Agritechnica 2025 Agricultural Engineering trip

colegsirgâr

AGRITECHNICA 2025, the leading global agricultural machinery fair, attracted nearly 476,000 trade visitors from 171 countries and featured around 2,800 exhibitors from over 50 nations, showcasing innovations in digital farming, robotics, and smart agriculture under the theme "Touchsmart Efficiency". The event, held in November 2025, filled 23 halls across 100 acres, offering a vast international marketplace for the industry, with significant focus on sustainability, AI, and automation.

AGRI TECHNICA DLG THE WORLD'S NO.

The DOUGLAS BOMFORD SUPPORTING AGRICULTURAL ENGINEERING Trust

Objective

The objective of our trip was to attend the Agritechnica show in order to discover all the various technologies and equipment which have been developed and are available on the global market. Attending Agritechnica is a great opportunity to see all the revolutionary technologies within the agricultural engineering sector such as robotics, AI, autonomous machinery as well as advancements in fields such as GPS. The show hosts nearly 3000 companies which are all displaying one or more new products within the agricultural sector, this gave us a huge scope of what is available on the market and allows you to see similar products from different manufacturers all in one place. This is very useful if you are looking to purchase a product or conducting market research.

Overview

- In November 2025, 20 students took part in a trip to Germany organized by Coleg Sir Gâr.
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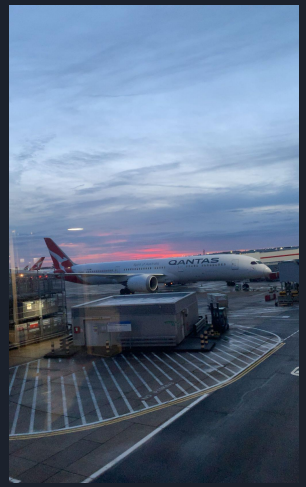
- For many of us this was our first time going abroad or on a plane.
- The trip included a tour of a leading agricultural manufacturer’s factory.
- Students also spent two days at the Agritechnica show in Hanover.
- The purpose was to see how familiar agricultural machinery is manufactured.
- Students explored new technologies and machinery from major manufacturers and emerging companies.
- The trip provided exposure to large-scale machinery not commonly seen on small British farms.

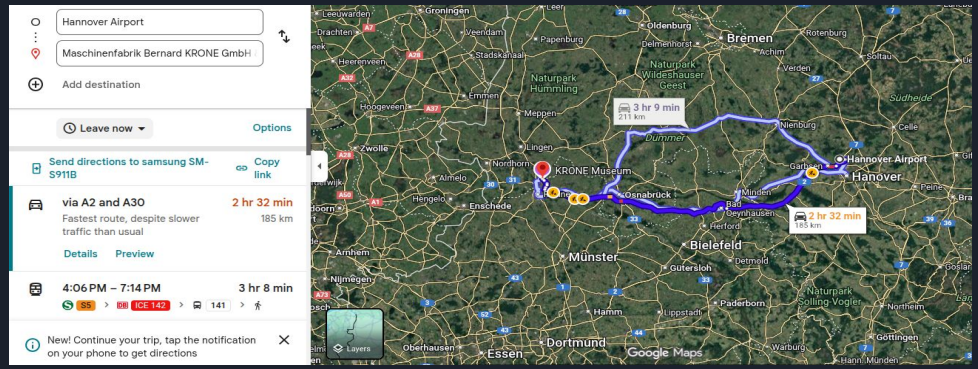
Met at Gelli Aur

We all met up in Gelli Aur college where we then met the bus at 10:45 once everyone had arrived. We were very lucky as storm Claudia had left poor road conditions with some roads being flooded. We then began the 4 hour bus journey to terminal 3 at Heathrow airport. After around 2 hours we stopped at the Leigh Delamere Services for a break and to stretch our legs before continuing our journey until we reached terminal 3 at Heathrow airport, this was around 4 o'clock in the morning. After we checked in we roamed around the airport and also had some breakfast before boarding the hour and a half flight to Hanover airport at around 8 o'clock in the morning.

Landed at Hanover, drove 3.5 hrs to Krone

After landing in Hanover at around 12 o'clock and going through customs we met our coach which drove us around for the entire trip. We then got on the coach and started the journey to the Krone factory in the town of Werlte in Western Germany which took around three and a half hours.





Day 1 Krone factory tour

Our trip began with a visit to the Krone factory, we received a warm welcome and were given refreshments upon arrival. This was followed by a talk on the history of the company, how it all began and how the company has grown to where it is today. We were also told how they had branched out from manufacturing agricultural machinery which was their main product to manufacturing commercial trailers for articulated lorries. In which they currently hold a 16% European market share, making them the second largest producer of commercial trailers in Europe. We were also informed how the company operates and what manufacturing facilities we would be looking at during the tour of the factory. Once this briefing had concluded, we were led on a guided tour around the premises.


KOMPETENZ
KRONE
Galaxy S10 Lite


Galaxy S10 Lite


EASY FLOW
Galaxy S10 Lite


Galaxy S10 Lite

Manufacturing

The tour began with a look around the area of the factory where all the components are manufactured for the different models of machines which they produce. Many components are made bespoke for each model of machine, this allows the company creative freedom when it comes to solving common issues, it also allows them a monopoly on spare parts, this is another source of income for the company. The area in which the parts are manufactured is an old warehouse which has been outfitted with modern, state of the art machines which are required for manufacturing all the components to a high enough standard in bulk. These components are then inspected to ensure the quality is up to the standard which they require before being sent on for treatment.

Treatment

This is where the parts are placed on a rack similar to one used when drying freshly painted car parts, this rack is mounted onto a robot conveyor which takes the parts along the line and deposits them for the correct duration in the correct area. The process begins as they are dipped in a cleaning solution to ensure that all parts are properly cleaned before being dipped several times in rust prevention solution, this is to ensure that they will last as long as possible before they begin to corrode. They are then dipped in a priming substance and then into the paint, this is to ensure that the parts are properly covered and that no areas are missed. The parts are then raised out of the vat and sent along a conveyor which takes them through to a high temperature drying area, this hardens the paint and ensures that it dries correctly without any imperfections and that the application is as robust as possible. Once the components have passed through the drying area and the paint has dried to a satisfactory standard, the rack of components is deposited in an intermediate storage area from which it is taken by a forklift and the parts are put into a larger storage area where the employees of the factory can access them in order to assemble the machines on the production lines.

Production lines

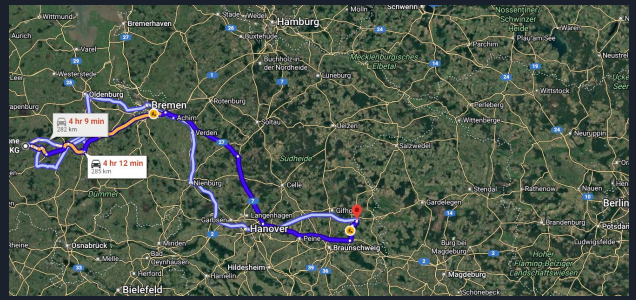
The tour then moved on to the production lines, we were shown how the parts are transferred from the warehouse in which they are produced to the production lines in the different buildings which house the production lines for the range of machines they produce. The parts are stored in several large storage areas, each suited to certain sized components, these are then transported around the site using forklifts and small electric shunting vehicles with trailers. The parts are delivered to the corresponding areas of the production lines, these lines comprise of multiple workstations located at different points in the assembly process. The parts are then fitted to the machine by technicians before being passed down the line to the next workstation where a different set of parts will be added, this means that every machine is assembled in an identical manner which reduces the likelihood of any confusion or mistakes during the assembly process.

Testing

Once a machine has completed its journey along the production line, it ends up in a testing area, this is where every machine which is manufactured is tested in a variety of different metrics to establish that it is fit for purpose and has no defects or issues. This process is allowed a certain time slot, this includes all the testing as well as the rectification of any faults which might present themselves during testing. Any faults which are more serious and cannot be fixed within this timeframe mean that the machine is taken from the production line and the fault is rectified in a separate workshop. Once a machine is fully completed and has been passed by the testing team, it will be taken from the factory to a storage area before being shipped out to the dealer or customer.

End of the tour.

Once we had been taken to see all the different areas and aspects of the factory, we were taken to the highest point in the complex to see the factory in its entirety, our guide also explained to us some more about the history of the company and how certain areas of the factory came about. We then made our way back to the entrance where we were once again served refreshments and also given a bag of Krone paraphernalia to take away with us. The trip to Krone was a superb experience and it was fascinating to see how these machines are built and how the factory functions, it was a terrific beginning to our time in Germany. Once the tour had finished we then traveled back to our accommodation in Wolfsburg Germany.



Hostel

The hostel we stayed at was called the Wolfsburg youth hostel. It was a very nice hostel with excellent food both breakfast and super provided. There was a large selection of food to choose from to suit everyone. The rooms was very nice and spacious. It was situated in a very good location to ensure that the distance to the show and the factory tour. This allowed us a short trip to the show in the morning so that we could have more time around the show.

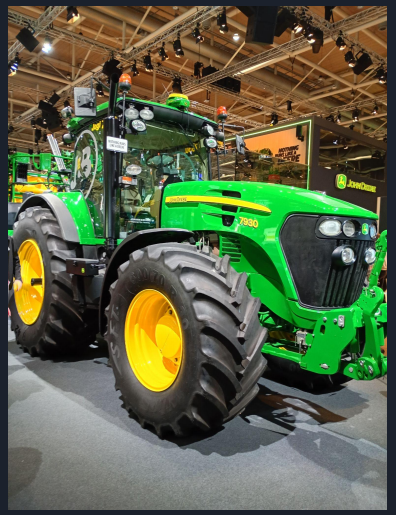
Plan

This is the plan of the show that outlines where each of the manufactures will be located. The site was spread over 100 acres and 23 halls. The halls were filled with a large variety of equipment. Much of the equipment was significantly larger than we are accustomed to, with state of the art technology.
On the map it also showed where the food halls were located. There were also other information such as exits and bus stops as there was a bus service that you could use to traverse the site.

Our objective of the show was to research the increasing use of Ai and robots to overcome a labour shortage.

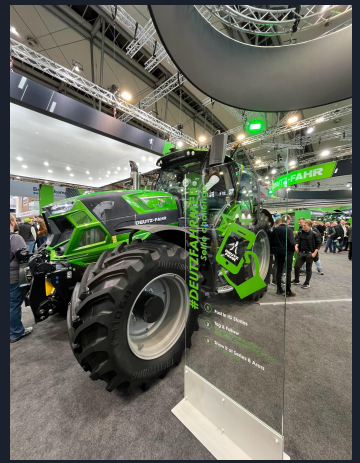
Day 2 Digital farm day

On our second and third days in Germany were spent at the Agritechnica show in Hanover, this is the world's largest exhibit of agricultural machinery and products. The show is divided into 23 exhibition halls, every one of these halls is packed with either machinery, agricultural products or new technological innovations. Every mainstream manufacturer has a huge stand with several machines on display, filling the rest of the halls are hundreds if not thousands of smaller brands or startups with a small area to display their product or technology. The range of products being exhibited is incredible, it is also a fantastic opportunity to conduct research into the thousands of different products, technologies and solutions available on the market.



Machinery

Over the course of a week, the show hosts just about every company which creates some sort of agricultural machinery, from tractors to combines and foragers to mowers, trailers, sprayers and forestry equipment. There is every single type of machine on show, this means it is a perfect opportunity to explore the possibilities of what companies are capable of making. There were new models of tractors such as the New Holland T7.440, this is a new 435hp tractor but in a smaller frame and launched under the name of a smaller series tractor, the T7. There were also new tractors which are pushing the boundaries and producing more power than mainstream tractors have ever produced, tractors such as the Case Quadtrac 785 and the John Deere 9RX 830 which can produce up to 913hp.

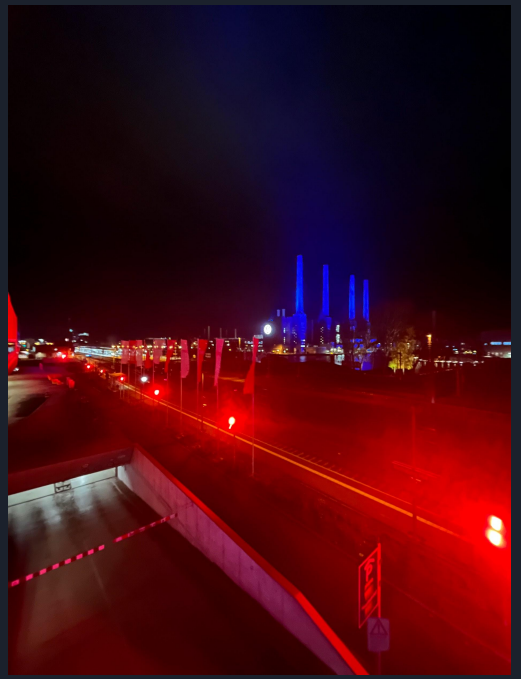


Technology

There were also huge numbers of companies exhibiting new and innovative technologies, these are thrilling to see as they may be picked up by the mainstream brands. The technologies on show could become mainstream which would mean we could see them being integrated into the machines which many of us use in our daily lives. Some of the technological advancements on show included robots for many different purposes, these included robotic mowers, self driving tractors as well as many robots designed for smaller tasks such as one which was displayed with human like hands, this is for the purpose of berry picking where larger and more standard machinery is too rough and currently we have to use human workers to pick the berries, this robot would do the same job and, over time, save the farmer a great deal in labour costs.

Evening entertainment/bowling

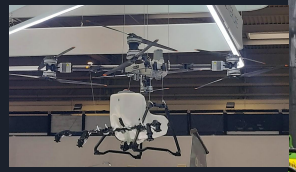
On the second day of our trip, having returned from our first day at Agritechnica, we were taken out in the evening to a 10 pin bowling club. We booked a 1hr session on 3 lanes, we then split into 3 groups and each had a good game and had a jolly good time. We then enjoyed a peaceful walk back through Wolfsberg on the way back to the hostel before a good night's rest ready for another full day at the show.



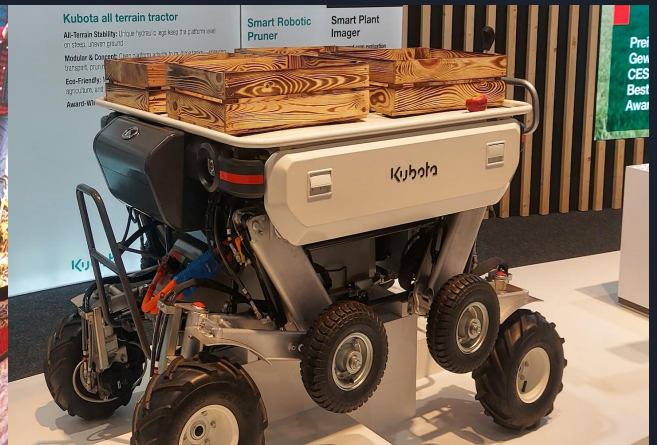
Day 3 Young Professional Day

The subject of the third day of our trip was Young Professionals. This is a hugely important subject within the industry as, in the next few decades, we will be the people working in these companies and designing and working on the next generations of machinery and technology within the agricultural sector. The manufacturers running the stands made a commendable effort to approach us and speak to us in English, which for many was not their native language. They made us feel very welcomed and were also present to answer any question which we might have, many stands also provided free refreshments to those who were visiting their stand.

Use of AI and Robotic Technology



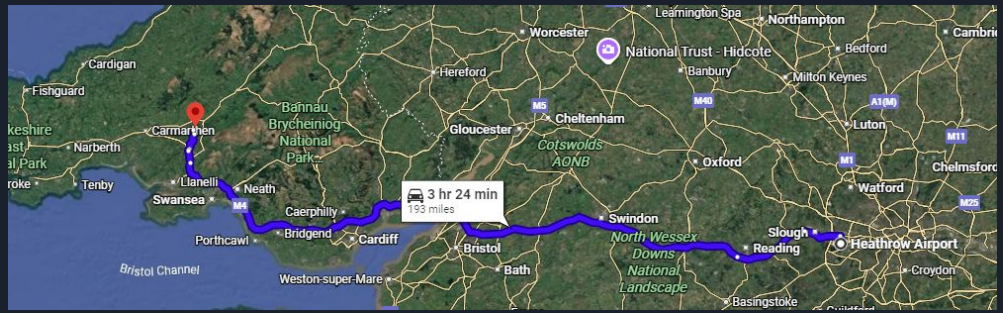
We were shocked with the development of robots and Ai with the majority of manufacturers showcasing their next generation of machines that would work autonomously from carrying tasks such as mowing, cultivating, transport of goods through weed control. There was a large presence of spraying drones and devices for weed detection. These varied in sizes from something the size of a wheelbarrow through to a 11 metre robotic mower



A particular area that we were shocked with their development and their innovative thinking were from companies such as AI Land who have developed a robot with human like hands to ‘hand pick’ high valuable salad and vegetable crops to overcome the increasing demand for labour. This company was very forthcoming and discussing their findings as well as WZL robotics by developing a hand type clamp for picking apples and the supporting AI to determine the ripeness of the fruit.

Travel home

On Saturday 15th November we were to depart Germany and return to the UK. We awoke early to have breakfast catch the coach to the airport at 8:15am, the coach journey took a little over an hour to complete and we arrived at the airport at approximately 9:30. We had a short wait in the airport as our flight wasn't to depart until 12:30pm which meant we couldn't check in until 10:30-11am. Once we had checked our bags and waited in the airport for our boarding time, we were able to board the plane which had been slightly delayed and we left Germany at approximately 1:15pm. We arrived back in the UK at about 1:50pm GMT, we then gathered our checked bags and boarded the coach to return back to the Gelli Aur Campus. We arrived back at Gelli Aur at approximately 7pm and promptly departed for our respective homes. It was a terrific experience to be able to see the manufacturing processes at the Krone factory and the differences and advancements in agriculture at the show. Overall it was an absolutely corking trip and we would all like to thank Rhys for organising it and Jordan and Huw for keeping us in line.



Thanks Douglas Bamford Trust

We would like to thank the Douglas Bomford Trust for providing funding which allowed us to attend the Krone factory and the Agritechnica Show in Germany. This has given us valuable insight into production methods, innovative technology which has given us a insight into what the future holds for us as agricultural engineers and machinery which is currently produced and available on the market, this will help us greatly in the completion of our college course and continue to help us a we continue into the workplace. This invaluable experience has gives some of us the motivation to progress onto our higher education.

Once again Thank you for the opportunity

Students who attended

Glyn Bevan

Dafydd Davies

Ifan Davies

Daniel Jones

Oil Jones

Rhys Jones

Thomas Richards

Tomos Thomas

Dylan Vaughn

Max Wiseman-Lynch

Ieuan Evans

William Davies

Celt Thomas

George Thomas

Dylan Lewis

Gethin James

Berwyn Thomas

Llyr Harries

Elis Evans