal at Agritechnica 2009. The *AMAPAD* can even be used to operate and monitor several ISOBUS implements simultaneously. It is also already designed for intelligent applications of the future. External software modules, so-called AgApps (Agricultural Apps), with various functionalities can be integrated into the *AMAPAD*.

Of course, the current state-of-the-art also includes the support of systems by GPS (Global Positioning System). This makes it possible to switch off the machines completely or partially at the headland and on areas which have already been worked (GPS-Switch), or to keep the tractor safely on track (GPS-Track). With GPS-Maps, our customers can even operate from application maps directly in the field.

Parallel to the development of ISOBUS terminals, Amazone has equipped more and

Bottom left:
ISOBUS terminal CCI, Agritechnica Gold Medal 2009

Bottom right:
AMATRON 3 operator terminal with ISOBUS electronics, 2011

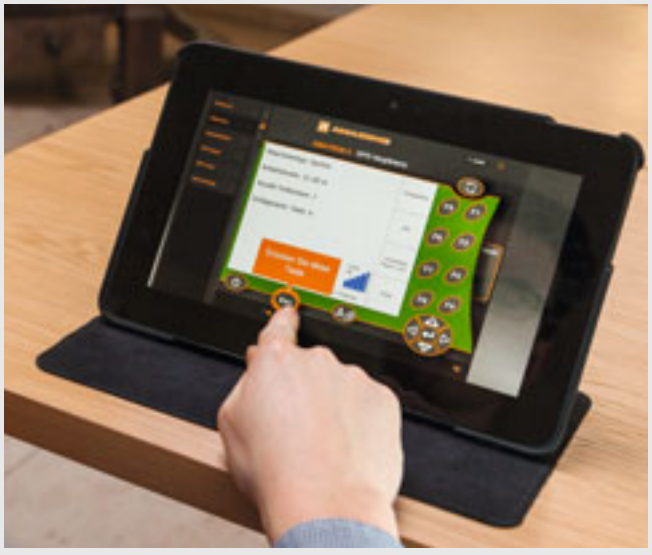
ISOBUS terminal AMAPAD with touchscreen display, 2011

more machines with the appropriate ISOBUS technology. This means that Amazone fertiliser spreaders, crop protection sprayers and seed drills can be operated not only with the company's own ISOBUS terminals, but also with ISOBUS terminals from other manufacturers.

The machines themselves have also become increasingly "intelligent" in the truest sense of the word thanks to electronics. With the help of sensors, control and regulation technologies, we are achieving greater precision in spreading, additional savings in input costs for our customers, greater environmental protection and greater operating comfort for the driver. Amazone is therefore also at the forefront in the development of electronics.

Amazone "E-Learning" is also one of the new developments in the field of electronics. Since 2013, we have been offering our customers the opportunity to practise the operation of complex machines independently on a PC or tablet using interactive training, even outside of working hours.

E-learning on a PC or tablet – interactive training for operating machines, 2013



AMAZONE – more than just ISOBUS

With every ISOBUS-capable machine, AMAZONE offers state-of-the-art technology with virtually unlimited possibilities. It makes no difference whether you use an AMAZONE operator terminal or an existing ISOBUS terminal on your tractor. ISOBUS characterises a globally valid communication standard between operator terminal, tractors and implements on the one hand and Farm Management Information Systems on the other.

AmaTron 4 operating terminal, 2018

Manager 4 all – New AmaTron 4 from AMAZONE

The fourth generation of the *AmaTron* offers maximum operating convenience in tablet style and leaves nothing to be desired. Thanks to the 8" multi-touch colour display, convenient operation is a matter of course, even with complex machines and machine combinations. Operation can be carried out using the 12 keys as well as the buttons on the touch display. There are also 3 direct selection buttons at the top of the terminal that can be used to switch between the machine view, GPS view and main view.

The simply structured operating menu can also be accessed intuitively with a swipe of the finger. A freely configurable status bar at the top of the screen permanently displays the selected parameters. Thanks to the quick start menu, changes to the most important settings can also be made quickly and job data can be imported or exported. A practical MiniView view also helps to keep an eye on the most important machine settings at all times.

AmaPad 2 operating terminal, 2019

AmaPad 2 – new ISOBUS operator terminal

The AmaPad 2 has a high-resolution, high-contrast and low-reflection 12.1" multi-touch display and the innovative “MiniView concept”. Here, applications that are not currently being actively used, but that you would like to monitor are displayed in a small format on the side of the screen. If required, the user can switch applications in a flash “at the touch of a finger”. Quick access buttons and the option of customising a “dashboard” with displays round off the user ergonomics. Compared to the AmaPad, the AmaPad 2 has a significantly higher computing power and a higher touch sensitivity of the screen. This enables improved touch response and therefore even more convenient operation.

The modern design with the thinest of surrounds and the very shallow casing depth make the terminal appear compact and its compact dimensions allow it to be integrated into any tractor.

More than ISOBUS

We can do more!

Software licences for AMAZONE ISOBUS operator terminals

GPS-Maps&Doc

- Task management and field-related documentation of work
- Start work immediately and decide later whether data should be saved
- Import and export of tasks in ISO-XML format
- Task summary via PDF export
- Processing of application maps in ISO-XML or Shape file format
- Display of inactive field boundaries and automatic field detection when driving into the area

GPS-Switch basic

- Automatic section control with up to 16 sections
- Create a virtual headland
- Automatic boom pre-lowering on AMAZONE sprayers

GPS-Switch pro
(as an add-on to GPS-Switch basic)

- Automatic section control with up to 128 sections, especially for sprayers with individual nozzle control
- Marking of obstacles (e.g. water hole, overhead power line mast)
- Auto-zoom when approaching the headland

GPS-Track

- Optical parallel driving aid with lightbar in the status bar
- Automatic tramline control for seed drills
- Various track modes such as A-B line or contour line driving

First precision seeder from AMAZONE

1987 marked the beginning of another new era at Amazone. Our numerous customers at home and abroad had been asking us for some time to develop a precision air seeder to round off our product portfolio. After several attempts and setbacks, the new Amazone ED proved to be absolutely competitive, even though it was difficult to achieve an acceptable price. The ED was a technical success, especially with contractors.

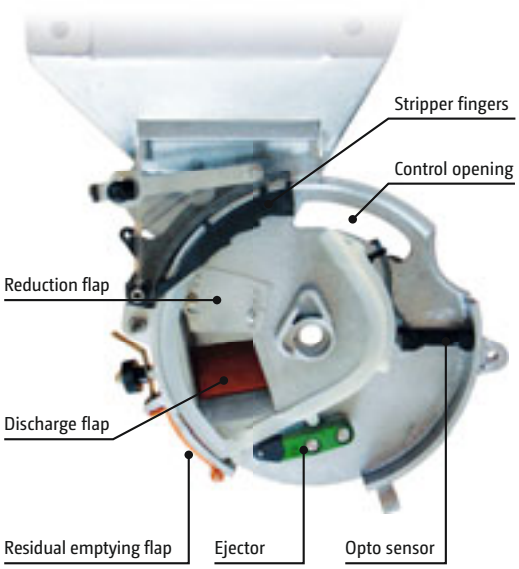
It was offered up to a working width of 6 metres and 12 rows. The ED went through into its 3rd generation.

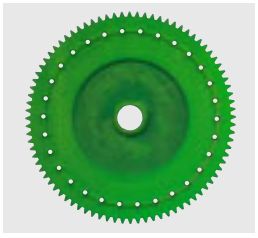
AMAZONE 'ED': Single seed drill for four rows of maize, soya beans, sunflowers etc., 1987

The strongest horse in the stable at the time: AMAZONE 'ED', 12-row, hydraulically folding single grain drill with a working width of 9 metres, 2000

Suction air principle of separation

Amazone precision air seeders work according to the suction air principle. The singling of the grains takes place via a scraper and offers considerable advantages because it is virtually independent of the speed and grain shape. The special feature of Amazone precision air seeders is the singling disc. The vacuum draws the grains to the knap holes which brings them round to the stripper fingers. The dimpled holes have an agitator function because they protrude above the disc surface and thus bring movement into the seed supply. The dimple holes are conical, which means that broken grains cannot block them. The protrusion of the knap hole in relation to the singling disc ensures that the grain leaves the disc in free fall – this is particularly important for placement accuracy.





Precision air seeder 'ED 6000-2C', 2015

Own AMAZONE distribution in France

On 1st January 1988, Amazonen-Werke took over the company L. Bara, the importer for Amazone in France since 1948. L. Bara was founded by a manager from the Czech Republic who had previously worked as a director at the Bata shoe factory. Political circumstances had driven him from his homeland to Paris. There he founded his own company and hired his compatriot Pierre Pelikan as his first employee. The latter suggested that he import and sell agricultural machinery, as he saw a major wave of mechanisation coming to French agriculture after the Second World War. Over time, the L. Bara company sold a huge programme: from small agricultural machines to tractors and giant maize choppers from America. L. Bara represented such well-known companies as Eicher, Holder, New Idea, Isaria and Niemeyer, making it one of the most important distributors in France.

Initially, Amazone was just a small cog in the L. Bara wheel, but steadily grew in importance until Amazone products ultimately accounted for around 75 per cent of L. Bara's turnover. Shortly after the company was founded, François Dezort married L. Bara's daughter and later became the owner of the company. The co-operation with Pierre Pelikan and François Dezort was extremely fruitful. We received valuable suggestions for the programme design from France and the L. Bara company sold our machines very successfully. France soon became by far our most important export market.

On 14 May 1974, Mr Dezort and Mr Pelikan visited us together with some important French dealers. Standing (from left to right) Mr Willy Meyer, Mr Chalvel (SAMIN company in Agen), Mr Michel Depla (Depla company in Meaux), Mr Collet (Collet company in Clermont en Argonne), Dr Friederichs, Mr Pierre Pelikan, Dr Heinz Dreyer, Mr Cazaux (SBTVI company in Bordeaux), Mr Bolwin, Mr Klaus Dreyer. Seated (from left to right) Mr François Dezort, Mr Godivier (from Vôves), Mr Louis (from Verdun), Mr Copin (from Amiens)

Administration in Méré

Except Mr Dezort and Mr Pelikan were getting on in years and wanted to take a well-earned retirement. This gave AMAZONE the opportunity to acquire the company on favourable terms, including the warehouse buildings and land.

The negotiations were conducted on our behalf by our long-standing authorised signatory and highly-esteemed employee, Dr Rolf Friederichs, who, among other things, managed the finances at our company and was responsible for all exports. He worked at our main factory in Gaste from 1966 to 1996 and made a great contribution during this time, for which he was specially honoured with a certificate. He succeeded in acquiring the company on favourable terms, including the warehouse buildings and land. Mr Dezort's words at the signing of the contract were: "I am handing over the L. Bara company to you on a silver platter!" A short time later, sales of agricultural machinery in France and in the entire industry collapsed, for AMAZONE by more than 50 per cent, almost a disaster. However, business recovered from 1993 onwards and our subsidiary was soon operating at a profit again.

Soon after the takeover, AMAZONE built an administration building with training rooms on the acquired property next to the large warehouse. Turnover continued to develop positively.

In 1995, my son, Christian Dreyer, who holds a degree in business engineering, moved to France with his wife for nine months in order to personally look after the success of the company and maintain personal relationships with the employees. This was the first time that a representative of the fourth generation of the Dreyer family became commercially involved.

In 1996, our French subsidiary – as in England – also became the representative for the complete KRONE PROGRAMME. The turnover of our successful subsidiary AMAZONE S.A., as it is known, which was based in the centre of the 'Grand Culture' in the town of Méré until 2008, exceeded 32 million euros in 2001 – a proud result. By merging the KRONE and AMAZONE ranges in France, much synergy could be achieved for both brands, both in terms of market penetration and in the service and spare parts sector. Over the years, however, both programmes reached such a high volume that it made sense to separate them again in 2016.

A turning point – also for AMAZONEN-WERKE

On 9 November 1989, a decisive event took place for all Germans: The fall of the Berlin Wall. For Amazonen-Werke, too, the fall of the Wall was a decisive event. Above all, it opened up an interesting field of activity for us. Even before the Second World War, a large proportion of Amazone products had been delivered to the 'German East'. Now we immediately set about seizing our opportunities, benefiting from the fact that our products, such as fertiliser spreaders and seed drills, were urgently needed. Soon we had hired seven additional factory representatives in the new federal states alone to represent our interests there, as well as setting up our own factory bases with spare parts warehouses in Mecklenburg and Brandenburg. Our new factory representatives are almost exclusively graduate farmers from there, who are able to provide expert advice to what are mostly huge farms. Right from the start, we placed great importance on building trust in the Amazone product, as was already the case in the old federal states, and not on making a quick sale.

NEUE OZ

OSNABRÜCKER ZEITUNG

NEUE TAGESPOST
OSNABRÜCKER TAGEBLATT

Natürschützer: 40 Prozent der Skigebiete völlig zerstört

Weltspiegel

DDR bricht Mauer auf

Neun weitere Grenzübergänge

Mazowiecki: Verständnis für Kohls Rückflug

SED stellt Koalition und freie Wahlen in Aussicht

People cheering on the Berlin Wall on 9 November 1989

For us in the West, reunification came as a complete surprise, as even those who had spoken about it occasionally beforehand had not believed in it themselves. Only some officials in the GDR had seen it coming, as the communist economy had been becoming increasingly oppressive for years.

In fact, the GDR had been living beyond its means since its foundation in 1949, meaning that roads, railways, all supply lines, buildings including cultural monuments and even agriculture could only be kept in makeshift operation or – even worse – were left to decay, as was most of the economy and industry. The products developed in the GDR were largely uncompetitive and production was outdated and inefficient. Even the people living in the GDR were influenced or hindered in their thinking by the prevailing paternalism.

After reunification, huge opportunities opened up for Amazonen-Werke to sell its products in the former socialist countries. Even before the fall of communism, we had great success in what was then Czechoslovakia. There we were the leading supplier to the state-owned company Motokov and worked together with the agency Unifrux, from which our former distributor Unicom emerged. There were similar successes in Poland. After the fall of the Berlin Wall, we were able to turn our extensive experience from the period before the fall of the Berlin Wall and our competitive edge in this respect into successes in the other former socialist countries. In all these countries, such as the Baltic states, Ukraine, Russia, Bulgaria, Hungary, Romania, etc., we found partners or founded our own subsidiaries to represent our interests locally.

Business in Russia developed particularly successfully, where we were able to establish a co-operation with the company Aht for the production and sale of our machines in Samara. However, developments in Ukraine, Bulgaria, the former Yugoslavia and Belarus, where we were even able to establish our own sales networks in some cases, were also highly satisfactory.

Samara, 2008

The history of GAG Eurotechnika in Samara

The Russian public company Gag Eurotechnika was founded on 15 April 1998 – initially as a joint venture between the companies Amazone, Grimme, Gruse, Lemken, the agricultural consulting company Aht Group in Essen and Mps Samara as the Russian partner. Five years earlier, in 1993, the German agricultural machinery manufacturers involved had already equipped three Russian pilot farms specialising in potato growing with high-output technology as part of an initial project. this was followed in 1995 by a second project with 20 further pilot farms. These machines had already been assembled by Russian engineering companies in Samara. Amazone supplied the fertiliser, sowing and crop protection equipment for both projects, which were supported by Oblast Samara and led by the AHT Group and its managing director Gerardus van Wissen.

Against the background of the successful cooperation in the pilot projects, the companies involved then concluded an agreement in November 1995 to found the company GAG Eurotechnika. From 1998 onwards, Eurotechnika initially mainly assembled fertiliser spreaders and *Primera DMC* direct seed drills for the Amazone Group. In the following years, the proportion of machines for cereal farms rose sharply. in 2006, Amazone was able to take over shares from other joint venture partners and thus became the majority shareholder of GAG Eurotechnika.

At the Russian plant in Samara, it proved to be very fortunate that we were able to acquire the neighbouring 2.4 ha plot of land together with an existing hall, as capacity had also become too tight here. In the meantime, the

Samara, 2014

ZA-M, the *UR* sprayer and large coupling frames for seed drills and Catros disc cultivators were being manufactured on site.

In 2013, the Amazone Group was also able to acquire the remaining shares in the company and has been the sole shareholder ever since. Amazone has also invested in an administration building at this plant. As a further measure, a new Amazone Eurotechnika agency was opened in Saratov. With CJSC Eurotechnika, which is now the largest domestic producer of non-self-propelled agricultural machinery in Russia, the Amazone Group is very well positioned, particularly with regard to the medium and long-term prospects in Eastern Europe.

Many Amazone machine pre-assemblies, destined for Russia and the CIS states, are now manufactured directly in Samara and then assembled together with components from Germany to create the finished machines. The Eurotechnika product programme also includes in-house developments such as the *D9 6000-TC "Combi"* seed drill. With GAG Eurotechnika as a wholly-owned subsidiary, the Amazone Group has even more opportunities to react flexibly to current customer requirements and to further expand its good market positions in Russia and the CIS states.

In January 2016, the foundation stone was laid for a new production hall at Eurotechnika AG in Samara.

The workforce in front of the renovated administration building, 2014

AMAZONE 'ZA-M': the world's first 36 metre spreader, 1990

First fertiliser spreader with a working width of 36 metres

In 1990 Amazone was able to set another milestone in the history of fertiliser spreaders: Once again it was my cousin Dr Heinz Dreyer who invented the first fertiliser spreader with a working width of up to 36 metres, the Amazone *ZA-M*. This was an important step towards further rationalisation in agriculture.

At that time, many large farms were already working with tramlines that were laid out at 18 metres. Now they had the option of spreading two tramlines in one pass when spreading coarse-grained fertilisers, thus doubling their output, while still being able to spread their 18 metres safely when spreading problematic and crystalline fertilisers. A new feature of the 'M spreader' was the adjustable spreading vanes, which can be used to set different working widths, but which also take into account the different spreading properties of the various fertilisers. With this convincing further development of the fertiliser spreader, Amazone was once again able to manifest its market leadership for the future.

Production is further mechanised

In the same year, 1990, Amazone purchased a modern CNC-controlled nibbling machine with a plasma cutting device at its main factory in Gaste, thereby creating the conditions for efficient sheet metal processing and for enormous flexibility and high efficiency in the development of new machines. With this machine, it was possible to produce complicated sheet metal parts with many different holes with enormous precision within hours, even in small quantities for test machines, on which qualified employees had previously worked for days. Although such a machine tool cost around half a million euros, it provided enormous clout in the development of new machines, which was becoming increasingly important.

But such a machine was also invaluable for production, as it enabled the efficient production of series parts without any punching tools and thus incredibly accelerated the start of production of a newly developed machine.

The following year, in 1991, Amazone purchased a new hydraulic press with a downforce of 550 tonnes to run alongside this nibbling machine at its main factory in Gaste. This enabled us to bend the sheets so skilfully that they were extremely robust yet could transfer large forces even with a relatively low thickness. To this day, we call this technology 'aeroplane construction' and thus meet the wishes of farmers to produce lightweight yet extremely durable machines, because unnecessary weight also overloads machines and tractors and costs energy.

Left:
Welding robots in use

Right:
Hydraulic press with automatic coil feeding (sheet metal roll), 1991

New R & D building at the main factory

In 1993, a new design office was completed at the main factory. It housed the design department, the 'chief office' of Dr Heinz Dreyer, customer service, the patent department and a spacious training room. Up to 60 people could be informed and trained in the training room. As the mechanisation of agricultural technology progressed, the training of sales staff and farmers became increasingly important.

Training centre and R & D building

Setback 1993

However, things have not always been on the up at Amazone. We have occasionally had to accept severe setbacks, such as in 1993, when sales in the entire agricultural machinery sector fell sharply, including Amazone with a drop in sales of over 30 per cent. This is a major problem for a manufacturing company, especially when employees are made redundant. This led to a reduction in the workforce in Gaste and Hude. In principle, it is particularly difficult for a family business to have to make employees redundant, but if the existence of the company depends on it, measures are necessary to maintain and secure the remaining jobs.

New hall – sprayer production

New hall for sprayer production in Gaste

For many companies, a recession of this magnitude means the end, because it is associated with heavy losses. Not so at Amazone: the course was set in good time and stocks were quickly reduced. As a result, the company's liquidity was fully preserved. On the contrary, the measures taken to overcome the recession improved the starting position to such an extent that Amazone was able to emerge stronger from the crisis.

We even had the courage to embark on a huge construction project despite the recession: a large, two-storey hall for the modern production of our crop protection sprayers. When the agricultural situation returned to normal again and there was a large increase in demand for sprayers in particular, Amazone was able to use the increased capacity to significantly increase its market share. Deciding to make a major investment in the future during a recession is a risky business. In this case, it was absolutely right.

Plant protection equipment: UF mounted sprayer and UG trailed sprayer with Super-S boom

Change of management in Hude

From above:
Dr Franz Scharmann,
Dipl.-Eng. Bernd Gattermann,
Dipl.-Eng. Wilfried Schomäker

The year 1994 was another historic date. In this year, Dr Franz Scharmann took his well-deserved retirement. He had joined Amazonen-Werke (at the Hude sunbsiduary) in 1961, first as technical manager, then from 1971 as plant manager. He always managed our branch plant as if it were his own company. He expanded the plant to its current size with around 430 employees and created an important milestone in agricultural engineering with the development of the first modern seed drill combination. Amazonen-Werke honoured the achievements of Dr. Scharmann with a certificate of honour.

Dipl. Eng. Bernd Gattermann and Dipl. Eng. Wilfried Schomäker succeeded him. Mr Gattermann took over the management of the design department, Mr Schomäker the production and the commercial part. The former had already delivered successful designs during Dr Scharmann's time, including the compact double-skin trough design of the rotary cultivators and harrows. Dipl. Eng. Wilfried Schomäker had previously managed our subsidiary in Forbach very successfully and was responsible for the design of the *Grasshopper* and the UG frame for the first trailed Amazone crop protection sprayer. He is also an IT specialist and developed our organisation system together with the Kienzle company – a 'universal genius', so to speak.

Pneumatic seed drills from AMAZONE

The pneumatic seed drill had been making its appearance in seeding equipment for years. Apart from advantages in loading, this principle has no particular advantages at narrower working widths, but it was considered modern and was therefore in demand. However, it had real advantages at larger working widths, if only because of the possibility of using a large-capacity central hopper. For this reason, and because Amazone, as the market leader in seed drills, could not afford to miss out on this trend, we developed a pneumatic seed drill called the Amazone *AD-P* in 1995. With this machine, the seed is conveyed from the hopper by a central metering unit and then blown by air from a fan into a so-called distribution head and then fed in a star shape to the individual sowing coulters.

The *AD-P* is mounted on a packer roller and is used together with a rotary harrow or rotary cultivator. The *AD-P* pneumatic seed drills are now available in working widths of 3 to 4 metres. Amazone also offers the Avant mounted seed drill combination with 4 m, 5 m and 6 m working widths for contractors and large farms using the same technology, but with a more compact design. They are equipped with a seed hopper for front mounting on the tractor. Amazone has also earned an excellent reputation in this sector.

Laser cutting machine

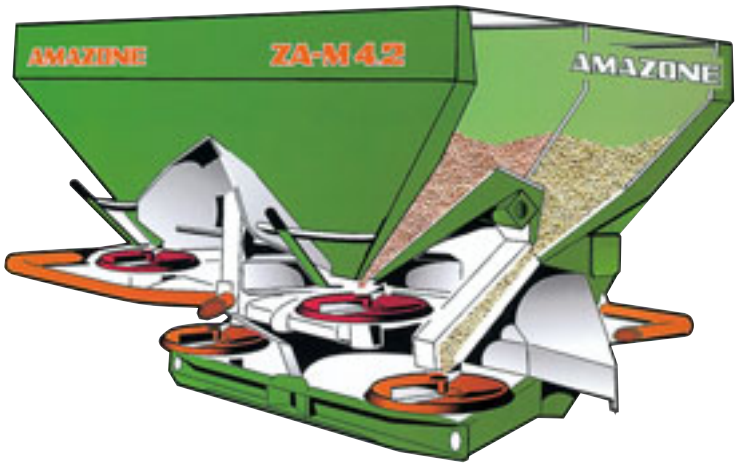
Rationalisation is (super)vital!

In 1995, a laser cutting system was purchased, firstly at the main factory in Gaste and later also at the subsiduary in Hude, at a cost of one million Deutschmarks each. With a laser cutting system, complicated sheet metal parts can be manufactured even faster using the CIM (Computer Integrated Manufacturing) process, i.e. the necessary data is transferred directly from the designer's computer to the laser machine, which therefore no longer needs to be specially programmed. With this investment, Amazone was once again more efficient and production was rationalised even more. The system had an internal computer that automatically sorted the parts to be produced in such a way as to minimise waste.

First fertiliser spreader with a working width of 48 metres

AMAZONE 'ZA-M 4.2': a fertiliser spreader which can spread two types of fertiliser at the same time, 1997

In 1997, Amazone presented the first Amazone *ZA-M 4.2* fertiliser spreader with a working width of 48 metres. It was of course again the brainchild of Dr Heinz Dreyer, the father of the modern twin disc spreader. The new fertiliser spreader was a prototype and even had four spreading discs and two hoppers. This meant it could spread two different fertilisers at the same time. However, unit sales fell short of expectations, so this project was later shelved. Instead, the Amazone *ZA-M-ultra* high-performance spreader was presented for the first time in 2001, also with a working width of 48 metres. This did sell in large numbers.



The large parts warehouse

Insight: central spare parts warehouse at the main plant in Gaste

1997 was also another year of major investments. A centralised spare parts warehouse was put into operation at the main factory. It was a facility with cutting-edge technology. An automatic small parts warehouse (AKL) was installed for the smaller parts. The operator simply calls up the order on the computer and the required parts are then automatically transported to a push-pull shelf. The operator removes and confirms the removal of the part and the tray is automatically returned to its place and the next parts are delivered. The bulky parts are stored in so-called high racks, where order picking forklifts make it possible to remove them. A computer on the forklift truck shows the driver which part he should go to next in order to save time and distance. Even back then, this highly-efficient technology made it possible to deliver over 400 orders received before 4 p.m. on the same day that were already at the customer's doorstep the next morning. 'Time is money'.

The new spare parts warehouse, 2000

Of course, the spare parts had to be delivered from our subsidiaries to the central warehouse and stored correctly. This department has been working perfectly for many years and to the great satisfaction of our customers. They now receive their spare parts orders for the entire AMAZONE range in one delivery from the central warehouse. This centralised solution is simpler and more efficient for us and our customers.

Today (as of 2016), we can dispatch up to 800 spare parts orders received by 5 p.m. to the customer on the same day. Over 80 % of these orders are then sent by express delivery, meaning that the parts are delivered to the recipient throughout Europe within 24 hours at the latest, and in Germany and some neighbouring countries even before

8 am. Around 34,000 different spares and wearing parts are stocked and picked by our modern warehouse system. Delivery availability is a good 98 % for every part in the current range and also for a significant proportion of series and types that are more than 15 years old. This is an absolute peak performance for a medium-sized agricultural machinery manufacturer with such a wide range of machinery.

Amazone was also one of the first companies to present all current spare parts via the Internet in a spare parts online portal, which has been gratefully received and utilised from the outset. Both sales partners and end customers can identify and order parts here around the clock. The prerequisite for farmers or contractors, however, is that they have been authorised by their dealer. Orders generated in this way are also invoiced via the respective dealers. The online portal is constantly being optimised to simplify parts searches even further.

Since 2020, the entire spare parts department has been located in the Global Parts Centre at the Tecklenburg-Leeden site (» see page 229).

One gold and two silver medals for AMAZONE

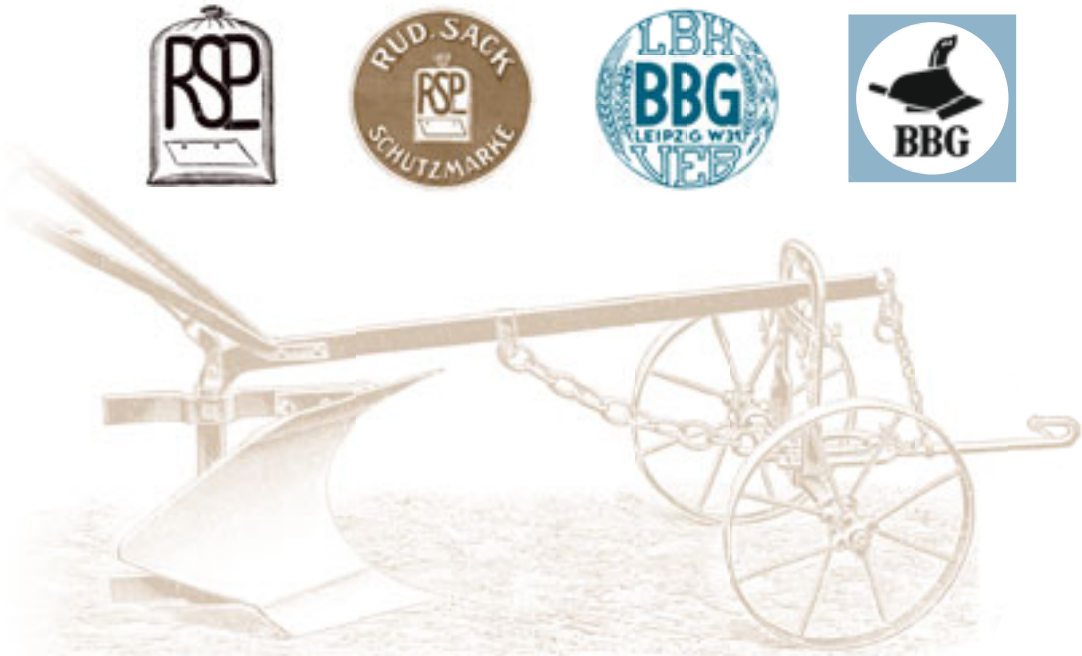
1997 was also a good year for Amazone in business terms. The largest agricultural machinery exhibition in the world, Agritechnica in Hanover, took place again that year. At this exhibition, Amazone received one gold and two silver medals for its advanced developments, more than any other exhibitor.

Awards at the Agritechnica 1997
Gold: SGN fertilisation (sensor-controlled nitrogen fertilisation)
Silver: AMASAT D.A.T. (duo application technology)
Silver: ZA-M 4.2 (4 disc – 2 material centrifugal broadcaster)

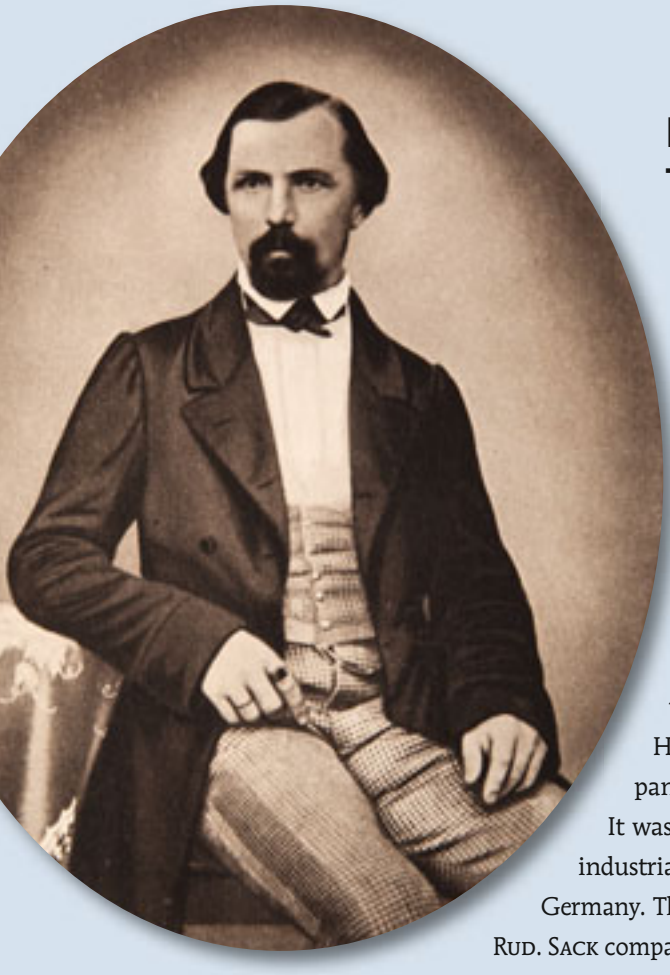
BBG Leipzig, subsidiary of AMAZONEN-WERKE, 1998

AMAZONE's fourth production facility: AMAZONE BBG Leipzig

The year 1998 was also of great importance for Amazone. The decision was made to buy the company BBG (Bodenbearbeitungsgeräte) in Leipzig. This company has a special tradition. Its origins go back to the founding of the Rud. Sack company by Rudolph Sack in 1863. Before the Second World War, this company was the largest plough and seed drill manufacturer in the world.



The logo development: **From RUD. SACK via BBG to AMAZONE**



Rudolph Sack at the age of 33

Looking back: The history of AMAZONE BBG Leipzig

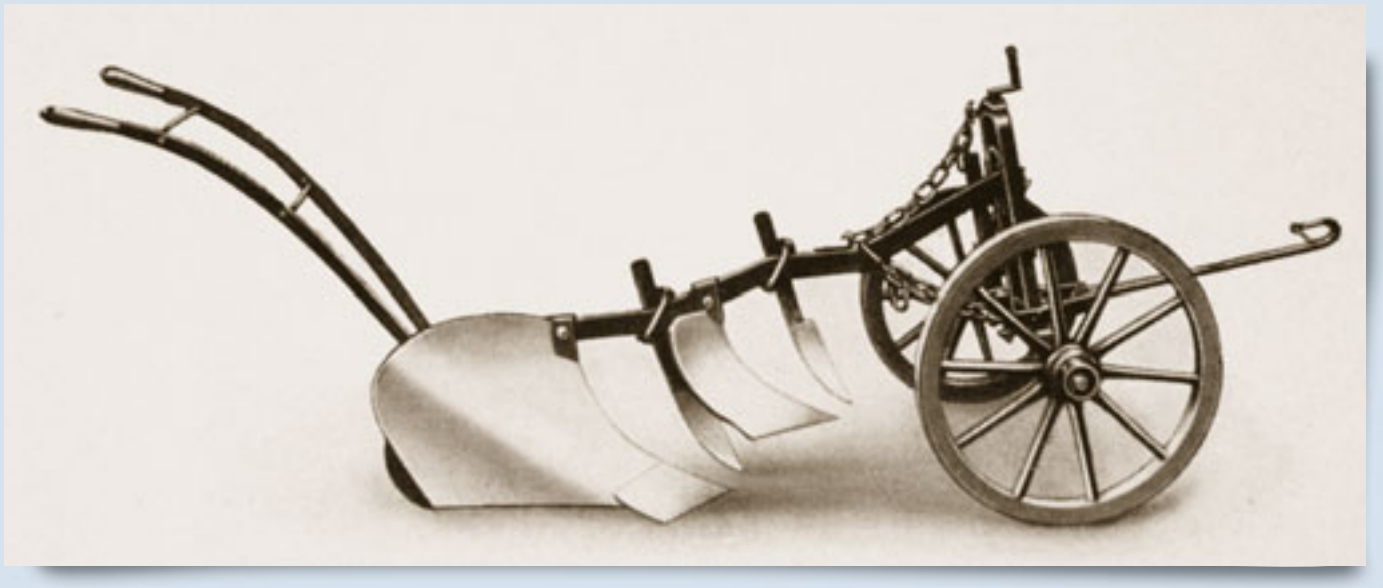
Rudolph Sack was a pioneer in the agricultural engineering world who is now regarded as the inventor of the iron plough and the father of industrial agricultural machinery production in Germany. He founded his company in Leipzig in 1863. It was at this time that the industrial revolution began in Germany. The development of the Rud. Sack company from then until today is therefore also a reflection of the industrial and political developments in Germany.

When Rudolph Sack was born in 1824 as the second son of a farmer in Klein-Schkorlopp (Saxony), it was still common for wheelwrights and village blacksmiths to build individual ploughs, mainly made of wood, according to the experiences and wishes of the respective farmers. The desire to improve this technology captivated the technically-gifted Rudolph Sack from an early age.

From the age of 18 to 24, he was able to gain experience with various machines, first as a caretaker on various estates and then on his parents' farm. In the process, he became more and more of an expert in soil tillage machinery and realised that the ploughs used at the time, which were mainly made of wood, were too heavy and impractical.

Left:
Adolphine Sack, née Franke, 1857

Right:
Rudolph Sack with his family, 1866



The first plough by Rudolf Sack, 1854

First iron cart plough

Around 1850, with the help of the master blacksmith, a Mr. Knopp, he succeeded in developing and building the first self-guiding, iron cart plough in Germany. This plough not only required half the tractive force of the ploughs built up to that time, but it was also able to invert and crumble the soil better. Rudolph Sack also worked on machines for seedbed preparation and sowing and applied for patents on other soil tillage machines in addition to the cart plough in 1853.

The ploughs in particular, which were initially manufactured by this master blacksmith, Mr. Knopp, were very popular with the farmers in the area. When Rudolph Sack received an order for 120 ploughs from Count Bobrinsky in the Ukraine in 1857, this large order could no longer be fulfilled with the help of the small blacksmith's shop. Rudolph Sack therefore had his first large series of ploughs manufactured in England. As he personally supervised production on site, he familiarised himself with the industrialised production process already in place there.

Rudolf Sack's first plough in use, 1854

Rudolph Sack's estate in Löben near Leipzig

Rise to become the largest agricultural machinery factory

In 1863, the then 39-year-old finally gave up his parents' farming business to found the Rud. Sack company in Leipzig-Plagwitz. Here he began to manufacture ploughs and seed drills on an industrial scale. Even back then, important features of his production were the modular design of the machines and the continuous rationalisation of their manufacture. This enabled cost-effective production and led to correspondingly high sales figures.

Over the course of a few years, the largest German, and one of the largest in the world, agricultural machinery factories was established. Business with the cart plough and a reversible plough developed by Rudolph Sack was particularly successful. By 1883, with the company already employing 650 people, the 100,000th plough was built. Around 50 % of production was already being sold to other European countries, as Rud. Sack already had commercial representatives in many countries, including Russia.

The company's own steel foundry, which went into operation in 1889, set a milestone. This enabled the lower part of the plough bodies to be made of cast steel, which led to a longer service life. In the meantime, the cart plough in particular set standards in the Rud. Sack product range and was copied by many other manufacturers. The total number of 700,000 ploughs sold by the turn of the millennium is remarkable.

Own experimental farm

Rudolph Sack had also set up a 17 ha experimental station in 1877 to test newly developed machines and new processes. He also worked together with the University of Leipzig at this station, later known as the "Higher Agricultural Training Centre – Plagwitz Leipzig". In 1896, he tested the first Sack steam plough system here. The experimental station was later expanded into a 200ha model farm, which was regarded as exemplary by farmers and agricultural scientists.

When Rudolf Sack died in 1900, he left behind a life's work that marked a turning point for the German agricultural machinery industry. In the times before Rudolf Sack, German agriculture had mainly used agricultural machinery from America and England. However, Rudolph Sack showed that ingenuity was capable of developing and manufacturing modern and advanced agricultural machinery at home. Many other entrepreneurs followed his example and conquered the various foreign markets. One of these entrepreneurs was Heinrich Dreyer, the founder of Amazonen-Werke.

"Rudolf Sack's agricultural testing station" with field trials and materials testing centre

in 1905, a 25 ha park with a lake, flowerbeds and small pavilions was laid out at the experimental station.

The grounds of the experimental station: country house with bowling alley, billiard room and drinking parlour; rose garden and farm buildings, ca. 1904

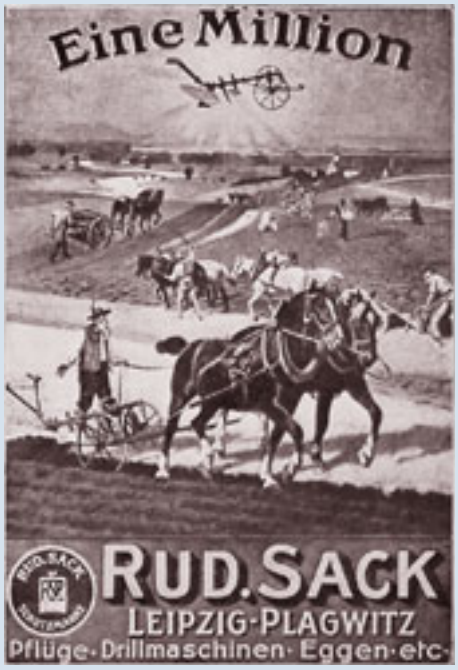
Steel foundry and tapping of the "Martin furnace" in the steel foundry

The second generation: Paul Sack

After Rudolph Sack's death, his son Paul took over the management of Rud. Sack KG, which had been converted into a limited partnership in the meantime, and continued to develop it into the largest manufacturer of tillage equipment in Germany. By 1904, the company had already built one million ploughs, reaching the two million mark in 1911. In that year, Rud . Sack KG employed almost 2,000 people.

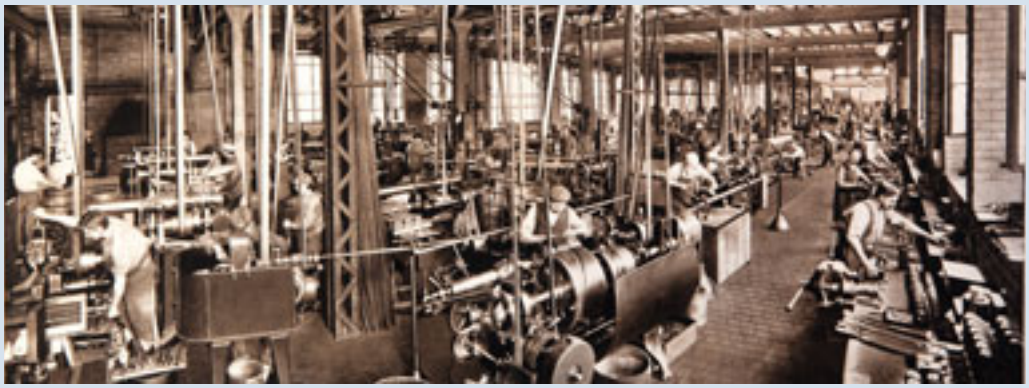
With the beginning of the First World War in 1914, the company's hitherto uninterrupted success story came to a halt. On the one hand, many employees had to go off to war, and on the other, sales of agricultural machinery collapsed. It was not until 1922 that the Rud. Sack company began to receive a larger quantity of orders again, which ensured full employment.

Paul Sack (1863–1923)



Advertising poster for the 1,000,000th plough, 1904

Wheel making



Automatic turning shop

Steam hammer forge

The third generation takes over

After the death of Paul Sack in 1923, his sons Otto and Dr Hans Sack took over the management of the company. The years became more difficult, the order situation was changeable and, above all, the political situation became increasingly uncertain. The Rud. Sack company's production programme now included various ploughs for tractors and combinations, seed drills, harrows, cultivators, disc harrows and hoes.

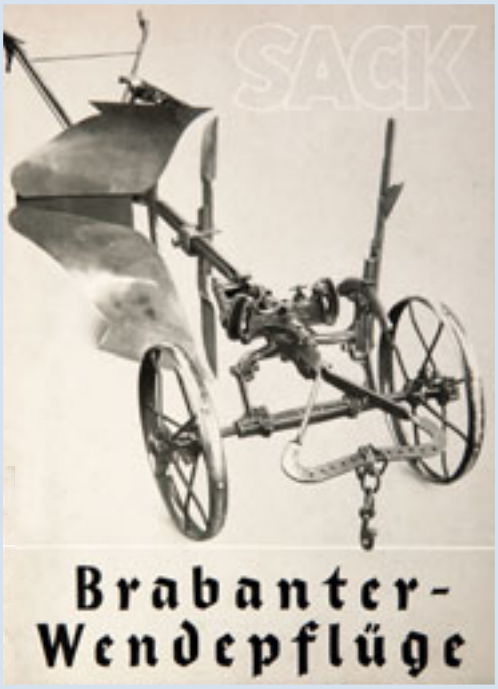
Otto Sack

Dr Hans Sack

Cover of the RUD. SACK product catalogue from 1926

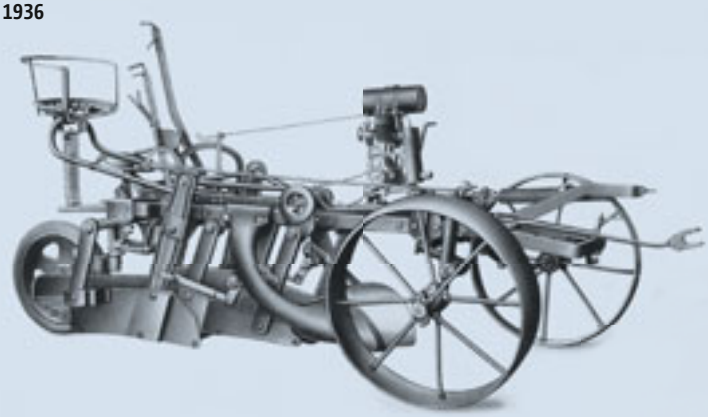
Coloured illustration of the factory premises for the 75th anniversary of the company, 1938

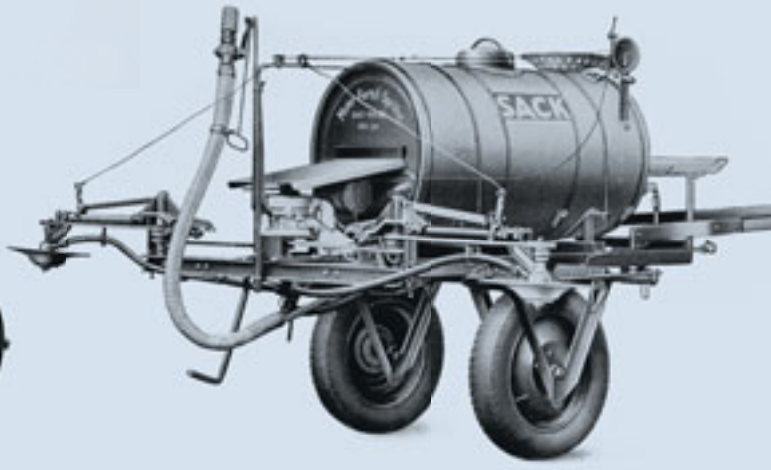
During the global economic crisis from 1930 onwards, the company was repeatedly forced to work short hours and even shut down completely at times. Despite this, Rud. Sack developed new equipment during these difficult times, such as a cam-wheel drill, a potato harvester, a haulm topper and a crop protection sprayer. Finally, there was an upswing with new hires and full employment.



Brochure entitled "Brabant reversible ploughs", 1938

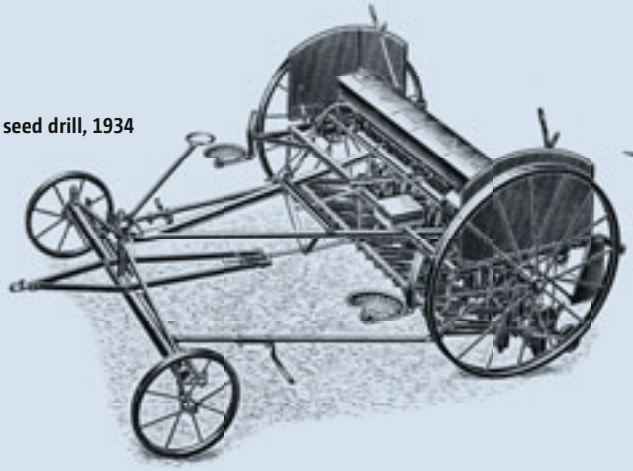
Potato harvester "Schatzgräber", 1936

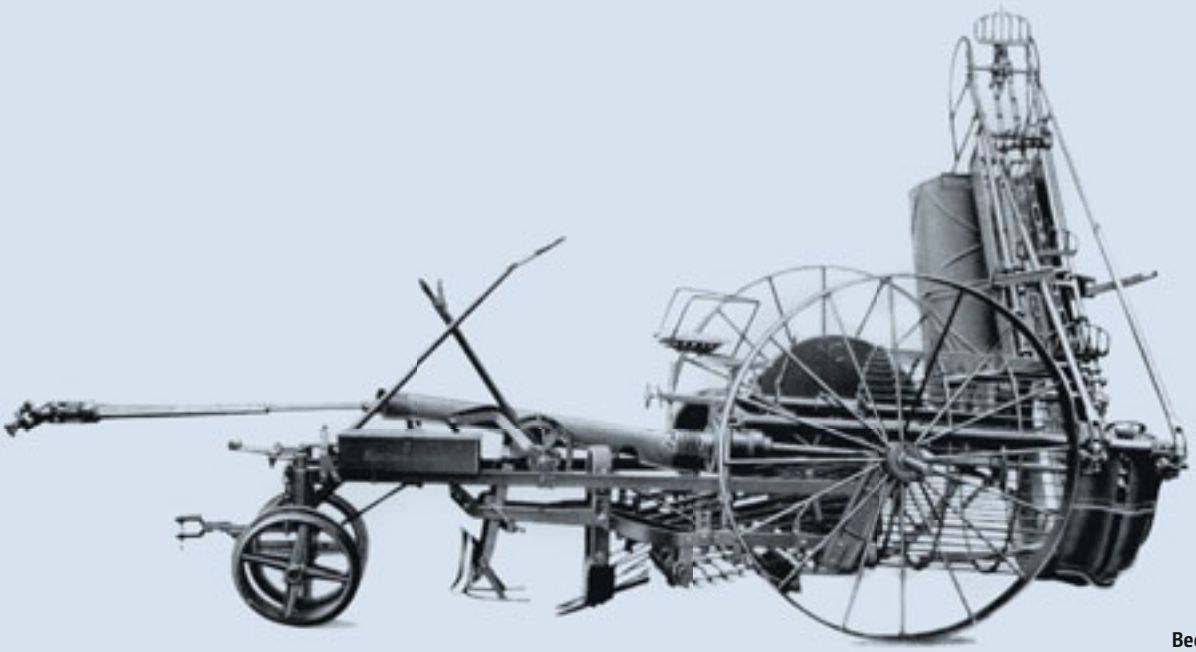




"Motorised potato sprayer", ca. 1934

"Landgravine" seed drill, 1934

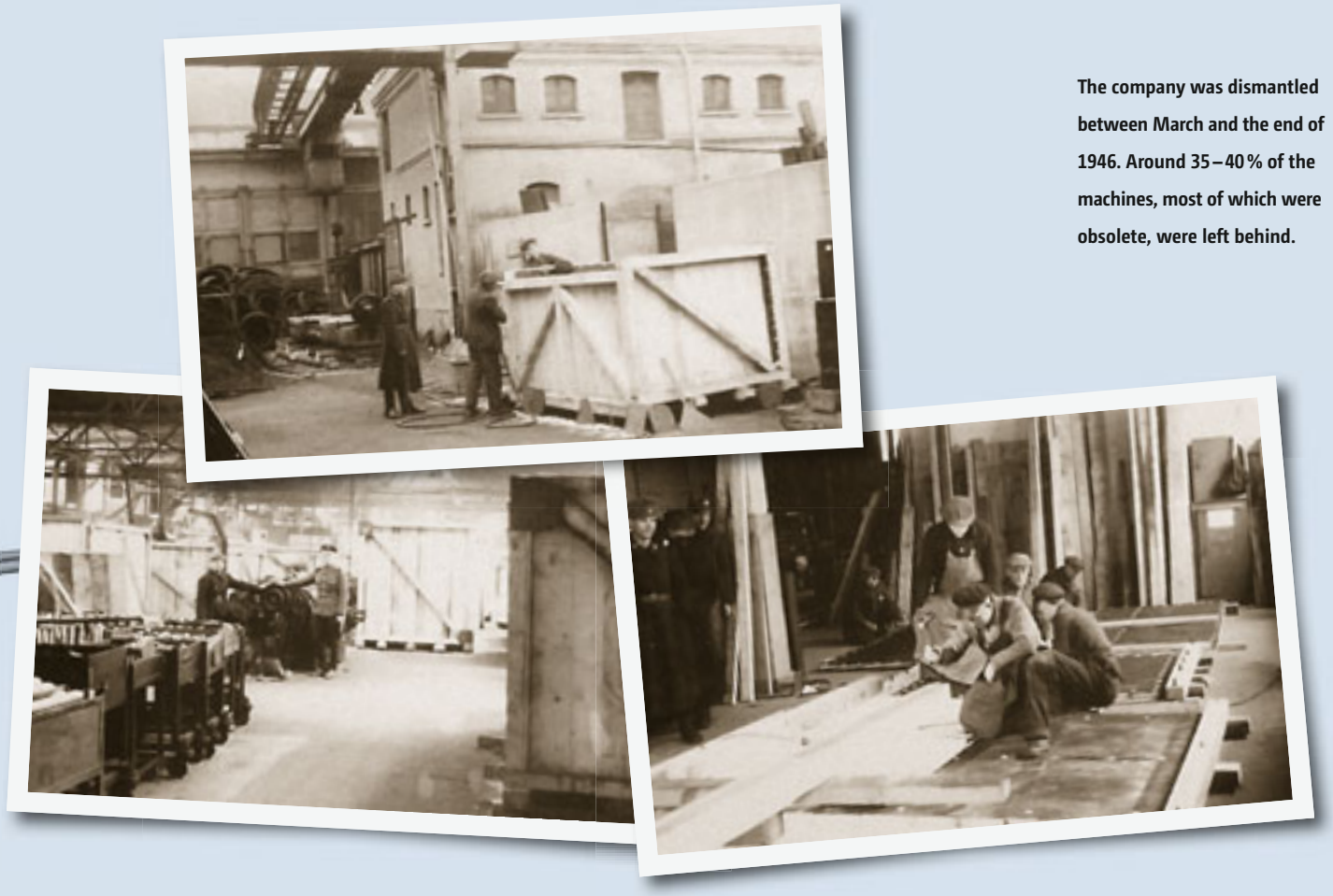




Beet harvester, ca. 1939

Production temporarily suspended

When the Second World War began in 1939, the same problems arose as during the First World War. From 1943, the organisation of production became increasingly difficult and production was finally stopped on 16 April 1945. In 1946, after a brief resumption of production, the company was expropriated and dismantled by the Russian military government. Nevertheless, in 1947, the remaining lathes, drills and presses were once again able to produce 6,000 mounted ploughs, 7,500 weed harrows and 1,000 hoes. On 1 July 1948, however, the company was transferred to the public ownership of the German Democratic Republic.



The company was dismantled between March and the end of 1946. Around 35–40 % of the machines, most of which were obsolete, were left behind.

The state-owned company BBG

The new company name was "Leipziger Bodenbearbeitungsgerätefabrik, VEB, vormals Rud. Sack" (BBG). A team was formed at BBG which, under difficult conditions but with great vision, developed and produced the then modern equipment for the large agricultural businesses that had now been established in the GDR. The production programme initially consisted of ploughs, cultivators, disc harrows and other tillage equipment.

In 1969, for example, BBG presented the *B 501* plough, specially developed for the large Russian *K 700* tractor, for the first time. Later, crop protection equipment and beet harvesting technology, including mounted and front conveying systems for the famous *KS-6* self-propelled beet harvester, were added. In this way, the state-owned company BBG created many remarkable developments for the mechanisation of agriculture and developed into the largest agricultural machinery factory in the GDR.

KS-6 beet harvester from 1973

Under the management of the trust

After German reunification in 1989, BBG was placed under the administration of a Trust and went through an uncertain period with several changes of ownership, initially from 1990 as BBG Leipzig AG and from 1993 as BBG Leipzig GmbH. in 1994, the company moved from the old headquarters of Rud. Sack in Karl-Heine-Straße in Leipzig-Plagwitz to its current location in Rippachtalstraße. Finally, in 1998, BBG became a subsidiary of the Amazone Group.

Above:

"Eurodisc" 6000, ca. 1993

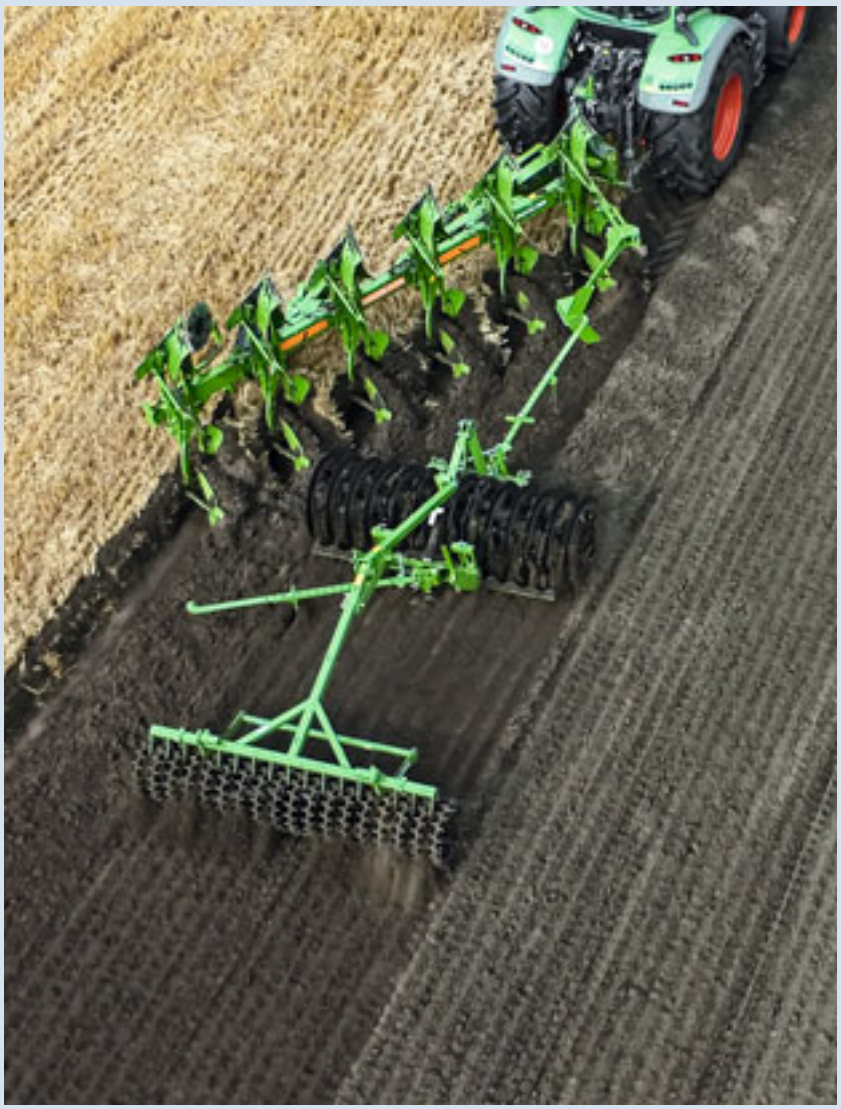
Left:

S 300 trailed sprayer, circa 1992

BBG becomes a subsidiary of the AMAZONE Group

Amazone used the BBG production programme, in particular the machines for passive soil tillage and plant protection technology, to complete its product range. Cultivators and trailed sprayers remained in the programme. However, BBG's plough programme, which consisted only of beet ploughs and was no longer competitive, was discontinued.

As an Amazone subsidiary, Bodenbearbeitungsgeräte Leipzig GmbH & Co. KG is today a very good example of how it was possible to successfully continue a state-owned company from the GDR era even after reunification. The *Catros* disc harrows, for example, which have been built since 2001, have become one of the new best-sellers from Leipzig. Other successful machines from Leipzig include the *Centaur*, *Cenius* and *Cenius TX* mulch cultivators and the large *Certos TX* compact disc harrow. Just like these soil tillage machines, the *UG* crop protection sprayers, also built at BBG, have gained an excellent reputation among Amazone customers.



The newly developed fully reversible plough, the Cayron, 2013

Plough production returns to Leipzig in 2013

In 2013, the plough returned to Leipzig. This was because Amazone added the newly developed, modern, fully reversible plough, the *Cayron*, to its range of soil tillage machinery. With this important innovation and expansion of the agricultural machinery range, Amazone continued the long and successful tradition of plough production at this location – exactly 150 years after the founding of Rud. Sack From 2021, the entire plough production of the Amazone Group will be concentrated at the Mosonmagyaróvár site in Hungary (» see pages 210 and 212 – Vogel & Noot).

Trials sites in Leipzig

It fits in well with Amazone's philosophy of successfully continuing the innovative spirit and entrepreneurship of founder Rudolph Sack into the future. In this spirit, another tradition, that of Sack's experimental farm, is being continued in Leipzig. Since 2000, Amazone has been carrying out field trials on 75 hectares of arable land on the farm Agrarprodukte Kitzen e.G – in the direct vicinity of the factory premises – in cooperation with this farming company and

AMAZONE customers visit an AMAZONE trials site in Leipzig, 2010

scientific institutes. This includes, for example, a multi-year trial in which different cultivation methods for cereals, rape and maize are compared in detail. A total of around 770 hectares of land are available for trials in Leipzig.

There is also a testing ground right next to the factory where the Amazone soil tillage machines have to undergo a tough durability test. In the Amazone ActiveCentre on the factory premises, lectures, training courses and seminars are held for customers and sales partners from all over the world.

BBG Leipzig factory premises, 2020

Four silver medals and DLG award for Dr Heinz Dreyer and Klaus Dreyer on the occasion of their 40 years of successful entrepreneurial activity, 1999

Four innovation medals for AMAZONE!

Back to the chronicle of Amazonen-Werke: In 1999, the Agritechnica exhibition was held in Hanover again. This year Amazone received four silver medals for progressive new developments, a great success. We also received a special award: The President of the DLG, Freiherr von dem Bussche, presented my cousin Dr Heinz Dreyer and myself with a certificate of honour for our 40 years of successful entrepreneurial activity and innovations in agricultural engineering. We were very pleased about this.

Paint coat with automotive quality

1999 was the year of the biggest investments for Amazone since the company was founded. Among other things, a new paint plant was built at the main factory in Gaste. This required careful planning. The old 'paint shop' was, of course, to be retained until the new system was fully working so that there would be no loss of production. On the other hand, the paint plant had to be integrated into the production process, i.e. the plant had to be located in the centre of the factory if possible. There were also some old warehouses available that were not urgently needed for production. It was therefore possible to accommodate the extensive system in the available space. The new painting procedure is a cathodic dip painting (CDP) system in which all machines and accessories are electrically coated by cataphoresis,

KTL painting process

New paint shop, 1999

Old buildings have had to make way for this

giving them particularly good corrosion protection, similar to that used in the automotive industry. This sophisticated plant was planned by our long-standing plant manager, Dipl. Eng. Karl Wilhelm Wiendieck.

The most important prerequisite for a reliable and good coating is the thorough cleaning and galvanising of the parts beforehand. This takes place in our plant in seven different tanks upstream of the primer process. The machines are then baked in a constant-feed oven before being dipped in the top coat, giving them the good appearance that our customers have come to expect from Amazone. The topcoat is water-soluble and therefore ecologically unproblematic. The entire system is designed in such a way that no solvents are released into the environment. However, the paint process also has economic advantages, as the conveying system works automatically and the parts only have to be hung up and taken down. This system also uses less paint than before.

Our paint process is still exemplary for the entire industry today, but it cost 8 million Deutschmarks. The new 'paint shop' was put into operation in spring 2000 and worked perfectly after initial difficulties, so that we were able to clear out and convert the old paint shop. After appropriate modernisation, the final assembly of the fertiliser spreaders was set up there. All machines and parts from the new paint shop are automatically sent to this department, where they are received and immediately assembled or forwarded to the neighbouring department. This practical solution has enabled us to produce Amazone machines to a high quality in a rationalised manner and in bright workplaces.

The 'FG 1' management team, 1999:
top row from left:
Dr Bernd Scheufler,
Christian Dreyer, Justus Dreyer,
Wilfried Schomäker,
bottom row from left:
Friedhelm Brömstrup,
Klaus Dreyer, Dr Heinz Dreyer,
Bernd Gattermann

The fourth generation of the Dreyer families

1999 also saw an important change in the management team. After more than 40 years of service, I handed over the management to my son, Christian Dreyer, who took over the management of sales. He had already been working for Amazone since 1994 and was very familiar with the tasks. Christian Dreyer completed his studies in industrial engineering at the Technical University of Hamburg and the University of Hamburg in 1991.

At the end of 1998, Dipl. Eng. Justus Dreyer, the son of my cousin, Dr Heinz Dreyer, also joined the management team after studying mechanical engineering at the Technical University of Braunschweig. He initially worked as a research assistant at the University of Hohenheim in the field of agricultural engineering, where he completed his doctorate. This meant that representatives of the fourth generation of the Dreyer family were integrated into the Amazonen-Werke company and took on responsibility.

Christian and Justus Dreyer, the fourth generation, behind their fathers Klaus Dreyer and Dr Heinz Dreyer.

Silver medals at the Agritechnica 2001

The next Agritechnica was held in Hanover in 2001, and once again we were able to stand out from the crowd. With a huge stand of around 1,500 m², we presented ourselves convincingly and showed our newly developed designs. Our *Centaur* cultivator for site-specific soil tillage and the intelligent nozzle control for crop protection sprayers each received a silver medal.

More and more working widths for fertiliser spreaders

We were also able to show a new flagship fertiliser spreader. Dr Heinz Dreyer had developed the Amazone *ZA-M ultra iS*. This spreader had a new type of aperture in the long vane, which made it possible to achieve excellent distribution despite the long vane length. This made the enormous working widths of 48 metres possible for the first time. This new machine attracted a great deal of interest at Agritechnica 2001.

In the years that followed, the *ZA-M* got many more sophisticated brothers. These included the *ZA-M Profis* with weighing system, the *ZA-M Ultra* with a working width of up to 52 m and the ZA-*M Ultra Profis Hydro* with weighing system, hydraulic drive and a working width of up to 52 m and a maximum capacity of 4,200 litres. In 2013, a fertiliser spreader equipped with the *AutoTS* disc-integrated border spreading system and which can even achieve working widths of up to 54 m was presented for the first time. Every model of spreader can be fully electronically regulated and controlled via an on-board computer. Any parts subject to particularly high fertiliser contact are made of rustproof material.

Who would have thought that fertiliser spreaders would develop like this? As recently as 1958, we were proud to present a spreader that achieved a working width of 10 metres with a good spread pattern, and today we have reached a working widths of no less than 54 metres with excellent spreading quality.

AMAZONE 'ZA-M ultra iS': the flagship of AMAZONEN-WERKE 2001 with 48 metre working width, GPS control and integrated weighing system

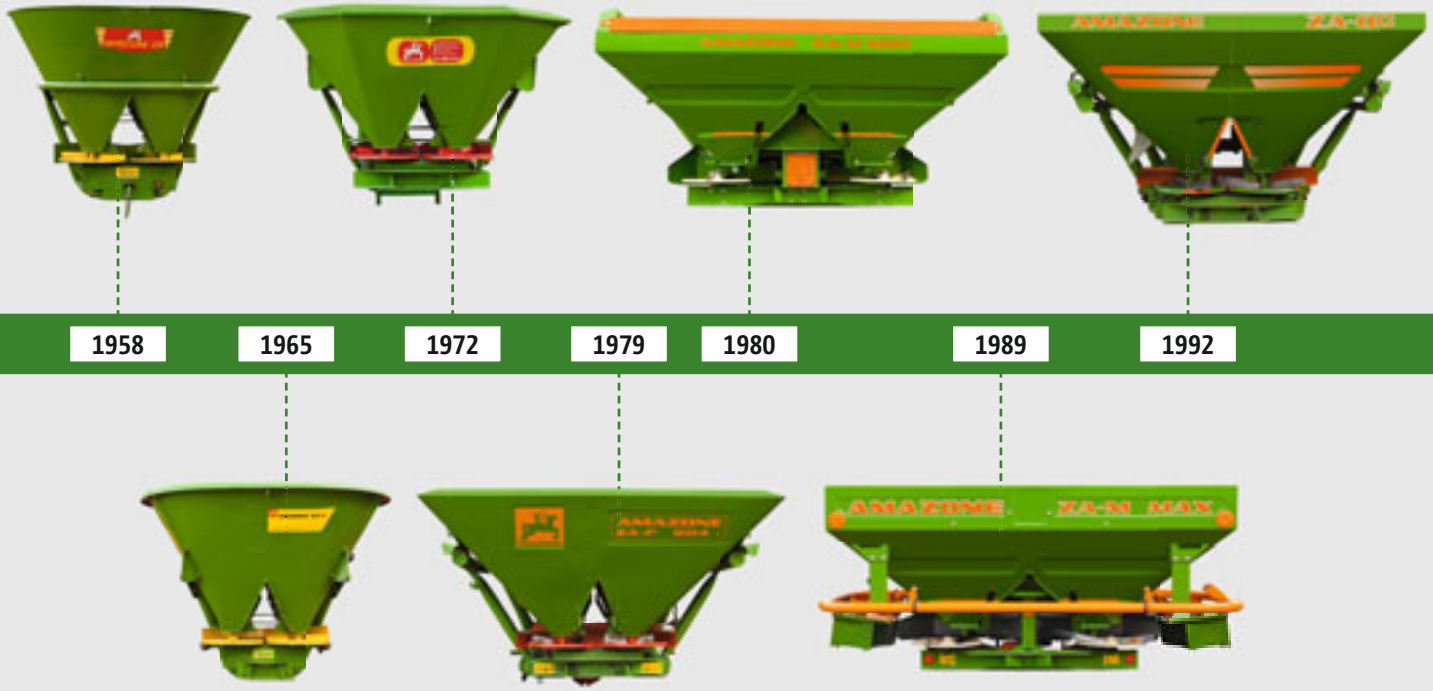
Overview: The history of the ZA spreader

ZA
The original

ZA-E
The bestseller

ZA-U
A new class

ZA-OC
The fertiliser-saving one



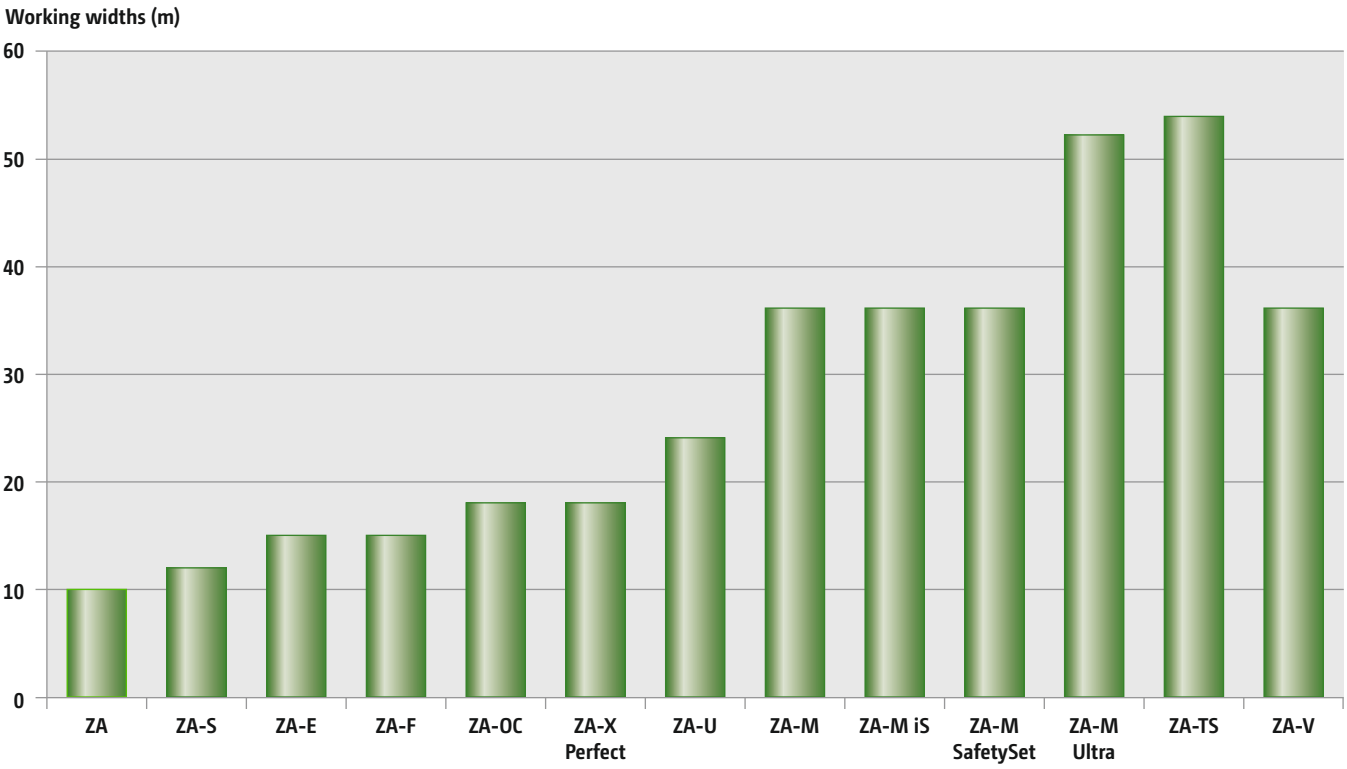
1958 | 1965 | 1972 | 1979 | 1980 | 1989 | 1992

ZA-S
The more precise one

ZA-F
The little big one

ZA-M Max
The success spreader

Maximum working widths of AMAZONE twin-disc mounted spreaders



ZA-M iS
A new generation

ZA-M with SafetySet
The guarantee of success

ZA-V
In the fast lane

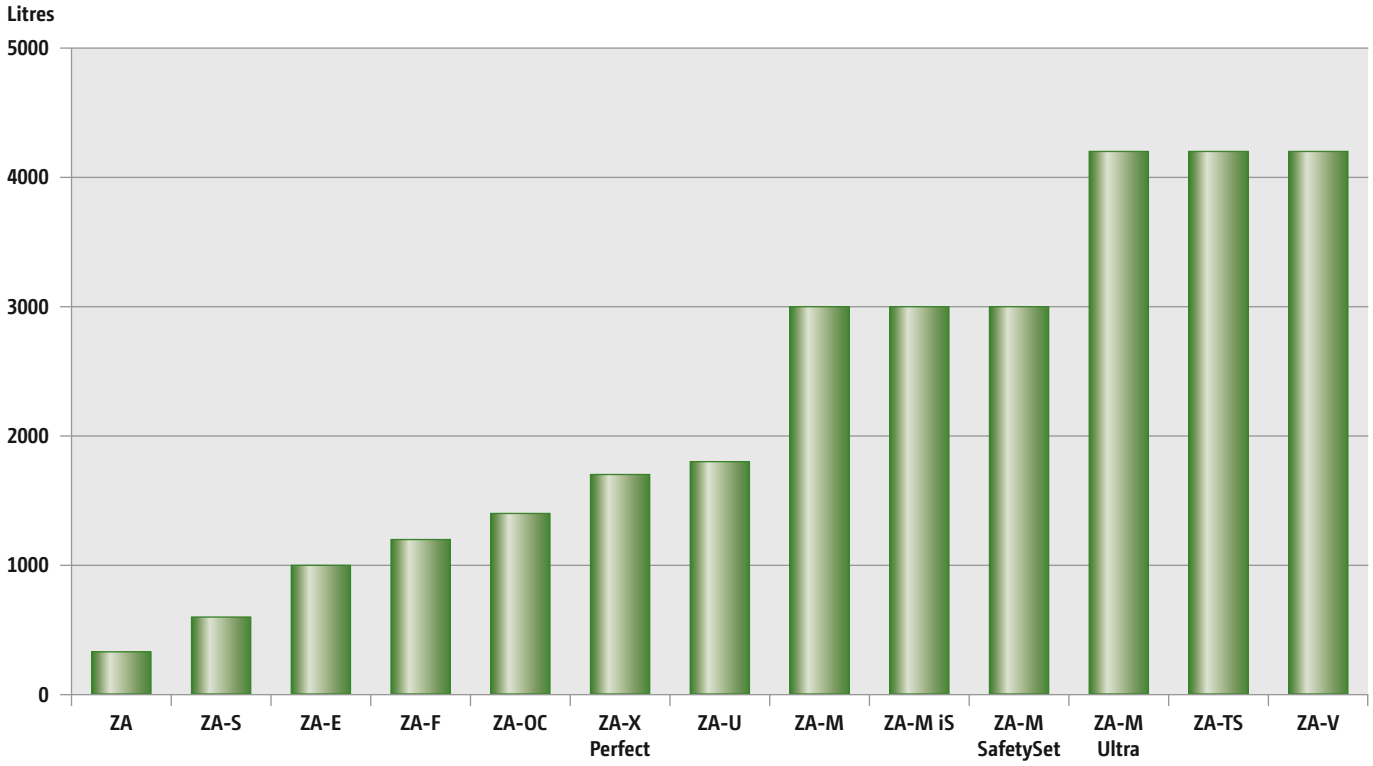
1996 2001 2003 2007 2013 2015

ZA-X Perfect
Small spreader, but really big

ZA-M Ultra
A new dimension

ZA-TS
The spreader with Top Speed

Maximum hopper size of AMAZONE twin disc mounted spreaders



The bestseller:
Catros compact disc harrow

Increased sales in Eastern Europe

The year 2002 was also characterised by a very positive development at Amazone. Sales increased by 15 per cent, whilst the rest of the industry recorded a decline in sales as a result of the BSE and foot-and-mouth epidemics.

In 2003, however, Europe suffered from a prolonged drought, which hampered sales of our products. Nevertheless, in contrast to most of our colleagues in the industry, Amazone was largely able to hold its own. The reason for this was the increase in sales in the Eastern European countries. Among other things, the new Catros compact disc harrow from our Leipzig plant contributed to this, proving itself well and contributing to the increases after only a short time.

New ACTIVE Centre in Hude

The year 2003 was of particular significance for our subsidiary in Hude. In that year, we were offered a neighbouring plot of approximately 10,000 m² to the east of the factory at a favourable price. This property consisted of a 3,000 m² hall which was in good order along with a petrol station with three pillars. The hall had been a supermarket until the end of 2002 and there was a Greek restaurant in the front part. You only get such a favourable expansion opportunity once, so we took it without hesitation.

The ACTIVE Centre in Hude, 2003

We converted this facility into a new ACTIVE Centre with corresponding training and meeting rooms. The hall offered enough space to generously present the entire AMAZONE range. We also utilised around 1,000 m² at the rear for the storage of semi-finished parts. Whereas we previously had to present our product programme outdoors, we now had the opportunity to present ourselves better in every respect at our Hude plant. We used the petrol station for our numerous factory vehicles, and the diesel vehicles were even refuelled with bio-diesel made from rapeseed oil. Today, this hall is used in its entirety as a large training centre, holding service training courses here for our sales partners from all over the world.

Entry into a new establishment sector: the Cirrus cultivator drills

Another special event in 2003 was the expansion of our programme to include the *Cirrus* cultivator drills. It belongs to the large-area seed drill sector and is designed for working widths of 3 to 6 metres. AMAZONE has retained the well-known principle: "First roll, then sow!" with the *Cirrus*. We also equipped the coulters with packer wheels. The first machine went into use in 2002 and in 2003, the *Cirrus* was released for series production and further rounded off our programme.

As a trailed seed drill with passive soil tillage upfront, the *Cirrus* then developed into another mainstay of our seed drill programme. With working widths of up to 6 metres and ISOBUS control, it continues to impress our customers today with its quality of work and efficiency.

The Cirrus cultivator drill with a 3000 litre hopper, 2003

Cirrus cultivator drill, 2016

UX 5200 with Super-L boom

The first "UX" trailed sprayers

In 2004, the total sales of the Amazonen-Werke increased again strongly with an increase of around 20%, although the German market was still weak. At the same time, Amazone's export share rose to over 60%.

The new *"UX 4200"* and *"UX 5200"* trailed sprayers were an important addition to our sprayer programme, which previously consisted of the UF mounted sprayers and the UG trailed sprayers. The first thing that caught the eye was the outstanding design. However, this was also associated with a number of practical advantages such as the low centre of gravity and easy cleaning. The operator station was also particularly ergonomic and user-friendly. This enabled us to prevent mistakes being made during filling. This new sprayer really helped us to set ourselves apart from the competition and gain further market share.

Production capacities in Hude expanded

We once again invested heavily in our production facilities at all locations. In Hude, for example, we created new, additional production capacity for the *Cirrus* large-area seed drills. This was done on a 25,000 m² site just a few hundred metres away from our factory. There

The site in Hude-Nordenholz for the production of our Cirrus large-area seed drills, 2004

was a 3,000 m² disused plant for concrete components here, which we were able to use for assembling the *Cirrus*. This created around 50 new jobs and we were proud to have brought this industrial ruin back to life. In later years, the production of *Cirrus* large-area seed drills was relocated to the Hude-Altmoorhausen site, which was founded in 2008, and the site was sold again.

A 5,000 watt laser cutting system was also purchased for the plant in Gaste. This enabled us to cut metal plates up to a thickness of 20 mm.

The Hude-Altmoorhausen site for the production of large-area seeders, 2016

Internationalisation is progressing

In 2004, we also intensified our relations with China and were able to deliver an order for 18 sprayers and 20 fertiliser spreaders. China could also develop into an interesting market for AMAZONE in the future.

In Brazil, we began a collaboration with the local company Stara. The partnership was to focus on the manufacture of sprayers and fertiliser spreaders. To this end, a joint production hall was built in Não-Me-Toque. Unfortunately, Stara only wanted to acquire AMAZONE's in-depth knowledge and so this project was disolved. Even though we did not suffer any major damage, we learnt a lot from this experience.

In 2004, we organised the first international AMAZONE Crop Establishment Days at our Leipzig plant. We were able to welcome over 400 participants to this event. These crop establishment days are now an annual tradition to which we invite our customers and other experts from Germany and abroad.

The Chinese farmers were impressed by our outstanding technology, 2004

Prof. h.c. Dr Dr h.c. Heinz Dreyer hands over the management of the company to his son Dr Justus Dreyer, 2005

Dr Justus Dreyer takes over the management from his father

In 2005, my cousin Prof. h.c. Dr Dr h.c. Heinz Dreyer transferred the management of the company to his son, Dr. Justus Dreyer. Together with his great cousin, graduate industrial engineer, Christian Dreyer, he now manages the company as a representative of the 4th generation of the Dreyer family.

Production sites further modernised

Amazone continued to make great efforts in the area of rationalisation in 2005. In Gaste, a gantry robot for welding large frames was purchased and in Hude, investments were made in a machining centre for producing tine carrier shafts for rotary harrows and cultivators. Here, the shafts are not only machined, but all the pockets for the heads of the tines are also welded on.

Two new halls were commissioned at the Leipzig plant, one of them for the final assembly of our *UG* trailed sprayers, which were previously manufactured in the main factory in Gaste. As a result, we have once again created several new jobs in Leipzig.

Catalytic paint process in Forbach

The Forbach plant gets a new paint system

The Forbach plant was also expanded further. Here we have invested in a very sophisticated paint system. In this facility, all parts and frames are treated with environmentally-friendly, water-based paint after a six-stage pre-treatment process before the topcoat is applied by spraying.

This means that our groundcare machinery is now also characterised by exemplary paint quality.

New canteen in Hasbergen-Gaste

Another construction project was realised in Gaste. Here, we extended the inner courtyard and built a canteen on top of the new building. Since then, our employees and visitor groups have been served food and drinks there. The meals are cooked on site and taste excellent to all guests. The design of the canteen is very sophisticated; you could say that it has the character of a restaurant. Here, too, great importance is attached to ensuring that everyone feels comfortable.

The new canteen at the main factory in Gaste, 2005

First Citan large-area seed drill up to 15 m working widths

The most important new addition to the programme in 2005 was the *Citan* large-area seed drill. The *Citan* is a solo seed drill with working widths of up to 15 metres, which is used in the so-called offset method. This means that soil tillage is carried out separately so that the *Citan* places the seed in the soil at speeds of up to 15 km/h. Sales of the *Citan* met our expectations straight away.

Citan 12000

Two silver medals at Agritechnica 2005

At Agritechnica in November 2005, AMAZONE was once again able to present numerous innovations to its customers on its 1,500 m² stand. The German Agricultural Society (DLG) again honoured us with medals for two of these. We received a silver medal each for the automatic field-related documentation system ASD and for GPS-Switch, which for the first time made it possible to switch fertiliser spreaders on and off automatically and in a precise position. These innovation medals are always impressive proof of AMAZONE's innovative strength. Here too, we are one of the most successful companies in the industry.

The AMAZONE stand at Agritechnica 2005

Left:
Cirrus Special seed drill, 2006

Right:
Primera DMC large-area seed drill in a 9 m working width, 2006

New developments for technical progress

Technical progress is not only reflected in the bigger machines and in electronics, but also in all machines in the AMAZONE programme. An important new AMAZONE development in 2006 was the *UF 901/1201* mounted sprayer, but we were also able to present interesting new products in the areas of soil tillage and seed drills: the low-cost AMAZONE KE Special rotary harrow and the lightweight and cost-effective AMAZONE AD-P Special pneumatic seed drill. Another new product was the *Cirrus Special* large-area seed drill with RoTeC^{+} coulters and in working widths of 3 to 6 metres. We also added a 9 metre version of the very successful *Primera DMC* large-area seed drill to our range. This machine was specially developed for the huge areas in Russia.

The year 2006 also saw a machine anniversary: the delivery of the 200,000th AMAZONE seed drill. It was an *AD-P* complete with rotary cultivator and deep loosener, which was sold to a customer in Austria.

Delivery of the 200,000th AMAZONE seed drill to a customer in Austria, 2006

2007 turnover at a record level

Construction activities in 2007, a year in which AMAZONE sales reached a new record level of 230 million euros, included the start of an extensive addition to the main factory in Gaste. An ACTIVE Centre was built between the previous design office and the main offices, and the founder's "White House" was integrated into the new building. This complex includes an exhibition hall enabling the permanent display of the AMAZONE range across an area of 1,100 m² as well as an additional 300 m² of office space for the export department.

The main factory in Gaste with its "White House" and new ActiveCentre, 2007

Tecklenburg-Leeden becomes a new factory location

In Tecklenburg-Leeden, approximately 4 km east of our main factory, we purchased a large site in able to expand our production capacity. This was the former site of the Lima factory, which had ceased operations five years previously. AMAZONE needed the new site for the assembly of AMAZONE *UX* trailed sprayers in order to alleviate the shortage of space at the main factory in Gaste. The hall area in Leeden initially totalled around 5,000 m². The town of Leeden was delighted that "new life" was being breathed into this industrial wasteland.

For further developments on the Tecklenburg-Leeden site » see pages 195 and 229.

Expansion of production capacity by utilising a new site in Tecklenburg-Leeden with 5,000 m² of hall space, 2007

Expansion at the Hude site

In Hude, we acquired the brickworks next to the former concrete factory, which had been shut down for years, and refurbished it for welding the bulky frames of our large seeders. A few years later, the brickworks was sold again as part of the relocation of production to the new facility in Hude-Altmoorhausen.

The acquisition of the former brickworks in Hude created more space to weld the bulky frames of the Cirrus and Citan seed drills, 2007

New sales subsidiary in France

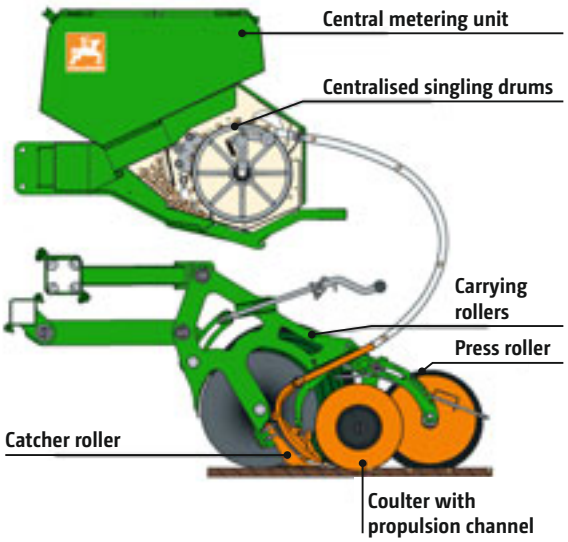
In Auneau, France, we acquired a 10 ha plot of land to build a new outlet with offices for administration, training and presentation rooms in an ActiveCentre, a huge spare parts warehouse and a workshop. The site complex covers a total of 4,000 m². A storage area for machinery, car parks for customers and employees as well as demonstration and trials areas are integrated into the surrounding area at the 20 ha site. Auneau is located near Chartres, the famous cathedral city, and at the same time in the centre of the "Grand Culture" region, the most important agricultural area in France.

The official opening of the new sales office then took place the following year. We have thus created the ideal conditions for even higher market shares in France.

Agritechnica 2007 with gold and silver medals for AMAZONE

The outstanding innovation of 2007 was the *EDX 9000-T* precision seeder with a working width of 9 metres and a completely redesigned grain singling and placement system called Xpress. As a special feature, this machine works with a central singling system for six sowing units at a time. The seed is transported at high speed through thin hoses using a pressurised system. This allows working speeds of up to 15 km/h yet maintains that high precision. Amazone was awarded a gold medal for this innovative machine at Agritechnica. Later, in 2009 and 2010, the EDX programme was expanded to include a trailed machine and three mounted machines, each with a 6 m working width.

EDX precision seeder with the new Xpress grain singling and placement system, Agritechnica Gold Medal 2007



Presentation of the two gold medals (from left):
Mr. Carl-Albrecht Bartmer (President of the DLG), Mr, Hans-Heinrich Ehlen (Minister of Agriculture of Lower Saxony), Mr. Christian and Dr. Justus Dreyer, Mr. Horst Seehofer (Federal Minister of Agriculture) and Dr. Marquering

In addition to the *EDX*, two other Amazone innovations were honoured with Agritechnica innovation medals. The Argus camera system for centrifugal fertiliser spreaders also received a gold medal.

With this system, the fertiliser spreader's spread fans are scanned without contact in order to automatically determine the optimum setting values for a perfect lateral distribution. The Pre-Mix spray agent tank for the *UX* crop protection sprayers was awarded a silver medal. With this innovation, the active ingredients are first premixed in a separate tank and then – only during application – is the final mixture mixed with fresh water.

Left:
Argus camera system, Agritechnica gold medal 2007

Right:
ZA-TS automatic spreader with Argus Twin, 2015

Other important new developments in 2007 were the trailed 3 and 4 metre wide *Catros* compact disc harrows and a 3-D tine system with its practical stone safety release for the Amazone Centaur and Cenius cultivators. We also presented the *Cirrus Activ* large area seed drill with integrated rotary cultivator for the first time.

Catros 3001-T trailed compact disc harrow, 2007

AMAZONE turns 125 years old

In 2008, Amazone once again experienced an exceptional increase in sales of over 30%. However, this year was also exceptional above all because of our 125th company anniversary. The celebrations took place from 6th – 10th March in the newly built and festively decorated ActiveCenter in Gaste. In glorious weather, together with our most important customers, we experienced a fantastic event that none of those involved will forget. Christian Wulff, then Minister President of Lower Saxony and later Federal President, gave the keynote speech.

Celebration of the company's 125th anniversary at the ActiveCenter, Gaste. The keynote speech was given by the father of Lower Saxony, Christian Wulff, 2008

A special Amazone Foundation was also established to mark the company's anniversary. The aim of this foundation is to promote science, research and teaching as well as training and further education in the fields of agriculture and agricultural engineering.

In addition to the 125th anniversary, a significant machine anniversary fell in 2008: "50 years of Amazone ZA fertiliser spreaders". Over 700,000 ZA's have been sold since 1958 – an impressive figure.

Ground-breaking ceremony for the new plant in Hude-Altmoorhausen, 2008

Factory and sales capacities further expanded

The acquisition of a large site in Hude-Altmoorhausen was an important step for the future development of Amazonen-Werke. The ground-breaking ceremony for the construction of initially two new halls for the assembly of Amazone large-area seed drills took place here on August 4th, 2008. Our aim was to concentrate the other activities from the Hude premises on this site in the long term.

We also continued to expand our other plants in 2008 and invested heavily in rationalising production. For example, new welding robots were purchased at our Forbach and Leipzig plants in order to improve production and reduce the workload on employees.

New welding robots at the Forbach and Leipzig plants, 2008

Extensive investments despite international economic crisis

The first production lines in Hude-Altmoorhausen

In 2009, the global economic situation was characterised by the international financial and economic crisis. As a result of huge, bad financial bonds in the USA and incorrect valuations by the three most important rating agencies, banks around the world got into difficulties. One of the largest banks in the USA has even gone bankrupt. As a result, financing for agricultural machinery had also fallen sharply or had to be abandoned. This was compounded by poor agricultural commodity prices and thus a strong reluctance to invest in agriculture. As a result, the previous year's record turnover of 310 million euros was reduced by over 25 % in 2009.

Therefore, 2009 was a very difficult year. For the economy as a whole and also for Amazone, it led to an enormous drop in sales, although we had actually expected a further increase in production and sales. But thanks to excellent management, we were able to adapt quickly to the new situation and reduce production. At the same time, Amazonen-Werke did not have any financial problems. We reduced our stocks accordingly and therefore did not need any loans.

The enormous investments we made in 2009, among other things, showed that the management remained optimistic about the future. Modern, high-performance automatic bar machines and a machining centre were purchased for Leipzig and Gaste. In Hude-Altmoorhausen, the first bays were put into operation, in Leipzig a social building was erected on top of the existing halls, and in Forbach the construction of an attractive administration building was started.

Two anniversaries in Hude/Oldenburg

Completion of the 50,000th rotary cultivator KG, 2009

To mark the 50th anniversary of our large subsidiary in Hude, we celebrated this important event. The factory employees and their partners were invited. There was a very good atmosphere and all participants agreed that the extensive Amazone family is and will remain a beloved part of Hude.

We were also proud of a second anniversary: 50,000 rotary cultivators and rotary harrows sold in just 30 years. The rotary cultivator in particular has contributed significantly to the good reputation of the Amazone name thanks to its convincing work on heavy soils and its enormous robustness. It is an example of how a development that has involved a great deal of effort can ultimately produce a great result.

Extension for the central spare parts warehouse

Opening of an extension to the central spare parts warehouse in Gaste, 2009

In Hasbergen-Gaste, we were able to put a 1,500 m² extension to the central parts warehouse into operation in 2009. This created space for 4,000 additional pallet cages. Our customer service department was also rehoused here, some of whom still work there today.

Since 2020, the entire spare parts department has been located in the Global Parts Centre at the Tecklenburg-Leeden site (» see page 229).

A successful 2009 Agritechnica

At Agritechnica 2009, Amazone once again received one gold and two silver medals for its innovations. The gold medal went to the CCI terminal. Silver went to the new LED individual nozzle lighting for crop protection sprayers and the smartControl automatic stripper finger control for the *EDX* precision seeder. During Agritechnica itself, the number of visitors and interest in our machines was very high across the board.

In addition to these award-winning ideas, we presented many other Amazone innovations at this exhibition. One of these innovations was the *Cayena* tine drill with a 6 m

Bottom left:
New tine coulter seed drill, the Cayena, 2009

Bottom right:
Agritechnica silver medal for LED individual nozzle lighting

The AMAZONE team at Agritechnica, 2009

working width, with which we wanted to open up new markets. It is a cost-effective, large-area seed drill for dry and stony conditions in regions with low yield potential – such as Spain, but also France and parts of Russia.

For the first time since the Amazone Foundation was established, the official presentation of the Amazone "Innovation Award" also took place during Agritechnica. This award will continue to be presented every two years to young talents from the agricultural engineering sector in recognition of their outstanding theses.

Upturn in sentiment after Agritechnica 2009

One of many innovations: the Condor tine coulter seed drill in up to 15 m working width

During Agritechnica 2009, it was already apparent that the mood of our customers was brightening again. This was partly due to the fact that prices for agricultural products were rising again. The newly-developed Amazone products, which were now available and had extended the overall range, also helped us a great deal.

New products in 2010 included the huge *DMC large seed drill* in a 12 metre version and the *Condor* large area tine coulter drill in working widths of up to 15 metres. The *ZA-M* fertiliser spreader was now also available in a cheaper version as the Amazone *ZA-M 1001 Special*.

Insight: The ‘FG 1’ management team in 2010

In 2010, the opportunity arose to gather our ‘FG1’ management team for a photo session. In addition to Christian and Dr Justus Dreyer, the fourth generation of AMAZONE managing directors, Ludger Braunsmann is responsible for business administration and purchasing. Dr Rainer Resch is Head of Development and Dr Stephan Evers is Head of Production.

Andreas Hemeyer is responsible for overall sales and customer service. The managing directors of the third generation, Prof. h.c. Dr Dr h.c. Heinz Dreyer and myself, Klaus Dreyer, continue to work for the company in an advisory capacity and fulfil a variety of special tasks.

The ‘FG1’ management team in 2010: from left to right on the machine: AMAZONE Managing Director Dr Justus Dreyer, Dr Stephan Evers (Production and Quality), Managing Director Christian Dreyer and Dr Rainer Resch (Research and Development). From left to right in front of the machine: Prof. h.c. Dr Dr h.c. Heinz Dreyer, Ludger Braunsmann (Business Administration and Purchasing), Andreas Hemeyer (Sales and Customer Service) and Klaus Dreyer.

Start of production for the new Pantera 4001 self-propelled sprayer

A very special event in 2010, and at the same time a milestone in the company's history, was the entry into producing self-propelled agricultural machinery! With the new *Pantera 4001*, Amazonen-Werke had now also taken complete responsibility for the design and build of its self-propelled sprayer. Previously, the base vehicle, previously known as the *SX 4000*, had been purchased from Agrifac in Holland and subsequently equipped with an Amazone sprayer.

First self-propelled agricultural machinery made by AMAZONE: the Pantera, 2010

From then on, the self-propelled sprayer was assembled at our factory in Tecklenburg-Leeden. The complete chassis is manufactured by our welding experts in Leipzig, along with the engine from Deutz and the driver cab from Claas. Our own experts have not only taken over the coordination, but have also developed an intelligent engine management system that allows the engine to run in an optimum speed range in all areas. This makes the Amazone *Pantera* one of the most modern self-propelled sprayers on the market.

First Profihopper 4WDi with intelligent all-wheel drive

At the Demopark 2010 exhibition, we were able to present an all-wheel drive version of our self-propelled mower/collector for the first time, the *Profihopper 4WDi* with intelligent all-wheel drive. Our customers from the groundcare sector immediately showed great interest in this new top-of-the-range model.

New Profihopper 4WDi with all-wheel drive, 2010

AMAZONE Ltd, Harworth

New showrooms in the UK and Russia

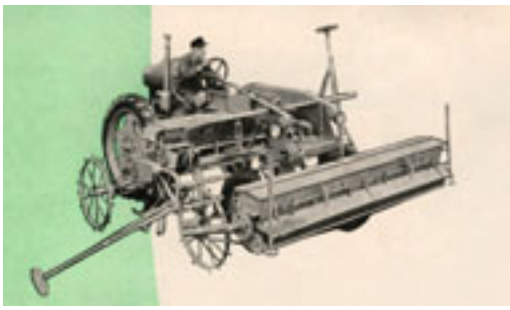
The opening of a new ActiveCentre took place at the premises of our UK sales subsidiary Amazone Ltd. Across 350 m² of covered space at the Harworth, South Yorks, site, with an adjacent café area, there is now plenty of room to present the Amazone range to visitors in a comfortable environment. In addition to the machine exhibition area, this ActiveCentre also offers state-of-the-art equipment for seminars, training courses and driver training.

At the Samara plant in Russia, we have also renovated and expanded a hall for the presentation of our machines. In addition, a cosy canteen with a modern kitchen has been set up here for employees and visitors. The plant in Samara is thus continuing to develop into a generally recognised location for Russian agricultural machinery.

The other factory museum on the Weitkamp farm

We had also set up a factory museum until 2022, in addition to our historical part of the ActiveCentre in Gaste. It was located on the Weitkamp farm in our neighbourhood in Gaste. The most important machines from the history of Amazonen-Werke were on display in the former farmyard, including a rare “Ruhrstahl tool carrier”, which was fully equipped with Amazone j22 machines. All the machines were moved to the new museum on the Wambergen experimental farm in 2022 (» see page 228).

Ruhrstahl tool carrier with AMAZONE seed drill and AMAZONE spreader



Entrance to the AMAZONE Museum Hof Weitkamp

Insight: typical AMAZONE – the logo and the colour green-orange

The Amazonen-Werke logo and the green-orange colours are an important recognition feature in the company's external image. Like the name Amazone, the logo also harks back to the early founding years. For example, after my grandfather Heinrich Dreyer had received the highest award for his grain cleaning and sorting machine at an agricultural machinery exhibition in Bremen, he was advised by a friend to name this machine "Amazone". This would mean "heroine" and would enable him to effectively counter the competition. According to Greek myths, the legendary Amazons are considered to be daring fighters.

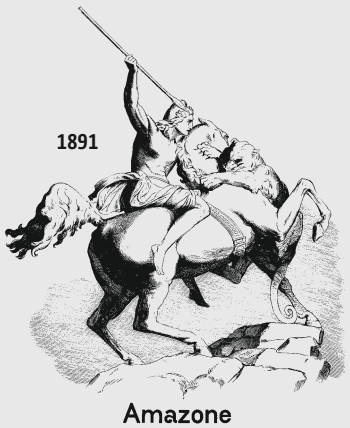
Heinrich Dreyer then found out that there was a huge equestrian statue of an Amazone in front of the Altes Museum in Berlin, which had been completed by the artist August Kiß in 1842. He liked this sculpture, which now stands in front of the Altes Museum again and looks out over the newly built palace in Berlin, so he chose the Amazone as his brand name and had it protected as a trademark.

This image of the Amazone was initially emblazoned on Heinrich Dreyer's first brochure in huge size. Over time, it became smaller and was inserted into a frame. When graphic designers later took over the design of the brochures, the love for the fighting horsewoman was initially lost and a new symbol was created: An A for Amazone and a G for Gaste, the whole framed by two

The Amazone fights on the cathedral side of the steps at the Altes Museum in Berlin. Digital reconstruction: © Förderverein Berliner Schloss/eldaco, Berlin

ears of wheat. For a time, no symbol was used at all. Until 1938, when a new graphic artist took up the depiction of the Amazone on the horse again, stylising the Amazone and combining it with a capital A.

Initially, this new logo was placed in a circle and then used as a free-standing logo and further modified. It was only after my cousin Dr Heinz Dreyer and I, Klaus Dreyer, had taken over the management of Amazone as the third generation, that we decided to make the company logo permanently uniform. This is how the Amazone figurative mark was created in 1965 – in principle as it is still used today. Since then, it has symbolised the tradition and fighting power of Amazonen-Werke. Over the years, the logo has only been subtly changed and the colour adapted so that it fits in very well with today's corporate colours of green and orange.




1933


1938


1938


1942


1950/1951


1954/1956

1962

1965

today

Green-orange symbolises reliability and friendship

The green-orange colour combination also has a special history. The Amazone machines have been green since time immemorial. However, it was no ordinary green, but rather the green of spring, the warm green of well-fed, healthy plants. This colour does not correspond to an ordinary RAL shade, but is mixed especially for Amazone. In 1958, the first twin disc fertiliser spreaders from Amazone appeared with the traditional Amazone green and a modern, warm rapeseed yellow as a second and corresponding colour. This new yellow colour was then also used for the shares and calibration trays on our seed drills.

In 1970, the suggestion was made to replace the rapeseed yellow with orange. The reason given was that dirt and damage would not be so clearly visible on the orange colour. Using a sample machine, we quickly

ZA-V 2000 Profis Tronic fertiliser spreader equipped with SafetySet for better visibility and more safety. AMAZONE has integrated the strict safety requirements into the modern green-orange coloured design.

realised that this new colour combination not only had practical but also aesthetic advantages. So it was decided to change the colours of all Amazone machines to green-orange.

The colour combination is based on the following philosophy: the Amazone green radiates solidity and trust and the orange stands for warmth, friendship and partnership. Although these sentiments predominantly work subconsciously, they perfectly reflect the good relationship between Amazone and its customers. With the colours green and orange, Amazone machines symbolise reliability and friendship.

Rattling is part of the trade – AMAZONEN-WERKE advertising

In addition to the logo and the green-orange colours, the image of Amazone is an important recognition feature in Amazonen-Werke advertising. Advertising is important to remind farmers, contractors and dealers that Amazone builds particularly good and high-capacity machines. This is done by means of brochures, participation in all major shows around the world and adverts in trade journals.

An Amazone from 2010: our employee Vesna Klimoska

On the one hand, we work hard to maximise the impact of our Amazone advertising. But we also attach great importance to providing truthful information with our adverts. Each advert contains a short but interesting statement. This is intended to encourage the reader to request more detailed information about the subject advertised. The image of the Amazone always helps us to ensure that these adverts are eye-catching and leave a positive impression on the viewer. In many adverts, for example, we show real Amazons, who on the one hand appear very likeable, but – equipped with bow and arrow – are also reminiscent of the fierce Amazone and thus of the meaning of our name.

Left:
Semi-trailer with AMAZONE branding "I am an AMAZONE trailer", 2010

Below:
Show trailer for exhibitions and field days, 2012

Advertising is important

In 2010, for the first time, we also provided the semi-trailers used to deliver our products to customers or transport parts between our factories with attractive advertising. In this way, we can also draw attention to the excellent Amazone agricultural machinery on the German roads.

Economy back at full speed

In 2011, the general mood in the agricultural sector was very positive, with the agricultural machinery economy in Germany and abroad running at full speed. As a result, turnover at the Amazonen-Werke factories also rose sharply again. At 335 million euros, sales were up on the previous year and at the same time topped the previous record result from 2008 (310 million euros). This made up for the setback of 2009.

Production of the hydraulic cylinders has moved to the upper floor of the sprayer hall, 2011

Further substantial investments are being made

Amazone has again made extensive investments at all its sites, e.g. in steel blasting systems and welding robots for the Leipzig plant and larger automatic lathes for Gaste.

A park with benches and seating areas for guests and employees was also created in Gaste, as well as a number of new car parks. Our in-house production of hydraulic cylinders also moved into its own small "factory" on the upper floor of the sprayer hall. Over 100,000 hydraulic cylinders are now produced here every year.

At the Hude-Altmoorhausen site, Amazone has completed two further new buildings totalling almost 5,000 m² of floor space, thus doubling the capacity at this site. In addition, 10,000 m² of outdoor area was paved and a new stone test track for rotary cultivators/ harrows was built.

Another five medals for AMAZONE

At Agritechnica 2011, the world's largest agricultural machinery exhibition, we once again won five (!) silver medals for our advanced developments:

- WindControl, a software for the AMAPAD to compensate for the influence of wind when using centrifugal fertiliser spreaders (according to Prof. Dr. Karl Wild, HTW Dresden)
- HeadlandControl, a software for the AMAPAD for optimised fertiliser spreader in the border areas of the fields
- AcuraSpray with SmartRefill and WorkToZero – a terminal software for use with crop protection sprayers
- BoomWash, the first remote-controlled external cleaning system for the spray boom of a crop protection sprayer from the cab
- TONI (Telematics on Implement, together with Claas Agrosystems and other partners)

The new AMAZONE flagship crop protection sprayer: the UX 11200 with a nominal volume of 11,200 litres, 2011

Amazone has thus once again confirmed its position as one of the most innovative agricultural machinery manufacturers.

In addition to numerous other innovations, we were able to present the AmaSelect single nozzle control for our crop protection sprayer to trade fair visitors for the first time. The new Amazone *UX 11200* sprayer with tandem axle and 11,200 litres actual volume was also one of the special innovations of 2011.

Left:
Hude-Altmoorhausen plant site, 2012

Right:
The new powder coating plant at the Leipzig site, 2012

Factories expanded still further

Continuing the success of the previous year, AMAZONE's annual sales reached another record high in 2012. We have also invested heavily again this year. In Hude-Altmoorhausen, for example, we were able to celebrate the topping-out ceremony for three further new bays with a total floor area of 7,200 m² in July. The new halls created the space so as we could relocate the entire seed drill assembly to Altmoorhausen.

A new warehouse with high-bay racking and a new powder coating facility were built at the Leipzig plant, where the Leipzig products are electrostatically sprayed to a very high standard. We have also significantly expanded production capacity at GAG Eurotechnik in Samara.

Two new assembly halls in Tecklenburg-Leeden

AMAZONE has increased its production capacity at the Tecklenburg-Leeden site by 60 %. Two new assembly halls created the urgently needed space for the assembly of the Pantera self-propelled sprayer and the production of the *UX 11200* tandem trailed sprayer and the *DMC Primera* large-area seed drill. At the same time, the office area was expanded to 600 m². This was followed at the end of 2012 by the completion of another new hall, which increased our wet testing capacity. With the additional halls, our factory in Leeden has also grown to an impressive size.

Sprayer assembly at the Leeden factory, 2012

Aerial view of the Leeden factory, 2014

5,000 guests at Amatechnica 2012

On May, 10th 2012, another "Amatechnica" took place on the area around the main factory in Gaste. Amatechnica is our so-called in-house exhibition for farmers, contractors and sales partners, which we organised for the first time in 2005. In 2012, around 5,000 visitors from all over the world attended Amatechnica to find out more about our technology. So the interest was huge.

On an area of around 10 hectares to the north of the Gaste factory, we presented the complete Amazone machinery range to our guests in the best weather, many even in practical operation. In addition to the demonstrations, visitors to the Gaste ACTIVE CENTRE were able to listen to technical presentations, take part in factory tours or get involved in one of the numerous other events on the programme, so that everyone got their money's worth. Finally, there was ample opportunity for personal discussions during the evening get-together in the heated marquee.

On the Saturday after Amatechnica, our main factory opened its doors to our employees and their families for Family Day. Many employees took the opportunity to show their relatives their workplace and the production processes during factory tours. The machine demonstrations also proved to be a special attraction on Family Day. A painting competition, bouncy castle and a "bag-filling rally" kept the youngsters entertained.

In-house exhibition 'AMATECHNICA' with 5,000 visitors in Gaste, 2012

At an international press conference in Leipzig, Dr Justus Dreyer presents the new AMAZONE Cayron plough, 2013

Premiere of the new Cayron reversible plough

In 2013, Amazonen-Werke started to build the new *Cayron* mounted reversible plough as a very important step in expanding the overall range. An experienced design team was hired in order to develop Amazone's own concept.

Numerous patents have now been applied for from this new department. In this field, too, Amazone will develop advanced technologies that rightly bear the Amazone name. The *Cayron* is manufactured at our plant in Leipzig – where the first plough made entirely of metal was invented by Rudolf Sack exactly 150 years ago. For this new role, Amazone has built a large hall in Leipzig in which, in addition to the assembly of the *Cayron*, the plough parts to be hardened are "heat treated". The necessary ovens and a heavy press were purchased for this purpose.

The new plough is of great strategic importance because Amazone now also offers technology for inversion soil tillage and therefore has a complete range for professional crop production. In August 2013, we presented the *Cayron* for the first time at a major international press conference in Leipzig and at special sales partner days in accordance with its great importance.

Bottom left:
Press conference with a well-filled, covered grandstand

Bottom right:
The press conference was rounded off by an interesting support programme and an evening event at the historic Stadtbad in Leipzig

The new Pantera 4502, 2013

Product offensive at Agritechnica 2013

Cirrus 6003-2

At Agritechnica 2013 in Hanover, we were then able to present our new *"Cayron"* plough to the general public; interest was immediately very high. Other important Amazone innovations included the redesigned *"Pantera 4502"* self-propelled sprayer with 4,800 litres actual volume, for which Amazone later received a "Design Award". Amazone also launched a product offensive in the cultivator and large-area seed drill sectors in 2014 with the new *Cenius TX* cultivator series with working widths of up to 7 metres and the *Cirrus 03* seed drills.

New ZA-TS fertiliser spreader with working widths up to 54 m

At the beginning of 2013, Amazone presented the new *ZA-TS* fertiliser spreader at the Sima 2013 agricultural machinery show in Paris. With the *ZA-TS*, a completely new generation of spreaders was launched – a truly premium machine with a maximum working width of 54 m, the highest level of technical equipment, ISOBUS control and a disc-integrated border spreading system called AutoTS. With this high-output spreader, which represents the 7th generation of Amazone twin disc fertiliser spreaders, Amazone has once again set new standards.

The new ZA-TS, a premium machine with ISOBUS control, 2013

1 million AMAZONE fertiliser spreaders sold

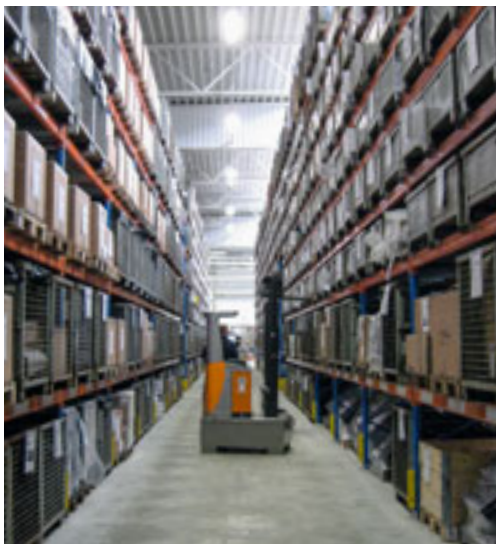
The 'Michel' auger spreader had working widths of 1.5 to 4 m; today the spreader range offers working widths of up to 54 m

2013 was also the year of various anniversaries. Not only did our subsidiary BBG Bodenbearbeitungsgeräte Leipzig turn 150 years old. There were also the anniversaries of "130 years of Amazone", "30 years of Amazone Ltd. in Harworth/England" and "1 million Amazone fertiliser spreaders sold". We are particularly proud of the fertiliser spreader anniversary, which includes the *"Michel"* auger spreader invented by Amazone founder Heinrich Dreyer and the *ZA* spreaders: With over 250,000 auger spreaders, almost 750,000 *ZA* fertiliser spreaders and other spreader types, Amazone has actually cracked the million mark in this year.

Investments remain at record level

Just as Amazone was able to achieve another sales record of 440 million euros in 2013, investments also continued at a record level. One of the largest projects was a 3,000 m² extension for a new logistics centre at the Tecklenburg-Leeden plant. Since then, this centre has also housed the shipping department at this location. A total of 100 employees now work at the Tecklenburg-Leeden factory.

The new logistics centre at the Tecklenburg-Leeden site, 2013



At the topping-out ceremony in 2013 (from left to right): **AMAZONE Managing Director Christian Dreyer, Federal Minister Prof. Dr Johanna Wanka, Member of the Bundestag Dr Mathias Middelberg and Prof. h.c. Dr Dr h.c. Heinz Dreyer**

A new technology centre with 100 workplaces for Amazone engineers and technicians is being built in Hasbergen-Gaste. In addition to many guests from the fields of research, universities and politics, we were also able to welcome our Federal Minister of Education and Research, Prof Dr Johanna Wanka, to the topping-out ceremony at the beginning of September.

In addition, a new 570 space employee car park was built on an area of 1.75 hectares in Hasbergen-Gaste. In Leipzig, we invested in a new hall for plough production.

Global politics is slowing down growth

The year 2014 was characterised by international crises. Russia annexed Crimea, for example, and armed conflicts broke out between the Ukrainian army and pro-Russian separatists in eastern Ukraine. As a result, Western countries have imposed sanctions against Russia. Russia then blocked the import of foodstuffs. This resulted in a fall in prices for all agricultural produce, particularly in European countries, which led to agricultural businesses being very reluctant to invest. Amazonen-Werke also felt the effects of this development with a drop in sales of around 10 %.

In line with these sales developments, Amazone reduced production, but at the same time continued to optimistically realise its plans for the future. So the decision was taken to start the planning work for a very sophisticated paint shop at the Amazone factory in Hude-Altmoorhausen. At the same time, the plant was further expanded and the entire seed drill assembly, including that of the classic D9, was relocated to Altmoorhausen. The dispatch department has also moved from the Hude plant to the new production facility in Altmoorhausen.

Members of the AMAZONE management, the architect and the project management team at the official opening of the technology centre, 2014

New technology centre for research and development opened

The official opening of the new technology centre took place in Hasbergen-Gaste. In this beautiful building, 120 modern office workplaces have been created for the employees of the Research & Development department, Product Management and IT specialists. The new building is an optimal solution to accommodate the increase in personnel in these areas.

In addition, a new combined heat and power plant (CHP) with an electrical output of 250 KW and a thermal output of 290 KW has gone into operation in Gaste. With an efficiency of over 90 %, the energy efficiency of this plant is very high and therefore also makes an important contribution to climate protection.

The new technology centre with 120 workstations in Hasbergen-Gaste, 2014

1,032 ha in 24 hours – the record-breaking UX 11200 sprayer, 2014

Right:
the world record team from AMAZONE Sales Promotion, 2014

AMAZONE world record in plant protection: 1,032 hectares in 24 hours

The Amazone world record in plant protection was a particularly popular highlight. Our sales promotion team achieved a total output of 1,032 ha sprayed in 24 hours with a *UX 11200* crop protection sprayer. With an average hourly output of 43 ha, the machine set a new record in the performance of modern plant protection machinery.

Well attended Amatechnica 2014

The Amatechnica in Hasbergen-Gaste in May 2014 was once again very well attended. Over the course of the day, around 5,500 farmers, contractors and sales partners came to find out about the latest Amazone agricultural machinery. The 12 ha event site offered the guests, including over 1,000 from neighbouring countries, a varied programme.

In-house exhibition "AMATECHNICA" with 5,500 visitors in Gaste, 2014

The new Cayron reversible plough in use at AMATECHNICA, 2014

With a mix of ring presentations and practical demonstrations, visitors were once again able to see all the AMAZONE Agritechnica innovations in action. The new Cayron, the first reversible plough from AMAZONE's own production, attracted a lot of attention. Between the demonstrations, the programme shifted to the AMAZONE ActiveCenter and the 1,500 m² event tent.

AMAZONE becomes a partner of Welthungerhilfe

A few weeks after Amatechnica – in June 2014 – the AMAZONE Group made its first official donation to the German Welthungerhilfe organisation. The basis for the donation was the raffle of a gold-coloured ZA-M fertiliser spreader among the visitors to the AMAZONE Amatechnica in-house exhibition. The sale of the raffle tickets, including a top-up from the AMAZONE Group, resulted in a donation of 10,000 euros. Welthungerhilfe used the donation for the AMAZONE project "Sustainable integrated agriculture" in India. This project was supported by AMAZONE as the exclusive corporate partner with a total of 105,000 euros over the project's entire duration until the end of 2017. In addition, our apprentices developed agricultural equipment, which they also used themselves in India.

At the donation handover (from left): Vera Schernus and Helene Mutschler from Deutsche Welthungerhilfe, René Hüggelmeier, Bettina Dreyer and Christian Dreyer

From the left:
ZA-M, ZA and ZA-TS fertiliser spreaders

750,000 ZA fertiliser spreaders sold

750.000 ZA

The fertiliser spreader anniversary of the previous year was followed by the 750,000th *ZA* fertiliser spreader sold in 2014. Three quarters of a million is an impressive figure that few other agricultural machines have achieved. Yet the principle developed by Prof. h.c. Dr Dr h.c. Heinz Dreyer for the first *ZA* from 1958 has been retained to this day across all successive series: a twin hopper with two spreading discs driven in opposite directions but at a constant speed, which produce a spread pattern of equal precision mirrored to the left and right of the direction of travel. This basic principle was so successful that all other manufacturers "adopted" it over the years.

The new Pantera 4502-H with height adjustment, 2014

New Pantera-H with 1.7 m ground clearance

Among the new machines presented in 2014, the *Pantera 4502-H* is particularly noteworthy. It is equipped with hydraulic height adjustment. At the touch of a button on the on-board computer, the driver can raise the entire machine to a ground clearance of up to 1.7 metres. When the machine is in the raised position, its track width can also be adjusted between 2.1 and 2.6 metres. This means that the *Pantera 4502-H* is very stable despite its higher centre of gravity and can also be used flexibly for plant protection in a wide variety of crops and track widths, even in tall maize or sunflowers.

SIMA 2015

2015 comes with a bonanza of innovations

The 2015 agricultural machinery year began in February with the SIMA show in Paris. Once again we presented numerous new products at France's largest agricultural exhibition. The most important of these were the *ZA-V* fertiliser spreader, the *AD-P Special* seed drill with electric metering, the 3rd generation *ED* precision air seeder and the *Certos TX* heavy compact disc harrow series. The *Certos TX* is a completely new model with which we have further rounded off the top end of the AMAZONE compact disc harrow range. Special features of the *Certos TX* include an integrated centre running gear and serrated discs with a particularly large diameter of 660 mm.

ZA-V fertiliser spreader

Trailed Certos 5001-2TX with central running gear

AGRITECHNICA 2015

Several awards again at Agritechnica

The second major agricultural machinery event was the Agritechnica exhibition in Hanover. On the 2,500 m² stand in Hall 9, the crowds of farmers and contractors were bigger than ever before. We were there with around 150 employees to answer visitors' questions about the more than 60 machines and processes on display, including around 30 new products.

In the run-up to the show, the Innovations Commission had already awarded Amazonen-Werke three silver medals for innovation – a further confirmation that Amazone is one of the most innovative companies in the agricultural machinery sector.

Medal No. 1 went to EasyCheck (» see page 129), the first digital, mobile test kit for determining the lateral distribution of centrifugal fertiliser spreaders. The second medal went to AmaSpot, a sensor-controlled individual nozzle control with low-drift injector nozzle technology. With AmaSpot, farmers and contractors can dispense with total herbicide applications over the entire area for plant protection and only treat the areas where weeds or volunteer cereals are actually growing. GPS-Switch with AutoPoint received the third medal. This innovation, which also includes a driver assistance system, automatically switches the metering system of pneumatic seed drills on and off very precisely at the headland. This reliably prevents overlaps and sowing windows and further increases the efficiency of seed application.

We received another award during the show. The *ZA-TS* fertiliser spreader with Argus Twin was voted "Machine of the Year 2016" by the agricultural machinery editors of Deutscher Landwirtschaftsverlag and their international partners.

We also received very positive ratings in an online survey conducted by the internet portal "agrarheute.com". "Which manufacturer had the best stand at the Agritechnica agricultural machinery show" – the portal asked its users this question in a large online survey. In the overall assessment, the AMAZONE stand took an excellent third place behind Fendt and John Deere. We were even able to secure first place in the important sub-category "Best advice". In addition to the exhibition machines, informative functional models, videos and information boards, the friendly and competent advice provided by the AMAZONE stand team obviously also contributed to this excellent result. We were delighted and proud that the visitors to the AMAZONE stand felt comfortable and very well advised.

MASCHINE
DES JAHRES 2016

First AMAZONE subsidiary in China

We have taken a particularly big step in the expansion of our sales activities – into China. In August we opened an AMAZONE sales operation in the city of Tianjin, about an hour and a half's drive from Beijing. The outlet serves primarily as a sales and service centre and also offers the possibility of assembling AMAZONE machines directly on site. Starting from the subsidiary, an effective sales organisation and a nationwide dealer network are now to be established in order to intensively develop the future market of China. In the medium term, we want to achieve a sales volume in the double-digit million range in China.

Official opening of the new subsidiary in China with Dr Justus Dreyer and Andreas Hemeyer, 2015

The spacious industrial area for the new factory in Bramsche

2016: the year of very special events – not just for AMAZONE, but for the whole world

The trouble spots of this world, such as the war in Syria, Iraq and Afghanistan as well as the emergency areas in Africa, have driven hundreds of thousands of refugees into our country, earthquakes have caused major damage in Italy, the American people have surprisingly elected Donald Trump as the next president and, finally, the United Kingdom has decided in favour of Brexit, i.e. leaving the European Union. The whole world is curious to see what consequences this will have.

An important strategic step: new site in Bramsche

But 2016 was also a year with many important events for Amazone. The management decided to create a new additional site. The rapid development of recent years has prompted us to create space for further development of the company. The space available at the existing production plants no longer allows for expansion in the long term. We were helped by the fact that not far from Gaste, in Bramsche, a large site had been developed as an industrial estate. We finally came to an agreement with the local Council and bought a 24 ha site here. For Amazone, the purchase of the site is an important strategic step in order to be able to continue to grow in the future. Depending on economic developments, Amazone will build a new site here in Bramsche and in addition to our plants in Gaste and Leeden. We plan to start building the first halls as early as next year in order to create space in the other plants.

Photo session for the handover of the property, 2016

Slight increase in sales in 2016

AMAZONE Managing Directors Christian Dreyer and Dr Justus Dreyer, 2016

In the 2016 financial year, the AMAZONE Group achieved a turnover of 406 million euros. Compared to the previous year (402 million euros), the sales result improved slightly. At the same time, this result was above the average for all German agricultural machinery manufacturers, which recorded a 2 % drop in turnover in 2016 according to the VDMA.

Sales in Russia, Ukraine, Romania, Spain, the Baltic states and Australia performed above average in 2016. The markets in Germany and Austria as well as France and the UK remained at a good sales level.

Exports again accounted for 80 % of sales in 2016, while the number of permanent employees totalled 1,800, including 130 trainees. Expenditure on research and development also continued to amount to more than 5 % of the sales volume.

New test centre in Hasbergen-Gaste

At the Hasbergen-Gaste site, AMAZONE has invested around 2 million euros in buildings and equipment for a new test centre, thereby significantly expanding the capacity of the test and development area at this site. The official opening of the new building, which includes a 2,400 m² hall for prototype construction and test facilities as well as a 600 m² office wing with electronics laboratories and social rooms, took place in December. Together with the Technology Centre, which opened in 2014 and is located just a few metres away and houses the offices of the development engineers, the test centre forms a single unit. This gives us completely new opportunities to make our research and development even more effective and so more intensive it.

In Hasbergen-Gaste, the technology centre (left) and the test centre (right) now form a single unit.

AMAZONE buys the plough production from Vogel & Noot

A great opportunity arose when we learnt that a competitor on the international market, Vogel & Noot, a 150-year-old company with a long tradition, had filed for insolvency and was being offered for sale. Our management, the so-called FG 1, saw, in the purchase, not only the opportunity to acquire a complete and renowned plough programme, but also a modern heat treatment process in the ©*plus* hardening process. So we submitted an offer and were very lucky to be able to buy the Vogel & Noot plough factory in Mosonmagyaróvár, Hungary, which was not insolvent, on favourable terms on 19 September 2016. We were also lucky that Mr Wilken, a skilled design engineer from our plough department, was willing to go to Mosonmagyaróvár and take over the management, and that the experienced previous plant manager, Mr Peintinger, and the most important employees stayed on board.

The Vogel & Noot plough factory in the Mosonmagyaróvár industrial park, Hungary, 2016

The purchase took place in October, although operations had already been practically at a standstill for several weeks. Despite this, we managed to restart production within a few weeks, so that the first ploughs manufactured there were already available for training in Gaste on 21st November. We were also able to present the new ploughs to our customers at the end of November at the Agromek agricultural machinery show in Denmark and Agraria Wels in Austria. Quite an achievement!

Compared to these "highlights", the other events of this year are somewhat overshadowed. But they are also of great importance. For example, visitors to the "Amatechnica"

The team in Mosonmagyaróvár is proud of the first AMAZONE ploughs, Hungary, 2016

'AMATECHNICA' on June, 2nd 2016 attracted more than 6,000 visitors from over 29 different countries to Gaste

in-house exhibition were treated to an exhibition of 65 machines and a ring demonstration of 31 machines. A special highlight was the 12 metre wide *Catros+ 12003-2TS*, which can be folded hydraulically from the tractor cab to a transport width of 3 metres in a short time. We had set up a 1,750 square metre tent to provide our guests with food and drink.

Catros+ 12003-2TS

AMAZONE introduces new Cayros mounted reversible ploughs

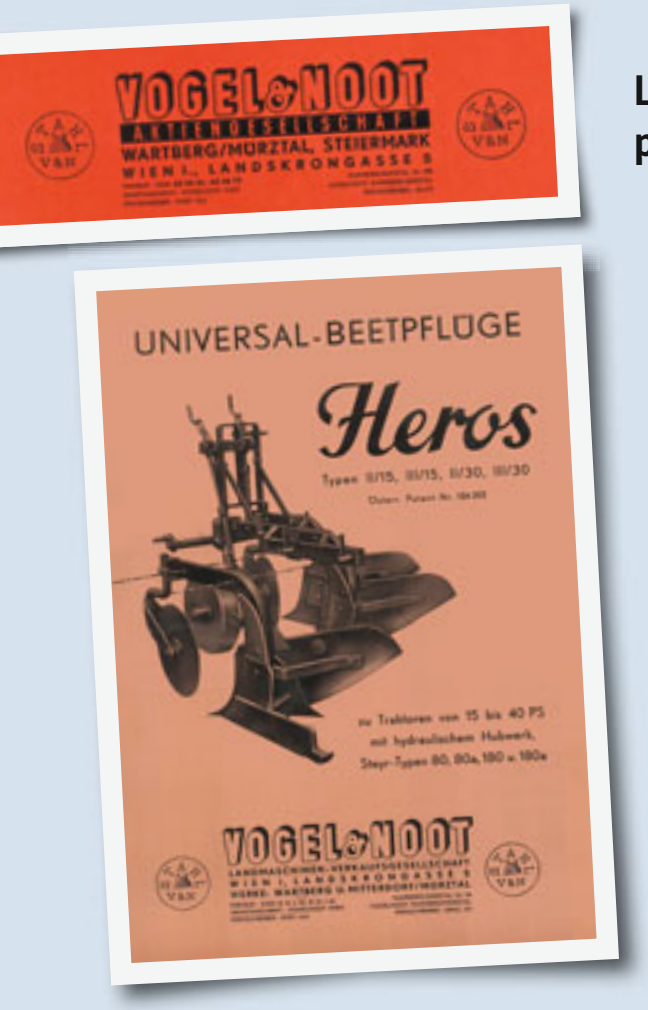
With the takeover of the Vogel & Noot plough range, Amazone further expanded its range of ploughs. In addition to the previous *Cayron* series, the new *Cayros* mounted reversible ploughs now added five further series of mounted reversible ploughs in various sizes and designs to the range.

Cayros XMS mounted reversible plough, 4 furrow

The smallest *Cayros M* series comprises 3 to 4 furrow ploughs for tractors up to 120 hp. The next series, *Cayros XM* (3 to 4 furrow), *XMS* (3 to 5 furrow) and *XS* (4 to 6 furrow) for tractors up to 140 hp and 200 and 260 hp respectively, offer increasingly powerful components. The *Cayros XS pro* ploughs form the top end of the range. This series includes three variants with 4 to 6 furrows for tractors up to 380 hp. They are designed as high-performance ploughs for larger farms and inter-farm use.

One of the special quality features of *Cayros* ploughs is the heat treatment with the *©plus* hardening process for the mouldboards. This heat treatment results in a longer service life, high impact resistance, lower tractive force requirements and reduced fuel consumption.

©plus hardening process



Brochure title "Heros universal beet ploughs", 1956

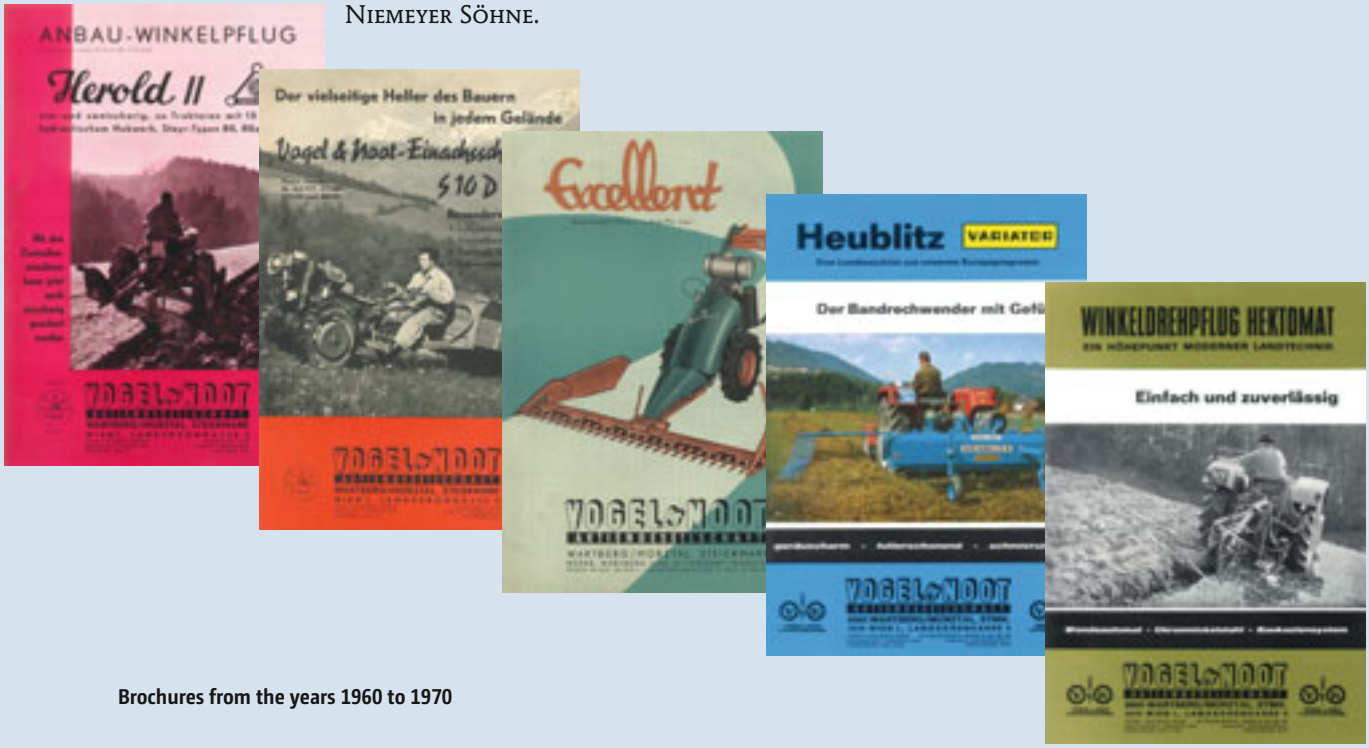
Looking back: The history of Vogel & Noot public limited company

Friedrich Vogel, Hugo Noot and Hermann Rührlein founded their company in Wartberg/Mürztal in Austria in 1872. Their first products were spades and shovels. Complete ploughs were manufactured from 1922. After the Second World War in 1950, Vogel & Noot designed and manufactured Austria's first motor mower. Around 80,000 of these machines were produced.

Over the next few years, the company expanded its production programme to include single-axle tractors, hillside ploughs, belt feed rakes and the "Heublitz". This is still associated with Vogel & Noot throughout Europe today. The company introduced vineyard maintenance equipment in 1963 and the "Tornado" fertiliser spreader 5 years later.

Until the 1970s, the company's turnover was primarily dominated by the plate rolling mill: however, the agricultural machinery division achieved considerable export success. The main markets were Yugoslavia, Italy, France, Switzerland, Great Britain, Germany, Ireland, Spain, Scandinavia, Japan and the USA.

In 1973, Vogel & Noot took over the plough factory KMF (Kärntner Maschinenfabriken). As there was no room for expansion in Wartberg, the company built a new, modern factory in Hungary in 1993, where it manufactured the ploughs. By 1994, Vogel & Noot was the second largest plough manufacturer in the world, producing 4,300 ploughs per year. in 1998, the company acquired a majority stake in the Riesenbeck-based company H. Niemeyer Söhne.



Brochures from the years 1960 to 1970

Left:
Brochure "Permanit semi-automatic stone safety release reversible ploughs", 1986

Right:
Brochure "Zett-Blitz", 1986

From 2001, Vogel & Noot, which was active in several areas, was confronted with losses. The company first divested itself of the "Warming Technology" division and later of "Technology and Packaging". Thanks to new investments in 2004 and unexpected demand in key countries in 2007, the Vogel & Noot Group achieved its best result to date in all divisions.

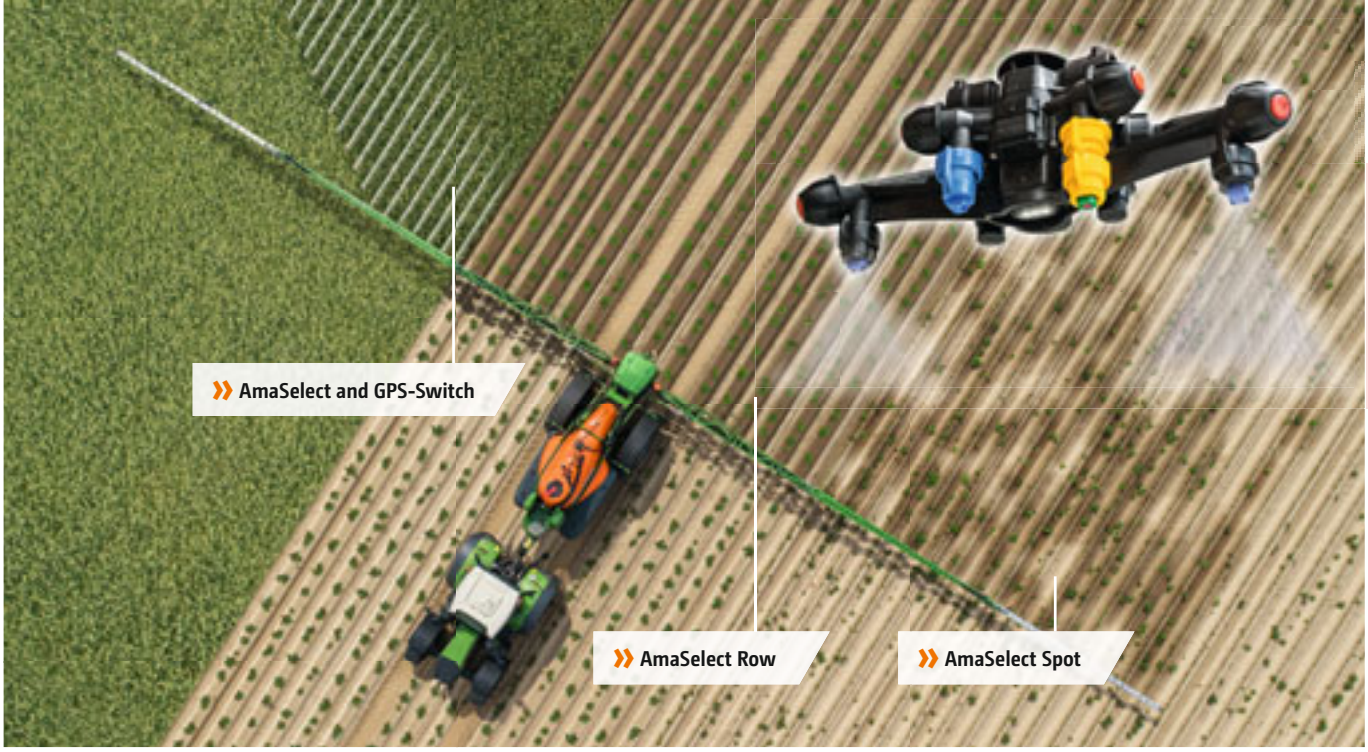
In 2007, the company took over the Slovakian company Agrofinal/Mistral in the seed drill sector. This company was closed in 2010 and production was relocated to Mosonmagyaróvár/Hungary. In 2008, construction began on a new production facility in Törökszentmiklos and the crop protection division of Holder was taken over.

The first storm clouds appeared on the horizon at the beginning of 2015. Insolvency proceedings were averted thanks to funds from the owner CTP/Agromas. then in 2016, after 144 years, the company came to an end.

The site in Mosonmagyaróvár/Hungary and the plough production was taken over by Amazone. The Törökszentmiklós site was taken over by Präzi-Flachstahl and the Wartberg site was taken over by Beyne.

Left:
Brochure "VN-Euromat Permanit 3S", 1990

Right:
Brochure "©plus mounted reversible ploughs", 2008



Plant protection today, 2021: The AmaSelect electric single nozzle control system significantly reduces overlap during application

AmaSelect: A new era for plant protection technology – saving plant protection products with 50 cm part-width sections

Amazone offers the *AmaSelect* electric single nozzle control with 50 cm part-width sections for the *UX* trailed sprayers and the *Pantera* self-propelled sprayer. In combination with the automatic headland and part-width section control *GPS-Switch*, which on its own enables chemical savings of around 5 %, the *AmaSelect* single nozzle control can further reduce the overlaps during application. Compared to conventional part-width section control, this leads to additional chemical savings of 5 % on average, depending on the field size and shape, working width and number of part-width sections.

The key innovation of *AmaSelect* is the 4-fold nozzle holder with electrical switching on and off of the nozzles. The individual nozzles are usually switched in 50 cm part-width sections using *GPS-Switch*. In addition, if a nozzle leaves its optimum pressure range, *AmaSelect* can automatically switch to a smaller or larger nozzle or even add in a second nozzle.

As standard equipment, *AmaSelect* includes LED individual nozzle lighting and the *DUS pro* high-pressure circulation system.

Optimised application rate during cornering with AmaSelect CurveControl

If required, any number of part-width sections can also be freely configured with any number of nozzles. This allows the nozzle quantity to be optimally adapted to different working widths.

An offset kit is also available as an option so that *AmaSelect* can also be used with a genuine 25 cm nozzle spacing. This allows the target area distance to be reduced to less than 50 cm.

New Cataya gravity seed drill combination

We have also once again made important progress in the further development of new Amazone machinery, for example, with the *Cataya* gravity seed drill combination, whose public première also took place at Agromek and Agraria Wels. The *Cataya* is of a new design equipped with ISOBUS control, which opens many important doors in seed drill technology. Depending on the customer requirements, we can equip this machine with either our proven *RoTeC* single disc coulters or with the newly developed *TwinTeC* double disc coulters. We also offer this option for the 6 metre cultivator drills, the *Cirrus 6003-2* and *6003-2C*, which were also launched in this year. The new Cataya seed drill combination was even honoured as "Machine of the Year" by a jury of European agricultural technology journalists at the SIMA 2017 agricultural machinery show.

The new Cataya drill combination in use

Top supplier in the soil tillage sector

For soil tillage, we have launched the *Catros Special* as a new series of mounted compact disc harrows and the semi-mounted *Catros+ TX* compact disc harrows in 7, 8 and 9 m working widths and with central running gear. Overall, Amazone has become a top supplier in the soil tillage sector in 2016 with its compact disc harrows, cultivators, rotary harrows and rotary cultivators and, above all, thanks to the greatly expanded plough range.

Catros+ 3003 Special

Gold and silver medals at the Agrosalon

At the most important Russian agricultural machinery show, Agrosalon in October 2016, we were once again recognised for our innovations. Our intelligent *AmaSpot* sensor nozzle system for site-specific plant protection was honoured with a gold medal. We received a silver medal each for the *Primera DMC 12001-2C* seed drill and the *Catros+ 12003-2TS* compact disc harrow. This is further confirmation that we are one of the most innovative manufacturers in our industry.

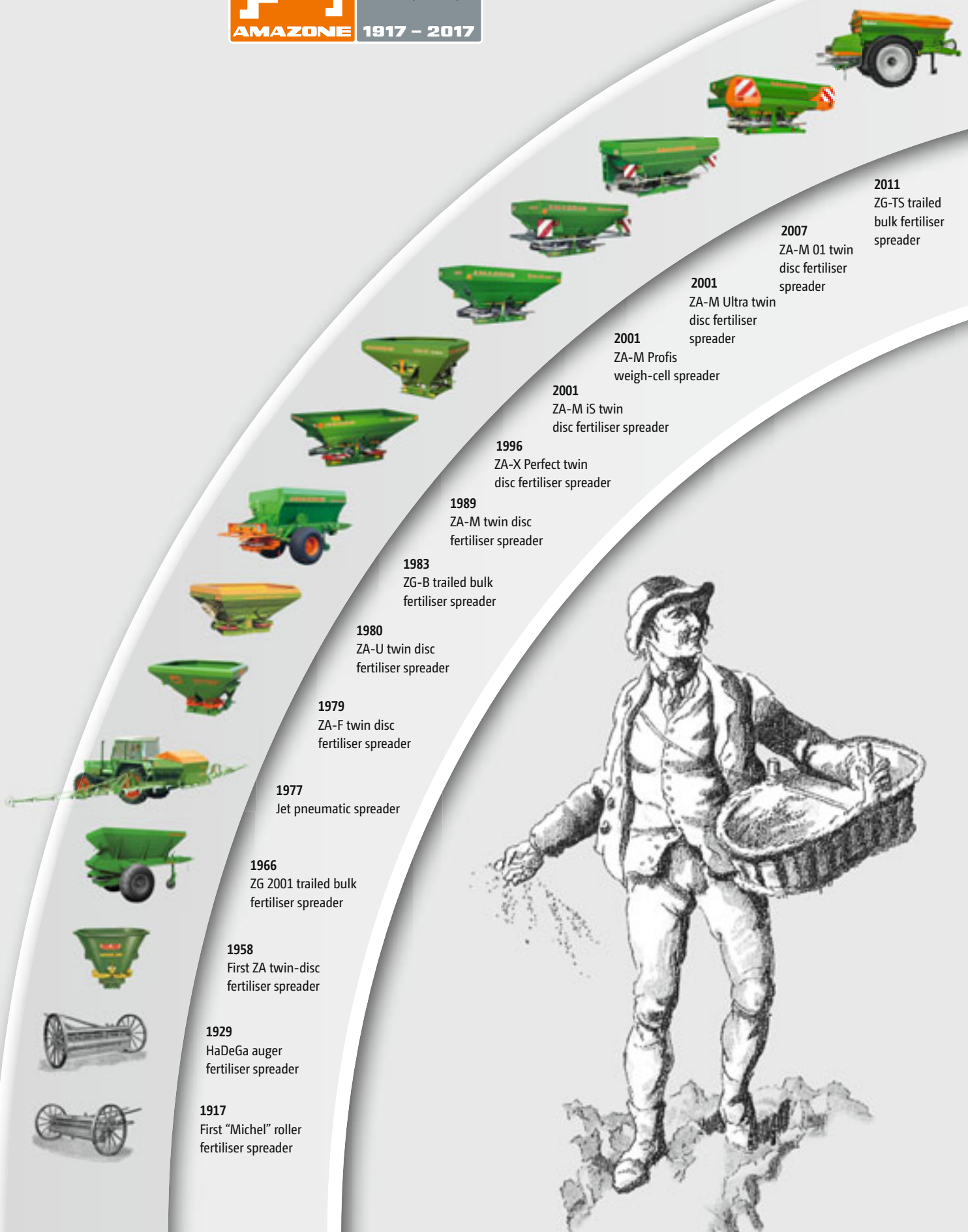
Amazone once again achieved excellent ratings in the 2016 DLG Image Barometer for Germany. We once again took 4th place in the agricultural machinery category.

At the end of this eventful year 2016 – not only for Amazone – we were relieved to realise that we were able to slightly increase our overall sales again despite the slump in the industry as a whole. We can look to the future with good hope!

Agrosalon 2016:
The Chairman of the Innovations Commission, Avtandil Kobachidze (right), presents Dr Justus Dreyer with the gold medal for the AmaSpot sensor systems.

100 years of AMAZONE fertilisation!

AMAZONE 1917 – 2017



2011
ZG-TS trailed bulk fertiliser spreader

2007
ZA-M 01 twin disc fertiliser spreader

2001
ZA-M Ultra twin disc fertiliser spreader

2001
ZA-M Profis weigh-cell spreader

2001
ZA-M iS twin disc fertiliser spreader

1996
ZA-X Perfect twin disc fertiliser spreader

1989
ZA-M twin disc fertiliser spreader

1983
ZG-B trailed bulk fertiliser spreader

1980
ZA-U twin disc fertiliser spreader

1979
ZA-F twin disc fertiliser spreader

1977
Jet pneumatic spreader

1966
ZG 2001 trailed bulk fertiliser spreader

1958
First ZA twin-disc fertiliser spreader

1929
HaDeGa auger fertiliser spreader

1917
First “Michel” roller fertiliser spreader

2013
ZA-TS twin disc fertiliser spreader

2015
ZA-V mounted spreader

2017
ZG-TS 01 trailed bulk fertiliser spreader

100 years

AMAZONE fertilisation!

1917 – The conquest of precision begins

2017 is an important anniversary year for Amazone "100 years of Amazone fertiliser spreaders". It is hard to believe what has developed since the first auger fertiliser spreader from founder Heinrich Dreyer. To date (2017), over one million spreaders have been sold all over the world, a great success for an agricultural machinery business. And the development is progressing and has a promising future. Plants must continue to be supplied with nutrients in the future. This has nothing to do with synthetics, the fertiliser consists of natural minerals or is obtained from the air. Modern spreaders now have working widths of over 50 metres, with sensor systems that detect the plants' needs and adapt to the wind strength and direction, and a spread fan that is monitored by "Argus eyes" sensors. The founder of our company, Heinrich Dreyer, would be amazed today at what his box fertiliser spreader has become.

The ground-breaking ceremony for the new AMAZONEN-WERKE factory in Bramsche took place on 31 August 2017

New plant in Bramsche

The creation of the additional site in the Schleptrup district of Bramsche fits in with the philosophy of Amazonen-Werke. This includes decentralisation. We create clearly organised sites and these are managed by capable, competent plant managers. It is important to us that all employees feel comfortable and identify with the owners, the Dreyer family, and also co-operate harmoniously with the other locations and support each other. Each plant has its own specialities with which it supports and supplies the others. For example, the plant in Hungary specialises in the heat treatment of steel and supplies the other sites with the corresponding parts.

All in all, our plant in Bramsche will be a jewel that can be clearly seen from the A1 motorway. It will also visually demonstrate the importance of the Amazone Group. In future, all crop protection equipment will be manufactured here.

The AMAZONE stand 4.0 at Agritechnica 2017

GO for Innovation – Agritechnica 2017

Agritechnica, the world's largest agricultural machinery exhibition, took place in Hanover from 12 to 18 November. Amazone took part in the exhibition with a 2,700 m² stand. We had made a special effort with the design of the stand and called it the feel-good stand. With our green-orange machines on a light brown background and not too bright light, we created a particularly pleasant atmosphere. The technology we presented was also obviously convincing. We again received three medals from the DLG for our innovations and our visitors were delighted.

The AMAZONE team at Agritechnica, 2017

AMAZONE sales climb to 457 million euros

This year, the agricultural sector in Europe was characterised by a difficult situation caused by low commodity prices. By the end of the year, however, the situation had improved again and Amazone was finally able to look back on a turnover of 457 million euros. We therefore remain optimistic about the future.

Official opening of the new cathodic dip painting facility at the Hude-Altmoorhausen plant

At the Altmoorhausen site, we have made a huge investment in the construction of a new paint plant. At around 20 million euros, it is the largest single investment in the history of Amazonen-Werke to date. A very sophisticated painting system was installed here, with which all Huder products are protected against corrosion to a very high standard. The final assembly of the machines also takes place here.

This year also saw the construction of an additional hall in Samara and an assembly hall in Leipzig.

The cathodic dip painting plant, built on a covered area of approx. 8,000 m², is designed for a capacity of 750,000 m² per year.

UX with precise boom guidance

Our crop protection sprayers have developed into real beauties. Our trailed *UX* has not only received an award for its particularly aesthetic design, but we also equip it with *"ContourControl"*, i.e. with automatic control of the boom distance from the ground and with the so-called *"SwingStop"*, which prevents the boom from swinging forwards and backwards. This ensures absolute precise application.

Even application distribution thanks to SwingStop

Difficult weather conditions in Western Europe

In Western Europe, 2018 was characterised by extreme drought and high temperatures. This led to crop losses, particularly in areas with light soils.

Successful Amatechnica 2018 with a large number of trade visitors from Germany and abroad

Amazone's in-house exhibition Amatechnica took place again in May. The interest was again huge and well attended with over 6,000 visitors from near and far. The main attraction at this event is always the presentation of the Amazone programme in a demonstration ring. Two large grandstands are set up in front of the demo area. New developments in particular are shown and explained in the demonstration ring. Some highlights were also shown in practical use. Our new large *"Hektor"* plough with eight furrows attracted particular attention from the spectators.

Demonstrations at Amatechnica

New AMAZONE AmaTron 4 – Manager 4 all

Among the new technologies this year is the in-house developed ISOBUS terminal in tablet style, called *"AmaTron 4"*, which is particularly characterised by its exceptional user-friendliness.

New Profihopper 1500 SmartLine

Our team in Forbach, France, has developed a *Profihopper* self-propelled mower/collector with a working width of 1.50 metres and a 48 hp engine. This mower is characterised by its versatility, it also mows long, damp grass, collects leaves and scarifies grassed areas, all at the same time if necessary. It is the ideal green space maintenance machine.

Profihopper 1500 SmartLine

Profihopper 1250 SmartLine and Profihopper 1500 SmartLine

Grand opening of the factory in Bramsche

AMAZONE inaugurates new plant in Bramsche – “The factory of short distances”

In August of this year, our plant in Bramsche was officially opened and production of the sprayers began. It is a factory of short distances. Assembly has been organised in such a way that all the necessary parts are ready to hand on both sides of the production line. We are proud of our youngest daughter.

New factory in Bramsche, 2018

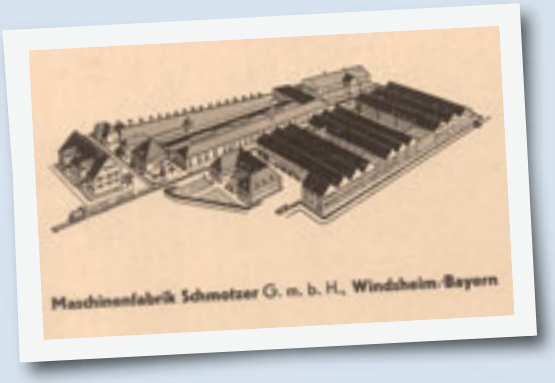
Big anniversary at AMAZONE – 50 years of AMAZONE sprayers

Amazone introduced its first crop protection sprayer 50 years ago. This has since grown into a comprehensive programme, from the small mounted sprayers to the self-propelled *Pantera*. Amazone has now also conquered the leading position in the market in the sprayer sector. This division is now the company's strongest sales driver.

A new star in the AMAZONE sky – SCHMOTZER hoes

With effect from 1 January 2019, Amazonen-Werke has taken over the hoeing equipment from Schmotzer in Bad Windsheim, an important step for the Amazone Group in the area of plant care. Schmotzer hoes have a particularly good reputation; after all, Schmotzer invented the hoe back in 1920. A traditional company that fits in perfectly with Amazone.

Looking back: the history of Schmotzer GmbH



Hans Schmotzer founded a bicycle workshop in Windsheim in 1905, which he soon followed up with the sale of agricultural machinery and a workshop. He quickly began manufacturing his own front carriages for mowers and grist mills. in 1922, he added the manufacture of hoes and, in 1926, the production of potato harvesters, which were exported worldwide. After the Second World War, the first self-propelled *Kombi Record* model and, from 1955, the sugar beet harvester were added.

After the death of Hans Schmotzer in 1962, his sons-in-law Otto Gustav Würth and Fritz Schnotz took over the management of the company. In 1980, the company ran into economic difficulties and subsequently focused on precision seeding, crop protection sprayers, hoes and sugar beet harvesters. However, the number of sugar beet harvesters produced declined sharply and production was discontinued in 1995.

Today the Maschinenfabrik Schmotzer GmbH is a medium-sized family business that produces mounted and trailed sprayers as well as precision seeders. With effect from 1 January 2019, the hoeing division was transferred to Amazone Group with effect from 1 January 2019 and will operate as a wholly owned subsidiary of Amazone under the name Schmotzer Hacktechnik GmbH & Co. KG. The production of the hoes will remain at the Bad Windsheim site.

Brochures from the years 1925 to 1965

Brochures from the years 1970 to 2006

AMAZONE hoes today

With the takeover of Schmotzer-Hacktechnik, the AMAZONE Group now has another important pillar for plant protection in the future. The portfolio includes hoes for rear, front or inter-axle mounting up to 9 m working widths and row widths from 16 cm to 200 cm. Thanks to clever camera technology, forward speeds of up to 15 km/h are now possible. The camera can recognise row spacings from as little as 12.5 cm. The new parallel shift frame enables precise hoeing even with large working widths on steep, hilly terrain with gradients of up to 40 %.

SCHMOTZER

New location in the UK and new branch in Hungary

Brexit has also affected general business relations with the UK. However, the UK is an important agricultural market for AMAZONE and we have a good reputation to defend. The management has therefore decided to set up a branch that is representative of the company there too. To this end, a 12-hectare site, Orchard Farm in Auckley, Doncaster, was acquired and a spacious hall with presentation facilities, spare parts store, training and office space was built. These were occupied in February. We can also organise practical demonstrations and set up trial fields there. This means that business can continue uninterrupted.

Hungary is also an important market for us. After building up our sales in Hungary for some time and even buying a well-known plough factory there, we have now also built a spacious sales operation there in Debrecen. Here, too, we have built a workshop, offices, spare parts warehouse and showrooms and have built up a very good image with our AMAZONE team.

New AMAZONE Ltd. location – "Orchard Farm" in Auckley, Doncaster

The new branch of AMAZONEN-WERKE KFT. in Debrecen

Machine demonstration at Amatechnica 2019 – Primera DMC large-area seed drill with new FDC 6000 liquid fertiliser cart

Amatechnica also in Russia

Our in-house exhibition Amatechnica took place in Samara from 18 to 19 July 2019 and was received with enthusiasm. Well over 1,000 visitors, customers and dealers from 45 regions travelled to Samara to experience this attractive show. In addition to the most important machines from the Amazone range, the *FDC 6000* liquid fertiliser cart developed in Samara, which plays an important role today, was also presented there. It is used in Russia on large areas in combination with the *Primera DMC* and the *EDX* precision air seeder and has proven itself very well in practice.

High profile visit to AMAZONE

The Federal Minister of Food and Agriculture, Julia Klöckner, paid a visit to Amazonen-Werke to find out more about digitalisation in agriculture. At Amazone, this contributes to protecting the environment and helps farmers and contractors to save costs. In hardly any other technology sector is digitalisation as advanced as it is in agricultural technology and it continues to progress. Amazone is well positioned with its own development department for hardware and software

Federal Minister Julia Klöckner in dialogue with the AMAZONE Managing Directors Christian Dreyer (right) and Dr Justus Dreyer (left)

2020 – the year of success

The year 2020 was characterised by the coronavirus pandemic. It has changed our world. Almost all exhibitions were cancelled, so we had to come up with alternatives. We organised individual demonstrations throughout Europe with special demonstration teams and presented our products at digital events. It turned out that in some cases we reached more interested parties than we had previously with live events.

Record year: despite the various difficulties and obstacles caused by coronavirus, Amazonen-Werke realised record sales of over half a billion euros (537 million euros) this year. The increase in sales was achieved across the entire programme, in many different countries and even in our home market of Germany.

It was a stroke of luck that the neighbouring farm next to our main plant in Hasbergen-Gaste was up for sale. Naturally, we had to take it. Together with the land adjacent to our factory premises, we bought the entire Meyer zu Wambergen estate and converted it into our Wambergen experimental farm. Here we separated off a larger area for crop establishment trials and set up our Amazone Museum in the hallway and stables of the farm building.

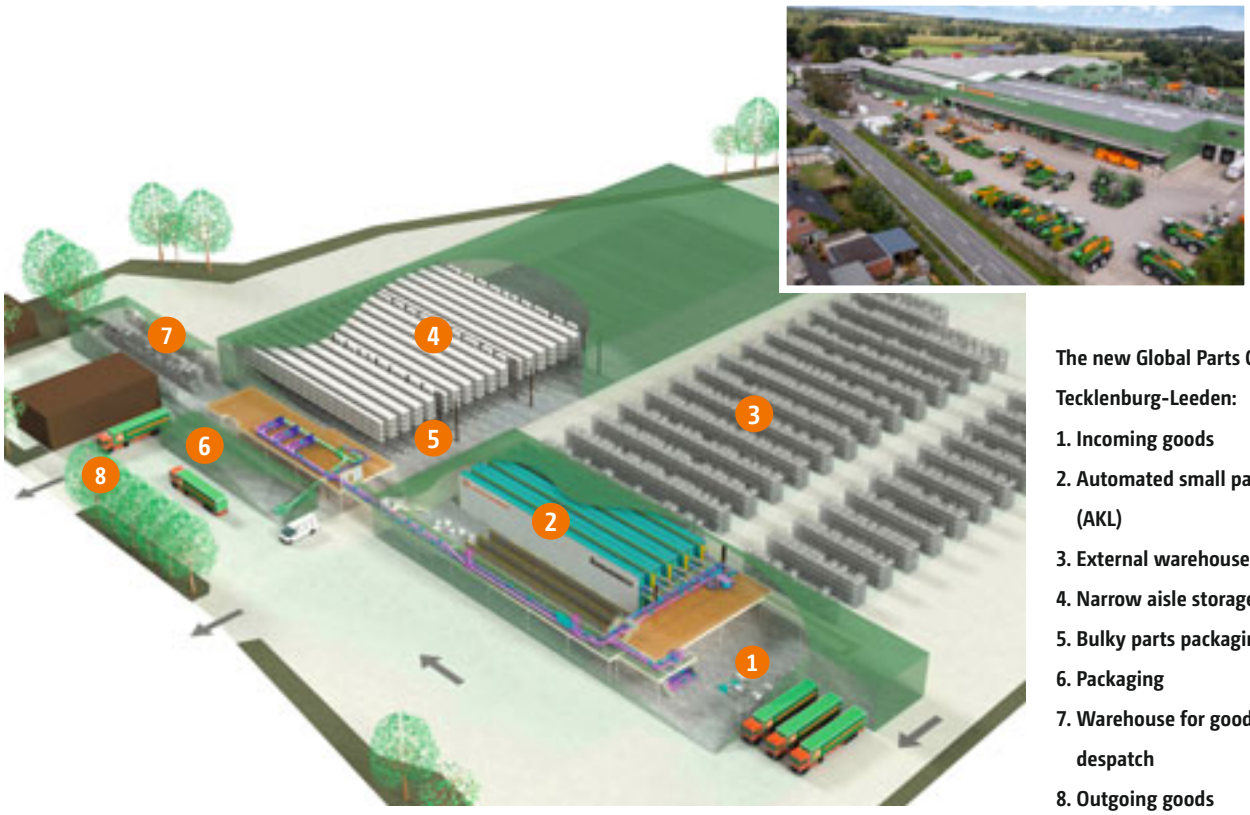
Wambergen experimental farm

New highlight – Precea high-speed precision air seeder

The most important new development at Amazone this year is the *Precea* precision air seeder. In the first year it will be available in 3 m and 4.5 m versions and later in working widths of up to 12 metres. The *Precea* is designed for forward speeds of up to 15 km/h and places the seed with particular precision. It thus combines the technical advantages of our *ED* with the fast *EDX*. The latter will remain in the programme because it is particularly suitable for contractors and large farms with its central tank.

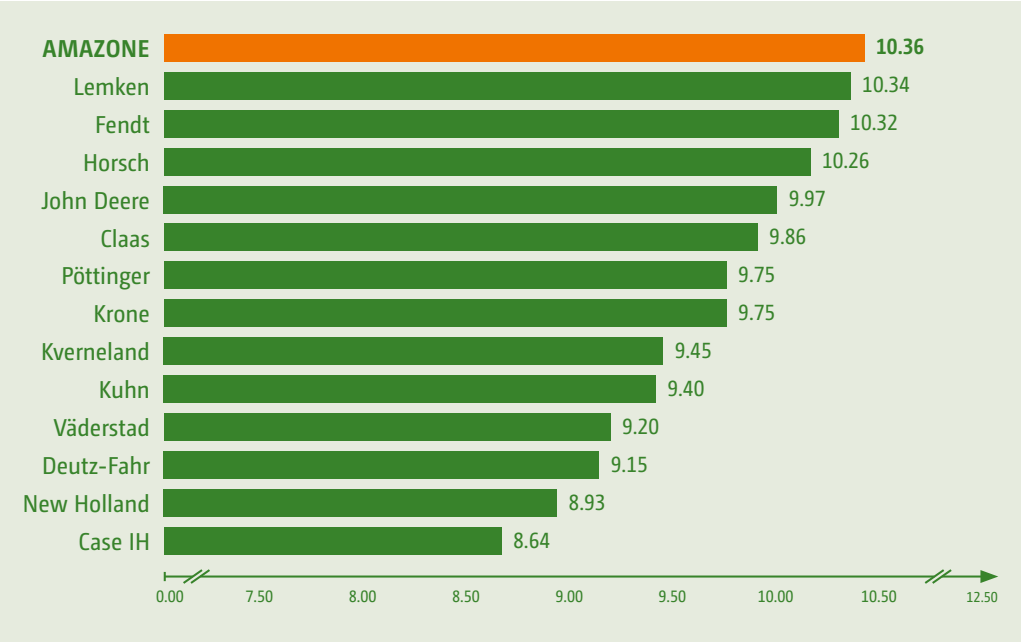
Central spare parts warehouse Leeden

This year, Amazone put the central spare parts warehouse in Leeden into operation. After extensive remodelling and the relocation of *UX* production from Leeden to Bramsche, the spare parts warehouse was moved from the main plant in Gaste to Leeden. The move was a huge logistical challenge that had to be realised in a very short time. We now have sufficient space and additional expansion options. The supply of spare parts quickly resumed with the usual reliability.



The new Global Parts Centre in Tecklenburg-Leeden:

1. Incoming goods
2. Automated small parts warehouse (AKL)
3. External warehouse for bulky parts
4. Narrow aisle storage for pallet cages
5. Bulky parts packaging
6. Packaging
7. Warehouse for goods ready for despatch
8. Outgoing goods



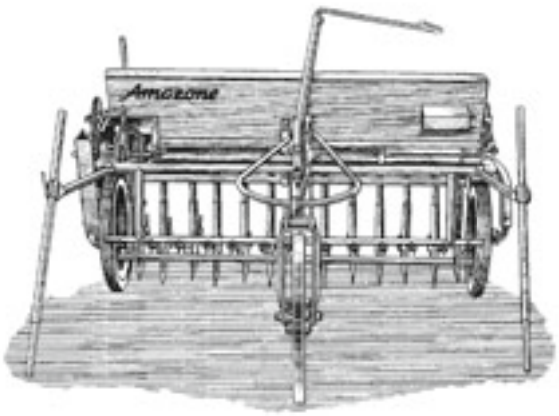
Agricultural machinery: ranking according to brand assessment

Source: agrarheute / agri EXPERTS, 11.2020

Top image for AMAZONE

Via the market research institute "agri Experts", Deutscher Landwirtschaftsverlag organised a survey in which Amazone achieved the highest score of all 69 agricultural machinery manufacturers. The survey focused on ease of use, service, quality, workmanship and reliability of the products. We are proud of our top position, but will continue to endeavour to maintain our good reputation.

250,000 AMAZONE seed drills around the world



Seed drill D1, working widths 2 m, 1947

This year, Amazonen-Werke celebrated a pleasing anniversary. The 250,000th seed drill was delivered in 2020. Amazone has been developing and manufacturing seed drills since 1948. This makes Amazonen-Werke the oldest and most experienced manufacturer of seed drills and, at the same time, the inventor of the modern drill combination with soil tillage for seedbed preparation, packer for reconsolidation, drill and following harrow in combination.

Current seed drill programme 2020

Condor pneumatic seed drills
Working widths
12.00 m – 15.00 m

Citan pneumatic seed drills
Working widths
8.00 m – 15.00 m

Cirrus pneumatic seed drills
Working widths
3.00 m – 6.00 m

Avant pneumatic seed drills
Working widths
4.00 m – 6.00 m

Centaya pneumatic seed drills
Working widths
3.00 m – 4.00 m

AD-P Special pneumatic seed drills
Working widths
3.00 m – 4.00 m

Primera DMC pneumatic seed drills
Working widths
3.00 m – 12.00 m

Cayena pneumatic seed drills
Working widths
6.00 m

Cataya Super gravity drill combinations
Working widths
3.00 m – 4.00 m

Cataya Special gravity drill combinations
Working widths 3.00 m

AD harrow-mounted conventional seed drills
Working widths 3.00 m

D9 mounted conventional seed drills
Working widths
2.50 m – 12.00 m

AMAZONE D1
First seed drill from 1947

Expansion of the Bramsche plant

AMAZONE Group continues dynamic growth

The year 2021 was also characterised by the coronavirus pandemic. Many events and exhibitions continued to be cancelled, and not just for agricultural machinery. In July, there was a terrible flood disaster in the south-west of our country, which not only tore away roads, bridges, railway lines and houses, but also claimed over 200 lives. There has never been anything like it in Germany. At Amazonen-Werke, we were "thankfully" spared.

In October 2021, Amazone presented all the Agritechnica innovations to the international trade press in a self-produced digital press conference, which was very well received. Amazone also provided on-going information about its entire 2022 world of innovation on its own homepage in a digital replacement format in the form of a 360° tour. In addition, the sales promotion team was actively involved with individual demonstrations on farm in order to remain in constant dialogue with farmers and contractors in terms of technology and crop establishment.

The number of employees worldwide rose to around 2,000 over the course of the year. Expenditure on research and development amounted to more than 5 % of sales. The company once again invested a double-digit million amount in property, plant and equipment in the 2021 financial year. In view of the strong order backlog, we must also plan for the future with foresight. We are expanding the Bramsche plant with an additional 8,000 m² hall, which will be used to manufacture the *Pantera* self-propelled sprayer and the *Primera DMC* seed drill. The construction work is scheduled for completion in spring 2022.

Despite a financial year full of challenges, the Amazone Group was able to remain on its growth course and surpass the next sales mark of 650 million euros. For the second time in a row, the annual balance sheet shows a significant increase in turnover. After 15 % in 2020, turnover increased by as much as 22 % this time.

The total turnover of the family-owned company has thus reached a new high of 655 million euros in the 2021 financial year. This is a huge success for the entire Amazone Group and our partners. Customer interest in modern Amazone agricultural machinery is very high both nationally and internationally. In 2021, Amazone and Schmotzer Hacktechnik were again able to benefit very well from their innovative strength and the broad overall range of products for farms of all sizes, both in conventional and organic farming.

AMAZONE launches arable farming trial project Controlled Row Farming (CRF) on new Wambergen experimental farm

At our Wambergen trial farm, AMAZONE is developing a new establishment method with fixed row widths for maize and cereals called *"Controlled Row Farming"* (CRF). This has already produced its first positive results this year. This new method largely dispenses with chemical weed control; instead, our SCHMOTZER hoeing systems keep the crops free of weeds whilst maximising yields.

Experimental area on the AMAZONE Wambergen experimental farm

New IceTiger winter salt spreader and new UX Super trailed sprayer up to 9,000 litres

New at AMAZONE this year is the *"Ice Tiger"* winter salt spreader, which spreads all the usual winter spreading materials with particular precision and a variably adjustable working width. This year we will also be presenting the larger *UX Super* crop protection sprayers with a capacity of up to 9,000 litres and working widths of up to 42 metres. They are equipped with wide, soil-friendly tyres and run on a single axle. These sprayers round off our programme at the top end.

IceTiger winter salt spreader in use

2021: Silver medal for the IceTiger winter application spreader

UX Super 7601 crop protection sprayer in use

In future, DirectInject can be used to treat weed spots by selectively injecting an additional agent without a separate pass

50 litre tank and pump unit in the storage compartment of the UX 01 Super

Agritechnica silver medal 2022 for DirectInject direct injection system

We were particularly pleased to receive the DLG Innovation Award AGRITECHNICA 2022. Amazone's DirectInject system is the first to offer a system for the direct injection of crop protection products. These can be injected or dispensed as required during application. The special feature of DirectInject compared to conventional systems is the fast reaction time of the injection process and the complete integration into the spray liquid circuit and operation of the crop protection sprayer.

With DirectInject, it is possible to react individually to the needs of the crop on the field and save on pesticides and additional passes with the crop protection sprayer. This saves time, costs and protects the environment.

4th place for AMAZONE, 2021/22

AMAZONE – best among medium-sized machinery manufacturers

Amazone once again takes 4th place in the DLG Image Barometer 2021/2022. With a total of 50.8 points, we were able to improve our overall result and continue to emerge as the best among medium-sized equipment manufacturers in the agricultural machinery sector.

This is another great success for our entire team. We would like to thank all farmers, contractors and our sales partners for their appreciation and trust. This good image result is a further incentive for us to continuously improve our products, service and advice.

Precea 6000-2CC precision air seeder

Success through innovative strength

National and international business is continuing at a high level, but our activities are being hampered in many respects. Important raw materials and components are only available to a limited extent and are affected by constantly rising prices. Despite these difficult conditions, we have so far succeeded in maintaining sales at the same high level as the previous year.

The design and development department is continuing its work. The development of larger working widths for the Precea large-area precision air seeder is particularly important to us.

The new six-row Cobra-2TX shallow tine cultivator, a specialist for shallow and medium-deep soil tillage, has been released for sale and, with the Teres 300 mounted reversible plough, AMAZONE offers the market a new mounted plough for tractors up to 300 hp. The working widths per furrow can be adjusted hydraulically on demand. For the higher-powered tractors up to 400 hp, the Tyrok 400 semi-mounted reversible plough is a completely newly developed plough with a choice of seven, eight or nine furrows. The main features of this plough are the new SpeedBlade plough body with extra large front shin of the mouldboard for minimum wear on the main body, perfect working quality and high comfort thanks to very easy operation. By increasing the working speed from, for example, 6 km/h to up to 10 km/h, the main wear point of the SpeedBlade plough body shifts further and further towards the centre of the plough body. This means that even at high speeds, the main point of wear is on the enlarged front shin of the mouldboard and not in the area of the slatted or full mouldboard.

Above:
Cobra 7000-2TX trailed shallow tine cultivator

Centre:
Teres mounted reversible plough

Below:
Tyrok semi-mounted reversible plough

Investments and expansion of the plants

In view of the further development of the product programme with larger working widths and the higher volumes, AMAZONE has expanded its production capacities. Three years after the inauguration of the Bramsche site, the first expansion has already been completed. The new halls with an area of 8,000 m² enable the efficient production of all AMAZONE crop protection sprayer models. The associated relocation of all sprayer assembly operations will in turn create capacity for the expansion of the Global Parts Centre at the Tecklenburg-Leeden site to further improve the high level of service worldwide.

Expanded Bramsche site with additional halls

The managing directors of the 3rd and 4th generation

Prof. h.c. Dr Dr h.c. Heinz Dreyer

Always at the service of AMAZONEN-WERKE

Prof. h.c. Dr Dr h.c. Heinz Dreyer

Managing director of the third generation of the Dreyer families

As the eldest son of Dipl. Eng. Heinrich Dreyer, the successor to the founder of Amazonen-Werke, he was born in 1932 and was chosen early on by his father to succeed him. After primary school in Gaste, he attended the Ratsgymnasium in Osnabrück, where he also completed his A-levels. After internships at the steelworks in Georgsmarienhütte and Osnabrück, at the Heinrich Lanz company in Mannheim and at Bayerische Leichtmetallwerke BLW, he studied mechanical engineering at the Technical University of Munich. After graduating in 1956, he remained at the university as a freelancer on a research contract from the Federal Ministry of Agriculture (Bonn) in order to complete his doctorate.

However, his plans were abruptly interrupted when his father died suddenly in November 1957. From then on, Heinz Dreyer immediately joined Amazonen-Werke together with his cousin Klaus Dreyer and together they took over the management of the company. In addition to the urgently needed expansion of the company, Heinz also tackled his doctoral thesis again, studied agricultural economics and agricultural policy with the corresponding examinations and received his doctorate from the Justus Liebig University in Giessen in 1963.

Prof. h.c. Dr Dr h.c. Heinz Dreyer with his wife Magdalene

From the very beginning, he was mainly involved in product development. Here he also achieved great success. After just a few weeks, he invented the first three-point twin disc fertiliser spreader, which he named Amazone *ZA* (centrifugal spreader mounted machine) and which later became the model for almost all fertiliser spreaders used around the world. This spreader was a great success and increasingly relieved the Amazonen-Werke factories of their financial worries.

In 1960, he married Magdalene Teich, the daughter of an entrepreneur from Kelheim in Lower Bavaria. Of his four children Petra, Nicoline, Konstanze and Justus, Justus became his company successor. However, the Amazone *ZA*, of which over 750,000 have been sold to date, was not his only exceptionally successful design. He was also involved in the further development of potato harvesters, his father's "favourite child", developed a new type of manure spreader with an unusual wide spreading mechanism, invented new seed drills for larger working widths and finally a new modern tractor-mounted seed drill, which would soon make Amazonen-Werke the market leader in this field too – the legendary Amazone *D4*.

On the business side, he was very keen to steer the company towards future-oriented management. He developed a concept with individual management groups that, in addition to the two managing directors, included carefully selected employees with corresponding voting rights.

This ultimately resulted in the so-called Management Group 1 (FG1), which is still the top management team today (currently comprising of 8 people).

From 1975 onwards, he concentrated his development activities on seeding systems for direct sowing in Canada and invented, among other things, the AMAZONE chisel openers, which have proven their worth in a wide variety of operating conditions, especially in difficult ones, to this day.

Naturally, he has further developed and perfected his centrifugal broadcaster. Today, working widths of up to 54 m are achieved with the two-disc system with an even distribution of fertiliser, whereby a special device prevents the fertiliser from flying over the border or into a body of water.

Overall, he has made a large number of inventions over the years, some of which have been patented and even honoured with medals for advanced agricultural technology. In recent years, he has increasingly focused on seed drills for Eastern Europe and the CIS states. in 2001, he was made an honorary professor (Prof. h.c.) at Samara Agricultural University and in 2012 a member of the Russian Academy of Agricultural Sciences.

For his services to scientific research and development in the field of agricultural engineering, he was awarded an honorary doctorate – Dr h. c. – from the University of Hohenheim in summer 2005.

in 2009, the Association of German Engineers (VDI) honoured Heinz Dreyer's life's work with the VDI Medal of Honour.

At the beginning of 2005, he transferred his management responsibilities to his son, Dr Justus Dreyer. Nevertheless, he continued to take care of our seed drills and optimal fertilisation and maintains cooperation with various universities. He also remains a member of the management team.

Left:
AMAZONE ZA centrifugal broadcaster from 1958

Right:
AMAZONE D4 seed drill

Left:
AMAZONE ZA-M centrifugal broadcaster

Right:
AMAZONE Primera DMC direct seed drill

Klaus Dreyer

Always at the service of AMAZONEN-WERKE

Dipl. Eng. (FH) Klaus Dreyer

Managing director of the third generation of the Dreyer families

Klaus Dreyer was born on 7 May 1934 as the eldest son of the businessman Erich and his wife Erna. He attended primary school in Gaste and then grammar school, from which he graduated with a secondary school leaving certificate. After one-year internships at the Klöckner-Werke in Osnabrück and the Westphalian steel plough factory, H. Niemeyer Söhne in Riesenbeck, Westphalia, he began studying at the University of Applied Sciences in Cologne, graduating in 1956 as an agricultural engineer.

This was followed by a commercial apprenticeship at the well-known Cramer machine factory in Leer, East Frisia. However, he had to break this off after a year when his uncle, Dipl. Eng. Heinrich Dreyer, the then Managing Director of Amazonen-Werke, died suddenly in 1957 and Klaus joined the company management together with his cousin Heinz Dreyer as a representative of the 3rd generation.

From the very beginning, Klaus dedicated himself to rationalising production and expanding the sales organisation. He expanded the network of agents and set up his own bases with warehouses and lorries in the more remote sales areas. Klaus Dreyer also personally took care of advertising. He designed the necessary advertising material with a freelance graphic designer and created the necessary photos and texts himself.

In 1962, he married Marie Luise Bruckmüller from Vienna, daughter of the Director General of the Association of Rural Co-operatives. They had three children from this marriage.

There was also a lot of work for him in production. Over the years, Klaus Dreyer, together with his capable production managers, succeeded in transforming Amazonen-Werke into a modern manufacturing operation. On his initiative, and with the support of the responsible production managers, Amazonen-Werke also developed its unusual vertical range of manufacture. For example, Amazonen-Werke has built up its own plastics department, its own hydraulic cylinder and gearbox production and its own highly efficient toolmaking shop. This diversification makes Amazonen-Werke less dependent on suppliers, helps to maintain a high level of quality and has created many skilled jobs.

It was also Klaus Dreyer who introduced the first computer at Amazone. It was important to him that the introduction took place in reasonable steps so that the employees were not overburdened. In this way, Amazone gradually succeeded in establishing a functioning IT organisation at reasonable cost without causing any serious disruption to processes.

Klaus Dreyer has also always made it his mission to ensure a pleasant, informal working atmosphere. To this end, he maintained close contact with the employees over the years and was thus able to reduce any tensions and misunderstandings that arose before they became serious problems.

Baptism of Klaus Dreyer with the founder Heinrich Dreyer as godfather in 1934

Left:
Klaus Dreyer with his wife Malu

Right:
The three children: Christian, Marike and Peter Dreyer (†)

For many years, he represented Amazonen-Werke at associations, the employers' liability insurance association, the Chamber of Industry and Commerce and similar official bodies and still represents the company today to visitors, sales partners abroad and on special occasions such as anniversaries, inaugurations and the like.

In 1999, Klaus Dreyer was awarded a rare and important honour. Together with his cousin Dr Heinz Dreyer, he was awarded the DLG Prize of Honour by the President of the German Agricultural Society (DLG), Mr von dem Bussche.

In 1999, on the occasion of his 65th birthday, Klaus Dreyer officially transferred his management of the company to his son, Christian Dreyer, a graduate in business administration. Since this time, he has taken care of special tasks such as publishing the company magazine, continues to take on representational duties and is a member of the management team.

Another important field of activity for Klaus Dreyer is collecting historical documents on agricultural machinery. In the course of his 50 years at Amazone, he has created an archive containing around 20,000 historical brochures. For some time now, he has been running a website on which around 1,000 agricultural machinery manufacturers and their most important products are presented. This site has become very popular in its short time of existence, with more than 25,000 visitors per month. The site can be found at www.landtechnik-historisch.de.

Some of the books by Klaus Dreyer

Presentation of the company Hagedorn, Warendorf, at www.landtechnik-historisch.de

Christian Dreyer

Always at the service of AMAZONEN-WERKE

Dipl. Industrial. Eng. Christian Dreyer

Chairman of the management board of the fourth generation of the Dreyer families

Christian Dreyer was born on 7 May 1964, his father's 30th birthday. He first attended primary school in Gaste and then transferred to Ratsgymnasium in Osnabrück in 1974, where he graduated in 1983. He then studied industrial engineering at the TU-Harburg and the University of Hamburg. In between, he interrupted his studies to attend an intensive course in Montpellier, France, and to learn French during an internship at a bank in Versailles.

He then completed his degree in 1991. During his diploma thesis, Christian Dreyer was able to gain his first practical experience at Itag in Celle, a company specialising in exploration equipment. This thesis dealt with the efficient design of the organisation and suggestions for rationalising production. As a graduate industrial engineer, Christian Dreyer joined Ixion, Hamburg, a manufacturer of machine tools. As the person responsible for organisation, he was able to install a functioning PPS system within a short space of time.

It was also in Hamburg that he met his wife Bettina, the daughter of engineer Rüdiger Sand and his wife Helga. Born in Munich, she worked as a qualified fashion designer for the globally operating "Otto" Versand group. They married in 1994 and moved to Paris for a year in 1995 to be close to the French subsidiary Amazone S.A.

Christian started working at Amazonen-Werke and optimised the existing organisation and worked closely with the production sites in France together with the French Managing Director, Mr Jean Pelikan. He visited the most important dealers and established personal relationships with employees and customers. His French language skills naturally stood him in good stead.

At the end of 1995, Christian Dreyer moved to the main factory in Gaste, where he was mainly responsible for foreign activities. He strengthened contacts with the most important Amazone customers and developed joint sales strategies with them and cultivated family relationships with partners

Christian Dreyer with his wife Bettina, son Philipp and daughter Elena

Presidium and management of the VDMA Agricultural Machinery Association in October 2016:
Anthony van der Ley, Christian Dreyer, Dr Heribert Reiter, Dr Bernd Scherer.
Photo: © VDMA.

abroad. The initiation of close co-operation with Krone in sales in France also took place during this time.

Back at the company headquarters in Hasbergen in 1996, Christian first took over the export and then the overall sales management of the Amazone Group. In the same year, his son Philipp was born. in 1999, daughter Elena was born and on his 35th birthday, his father handed over the management of Amazonen-Werke to him.

From then on, he was primarily responsible for sales and the business management of the group of companies.

Together with the domestic sales manager, he not only developed and introduced a new sales concept and reorganised the support system, but also remarkably increased sales in Germany. With a powerful export department, he gradually expanded overseas business from 50 % to 80 % of total sales.

The sales regions in the former Eastern Bloc have become particularly important. Together with the responsible export managers, Christian Dreyer set up the company's own sales subsidiaries there and established many important importers. During his years as Managing Director, the Amazone Group's turnover grew from 114 million euros to 655 million euros.

Since 2005, the second managing director, Christian's second cousin and partner, Dr Justus Dreyer, has also succeeded his father. The two owners make all important decisions together, whereby it is of course a great advantage that they are friends.

Christian's wife Bettina also feels very connected to Amazone. In addition to her career as a fashion designer, she works in various areas for the family business. She expanded the merchandising area and is now jointly responsible for the extensive range of products in the Amazone fan shop. She is also involved in various HR and marketing projects and carries out representative tasks for the company.

On 5 October 2016 in Frankfurt, Christian was unanimously elected Chairman by the 17 other members of the VDMA Agricultural Machinery Board. On October 9th, 2020, his successor honoured him with the association's Medal of Merit. Christian continues to fulfil his honorary positions on the association's Executive Committee and Board.

Dr Justus Dreyer

Always at the service of AMAZONEN-WERKE

Dipl. Eng. Dr sc. agr. Justus Dreyer

Chairman of the management board of the fourth generation of the Dreyer families

Dr Justus Dreyer was born in 1970 as the son of Dr Heinz Dreyer and his wife Magdalene. After attending primary school in Gaste, he continued his schooling at the grammar school in Tecklenburg, which he completed with the Abitur. He then studied at the Technical University in Braunschweig and graduated with a degree in mechanical engineering. During a six-month internship at KHD in Cologne, he gained an early insight into a world-leading agricultural machinery company. Among other things, he worked in the various departments of production and production control.

After completing his training, Justus decided to do a doctorate. In his doctoral thesis, he investigated the different influences on the longitudinal distribution of seed drills. Since November 1998, he has also worked at the Amazonen-Werke main factory and also at the subsidiary in Hude to gain experience in R & D. He completed his doctorate at the end of 2004 and can now call himself Dr. sc. agr. Dipl. Eng. In 2005, his father entrusted him with the management of the company, which he has held jointly with his second cousin, Christian Dreyer (Dipl. Industrial. Eng.), ever since.

The future of agriculture and the development of innovative process chains and machine concepts are particularly close to Dr Justus Dreyer's heart. With this in mind, he drives innovation management at the Amazone Group's various locations in a team-oriented manner and also contributes his own ideas.

The Chairmen of the Management Board and Board of Directors are supported by the Management Board with the Managing Directors, which is known as the FG1 (Management Group 1). The Development, Finance, Production and Sales divisions are represented on this committee.

Dr Justus Dreyer with his mother Magdalene and father Prof. h.c. Dr Dr h.c. Heinz Dreyer

Dr Justus Dreyer assumes social responsibility as co-owner of Amazonen-Werke through his involvement in international projects that serve the further development of sustainability in local agriculture. One example of this is the "Seed drill for Ethiopia" project. The impetus for this project came from a fellow student of his who was in charge of an agricultural project run by the non-profit organisation CIMMYT in Ethiopia and had asked for support. The seed drill was designed by Amazone apprentices in an interdisciplinary development team to be low-maintenance and easy to repair, manufactured as a promising prototype, dismantled for dispatch, reassembled at the place of use together with an Amazone service technician and tested in practice.

Since the introduction of the product line organisation in 2021, Dr Justus Dreyer has led the product line managers together with Christian Dreyer. Since then, he has also been responsible for the newly created Arable Innovation division.

Top left:
Dr Justus Dreyer (left) at a field trial in Canada

Top right:
The seed drill for Ethiopia with Marius Bücker, Fabian Droste, Head of Training Tim Schade, Oliver Kubut, Managing Director Dr Justus Dreyer, Head of Human Resources René Hüggelmeier

Dr Justus Dreyer accepts the gold medal for the AmaSpot sensor nozzle system from the chairman of the commission, Mr Avtandil Kobachidze, at the "AGROSALON" exhibition in Moscow

The Chairmen of the Management Board, Dr Justus Dreyer and Christian Dreyer, 2020

Outlook

Amazonen-Werke will continue to develop positively in the medium and long term. This is because the prospects for agriculture and agricultural machinery remain good. Agricultural products are needed even in difficult times. The growing world population and agricultural land becoming increasingly scarce, as well as fluctuating margins for producers in volatile international markets and the environmental policy framework are the major general challenges for agriculture and agricultural machinery.

The two 4th generation owners, Christian Dreyer and Dr Justus Dreyer, together with a highly competent management team, are continuing the successful tradition of Amazonen-Werke. Not to be forgotten here, of course, is the strong team of dedicated employees who identify fully with their company and work to ensure that Amazone maintains its leading position worldwide. In their work, they will all continue to be guided by the overriding goal of "corporate growth with a sense of proportion" and the continuation of innovation leadership for Amazone's core competences.

Our vision:

Farmers around the world have been relying on our innovative and sustainable solutions for intelligent crop production for four generations.

The philosophy of AMAZONEN-WERKE

Amazonen-Werke is a family business, not only because the shares in the company are wholly owned by the Dreyer families, but also because all the employees form one big family. At the same time, we feel and work as a medium-sized company, even though we have outgrown this category in terms of turnover and number of employees. We see ourselves as equals with our customers and as a reliable, honest and open partner to agriculture.

Naturally, all of our plants enjoy an excellent reputation in their region. Our employees – many of whom come from the agricultural sector themselves – are proud to work for such a successful company. They are not only highly motivated, but also highly qualified. Together with them, we are able to realise efficient, highly automated production and produce top quality products.

The history of Amazonen-Werke is certainly not a "lightning career à la Bill Gates". Rather, our progress has been relatively small but steady. Nevertheless, turnover has increased from 10 million to 655 million euros over the last six decades. Meanwhile, other agricultural machinery manufacturers, including many traditional family businesses, have disappeared from the scene. Some have changed sectors, some have been taken over by larger companies and many have gone bankrupt.

The high level of vertical integration practised at Amazone is both typical and unusual. Not only are most of the tools and devices, and even entire machines for production, manufactured in-house, but also important parts such as sophisticated valves and drive parts. Our in-house purchasers constantly and very critically check that these parts are also produced at a favourable price. In principle, however, in-house production also has the advantage for us that logistics and quality control are much simpler.

Then as now: brochure contents from 1929

OHNE „AMAZONE" KEIN LANDWIRTSCHAFTLICHER BETRIEB!

Wie wird die „Amazone" in der Praxis beurteilt?

. . . Wie Ihnen bekannt, habe ich bereits für meine hiesigen Beispielswirtschaften vier „Amazonen" Nr. 1 beschafft, welche sich allgemeinen Beifalls erfreuen. So wurde mir neulich von einem Kleingrundbesitzer gesagt, daß es ihm nicht möglich gewesen wäre, auf einer R.-Maschine (Konkurrenzfabrikat) Kleesamen zu reinigen, während dies nach Mitteilungen des Inhabers der Beispielswirtschaft B. . . . . auf Ihrer „Amazone" vorzüglich gelungen ist. Ganz besonders anerkenne ich aber die Vorzüge Ihrer „Amazone" zur Gewinnung von Saatgut in ihrer Benutzung als Windlege mit Rücksicht auf die Regulierbr. . . .

gez. Direktor A. Heymer,
Landwirtschaftskammer für die Provinz Ostpreußen.

Die von Ihnen bezogene Getreidereinigungsmaschine „Amazone" Nr. 1 hat sich großartig bewährt. Dieselbe bleibt auf jeder Stelle stehen ohne das geringste zu rütteln. Sie liefert sehr sauberes Getreide, daher kein Vergleich mit der Leistung von billigen anderen Maschinen. gez. Alb. Ziebarth.

Im vergangenen Jahr habe ich von Ihnen eine Reinigungsmaschine „Amazone" Nr. G 1 erhalten. Muß gleichzeitig bekennen, daß dieselbe zu meiner größten Zufriedenheit ausgefallen ist. . . .

gez. W. Schulze.

. . . Die „Amazone" Nr. 2 ist zu meiner vollsten Zufriedenheit ausgefallen und bestelle noch eine „Amazone" Nr. 2.

gez. Fr. Heitmer.

. . . Ich bin mit der mir übersandten Reinigungsmaschine „Amazone" Nr. 3 sehr zufrieden; sie arbeitet tadellos. . .

gez. Ottilie Kropp.

Die Anfang August erhaltene „Amazone" Nr. 4 arbeitet zu meiner vollsten Zufriedenheit. Sie wird oft besichtigt, und wurden durch den Verein seitdem schon wieder etliche bestellt. Kann Ihnen heute schon schreiben, daß in kurzer Zeit schon wieder drei Stück bestellt werden. Es sind hier auch Konkurrenzfirmen, doch übertrifft die „Amazone" jede andere Maschine.

gez. Mich. Rottenkolber.

. . . Die von Ihnen gelieferte Getreidereinigungsmaschine „Amazone" Nr. 40 ist zu meiner größten Zufriedenheit ausgefallen und werde ich dieselbe in meinem Bekanntenkreise weiter empfehlen.

gez. Franz Brauer.

Im September 1920 bezog ich von Ihnen eine Getreidereinigungsmaschine „Amazone" Nr. 4. Ich bin mit derselben sehr zufrieden und muß gesehen, daß sie den Ansprüchen, die man an eine gute Maschine stellt, voll und ganz entspricht. Von meinen Bekannten wurde dieselbe schon mehrfach besichtigt, und erklärten diese einstimmig, daß sie bei Neuanschaffungen Ihre Firma bevorzugen würden.

gez. Ludw. Walter.

20

Today, the core agricultural machinery competencies of the Amazonen-Werke factories are fertiliser spreaders, seed drills, soil tillage machinery, crop protection sprayers, precision seeders and, more recently, ploughs. On this basis, Amazone is the specialist for complete process chains for "intelligent crop production" in agriculture and can supply its customers all over the world with the optimum establishment systems for all steps from soil tillage to crop care. This is based on the philosophy of the 3C Cost Cutting Concept, which enables savings to be made in the process and thus more output with less effort. In addition to agricultural machinery, Amazone produces machines for park and lawn maintenance and winter grit spreading.

Amazone enjoys a very good reputation among all customers thanks to its outstanding quality and innovative products, and Amazone is the market leader in many product areas. This is also one of the reasons why Amazone continues to occupy the best position among medium-sized equipment manufacturers in the DLG's image scale in 2021/2022.

Nevertheless, our successes will not make us careless and overconfident, because we know that success is a delicate plant that needs constant care. We also know that there are still many things that we can and must improve at Amazone. However, the prospects of continuing to 'grow, blossom and thrive' are also very good, as the new developments we have created in recent years have met with great interest. In addition, our designers are constantly developing, improving and completing our product programme.

AMAZONE machines for intelligent crop production

There are six important features that characterise our machines:

- They are particularly robust and reliable.
- They deliver a particularly good quality of work.
- They have a particularly high output.
- They have a good resale value.
- They are supported by an efficient customer service team.
- They have a reliable supply of spare parts.

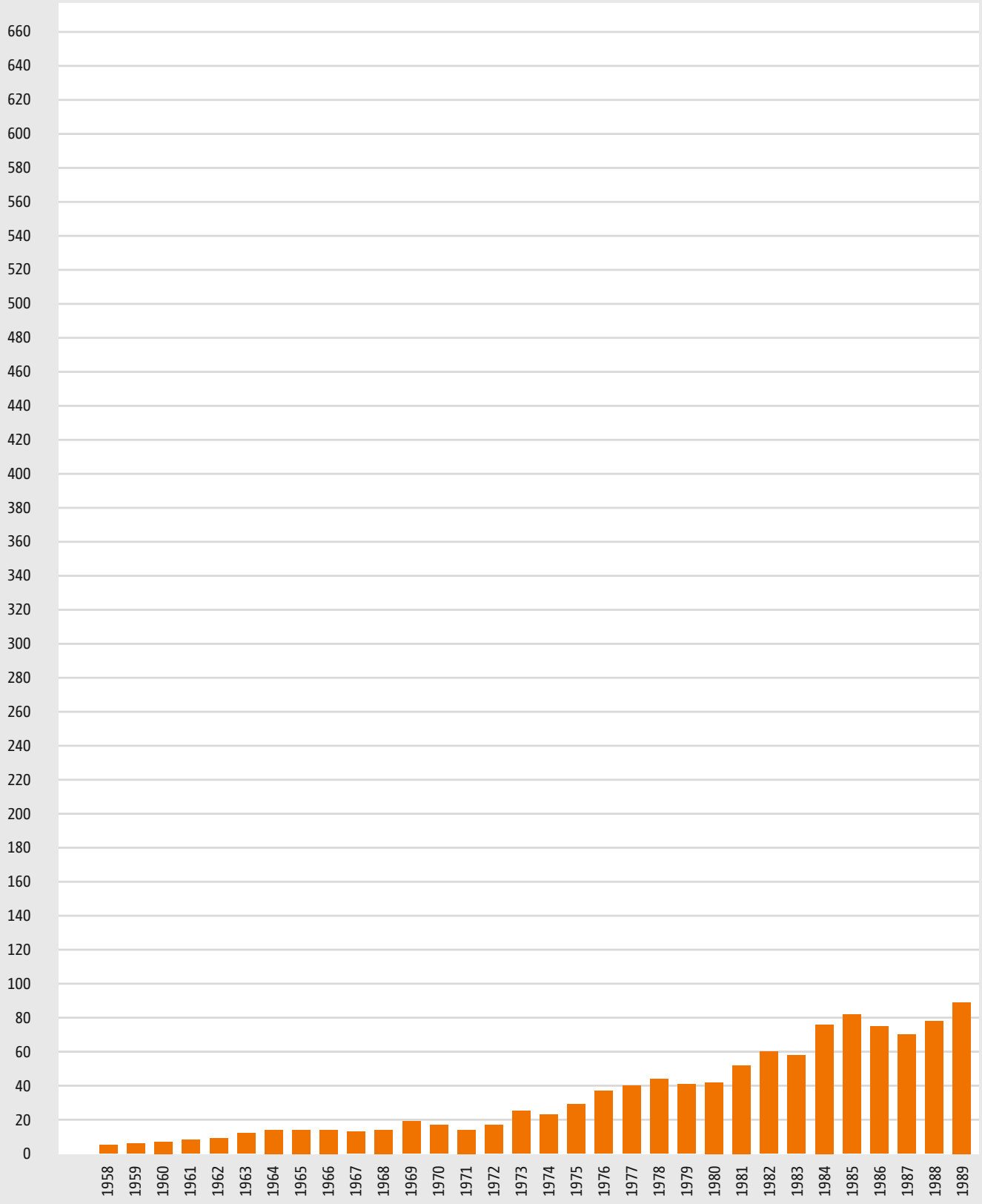
With these advantages, their owners can achieve better results than with normal agricultural machinery. This means that the work goes faster with less fuel consumption, the machines use less seed, fertiliser and pesticides and still produce higher yields. This means that they pay for themselves in a short space of time.

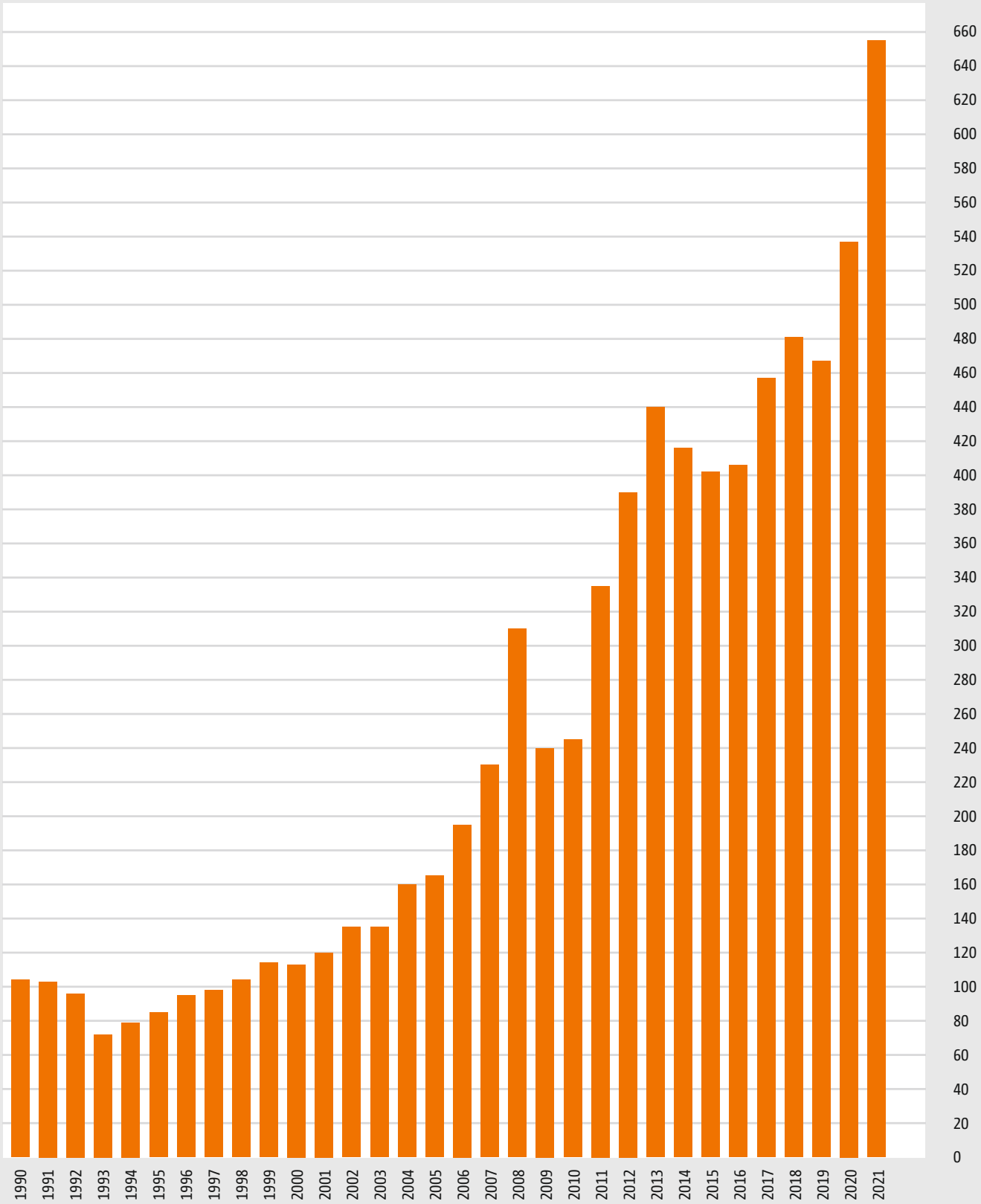
You can earn money with AMAZONE machines!

AMAZONEN-WERKE headquarters in Hasbergen-Gaste, 2018

Sales development of the AMAZONE Group, 1958 to 2021

Figures in million euros

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1883

Amazone

The success story of a family business

The story begins in 1883: Heinrich Dreyer develops a new grain cleaning machine in his father's workshop and decides – in the context of advancing industrialisation – to mass-produce this iconic piece of agricultural equipment. He thus lays the foundation stone for Amazonen-Werke and records the development of his business as well as historical events – the turmoil of war and inflation, weather disasters and food prices – in his diary.

The AMAZONEN-WERKE management team since 2010

Christian and Dr Justus Dreyer, the two great-grandsons of the founder, have been running the internationally successful family business since 2005. The product range has expanded: Amazone manufactures fertiliser spreaders, crop protection sprayers, soil tillage machinery, seed drills and groundcare equipment and is a leader in various of these sectors across the international markets.

In this book, the "senior boss" Klaus Dreyer describes how Amazonen-Werke has developed from a small family business to the current blooming enterprise – with the help of many photos and documents from the family and company archives.