Cologne Electric Vehicle Center

Ford's first dedicated EV plant in Europe – in numbers

#1

Job#1 describes the start of volume production of the all-electric Explorer.

125 hectares

Area equipped with a brand-new production line, battery assembly and state-of-the-art tooling and automation.

54 sec.

The plant has the capability to produce an Explorer every 54 seconds.

2035

In Europe, every vehicle offered by Ford will be all-electric from 2035.

100 %

All electricity and natural gas required to operate the facility is based on being 100 per cent certified renewable electricity and biomethane.

$2 billion

Has been invested to turn the plant into the Cologne Electric Vehicle Center.

Did you know?

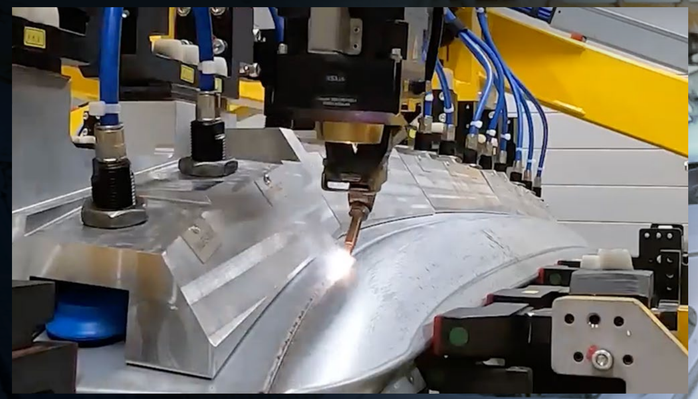
Over 18 Million cars have been produced at the Ford Plant in Cologne over the last 90 years.

Body Shop

The factory of the future

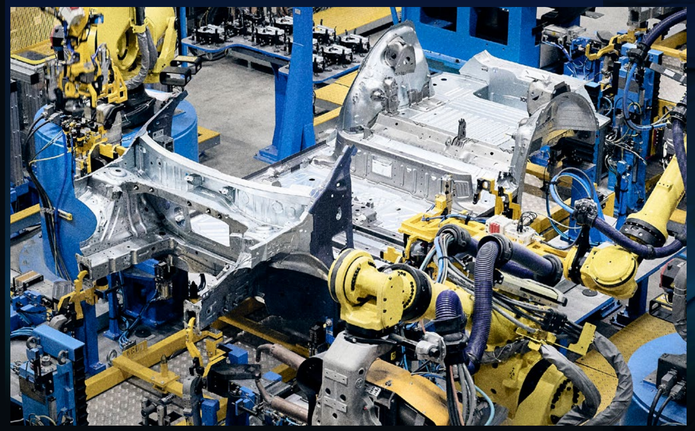
Automated guided vehicles

The production process begins with automated guided vehicles transporting materials and ready-made parts to workstations.



Laser welding

A special closed room is set up for AI-controlled laser welding of the roof to the body.



Robots and automation

Throughout the body shop, robots take on tasks for everything from pick-and-place part selection to moving large sheets of metal into the stamping machines.

Every 54 seconds

Did you know?

A ballet of more than 600 choreographed robots produces an Explorer every 54 seconds.

Vehicle Body Quality Centre

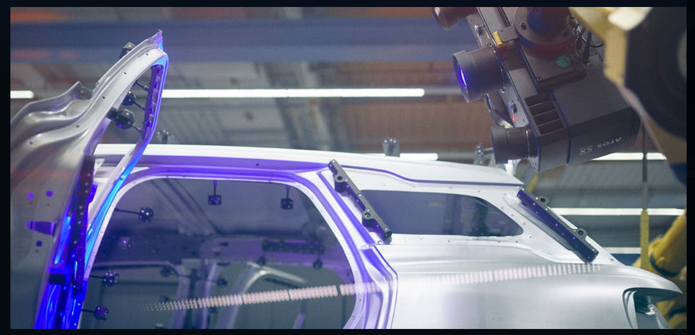
Under the AI microscope

Mobile artificial intelligence vision system

Scanning the vehicle body to compare it with stored ideal data twin.

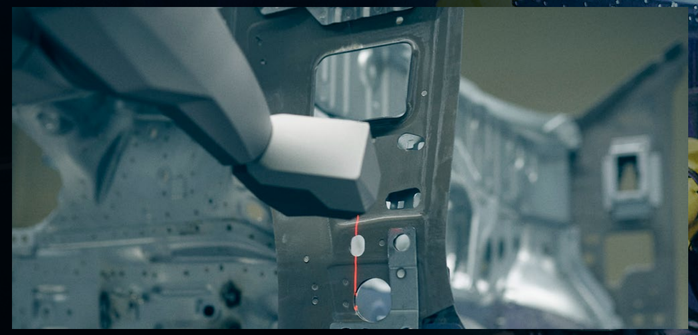
Quality checks

1-2 vehicles per day are randomly taken from the production line.



Robot control

Two new robots with cameras and scanners check every micrometre of the vehicle for variances.



Precision measuring

AI-based precision measuring system with a photonic crystal fibre sensor checks all the critical bolting points.

Did you know?

Central to Ford's new plant is "closed loop production", a continuous data exchange within all process steps to enable quick adjustments.

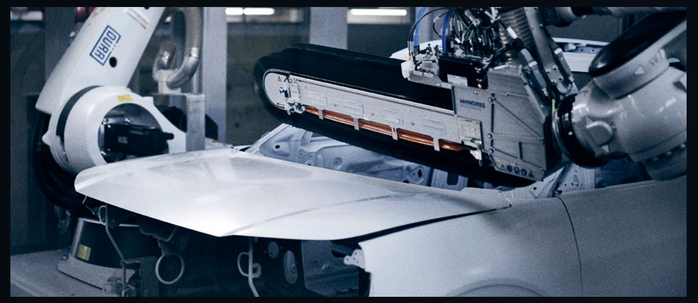
$2 billion investment

Paint Shop

The perfect bath and a pristine finish

Anti-corrosion

The vehicle body moves through a series of baths and is turned 360 degrees to avoid air bubbles. Distilled water from a nearby power plant is filtered and continuously reused.



Dusting specialists

A pair of choreographed sword brush robots clean the entire body.

Robot sealer

New robots apply sealer to protect against water. New drying process saves 1,000 tonnes of CO_2 each year.

Best finish ever for a Ford

New processes for anti-corrosion, sealing and painting result in best finish ever for a Ford vehicle.

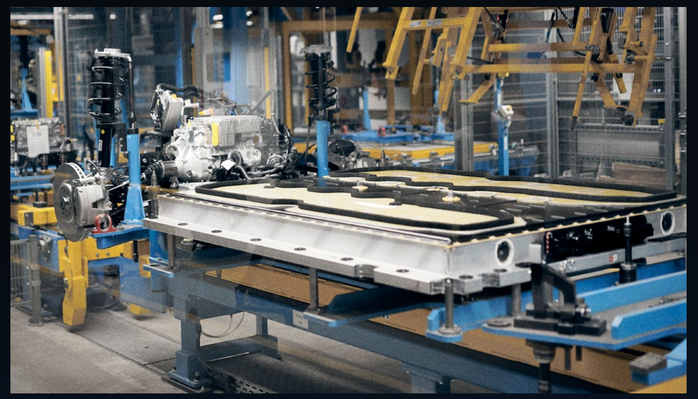
Did you know?

The painting room has a downward airflow that ensures the painting is more accurate and less paint is used.

Saving 1,000 tonnes of CO_2

Final Assembly

The finishing touches and a perfect match



Battery check

A new AI system with cameras checks all electrical connections, while a laser scanner detects unwanted objects before battery and vehicle body come together.

Bringing it all together

In the final assembly area body and the Battery-Axle module move along separate lines before they are joined together in a process called “marriage”.

Final checks

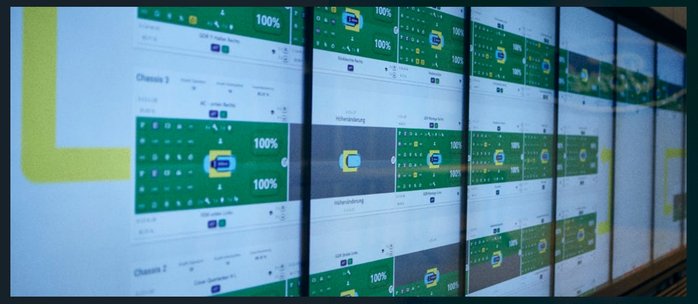
At the last section, scanners and experts do a final quality check on all vehicle components and the surface.

Did you know?

AI technology checks all electrical connections to the battery.

Workstation Readiness

The “digital twin” tracks every part and process



Central control

Dedicated 2.5 by 10 metre control panel visualising the production line in detail.

Virtual plant

The “digital twin” acts as the central nervous system of the plant, using real-time data to monitor the quantity of parts, keep track of the efficiency of each process, control the work-load and predict maintenance.

Real-time status

The touchscreen can be zoomed in on any workstation, with clickable icons providing current information on tooling and equipment, material delivery, work safety, ergonomics, and more.

25m² control panel

Did you know?

Every workstation has a tablet, to gather data, analyse the process and provide instructions. Tablets are also used to train employees for work on the production line, as the plant moves towards becoming a paperless facility.