Press release

British sports car brand chooses Dürr technology for production line modernization

**Flexible assembly concept for Lotus**

**Bietigheim-Bissingen, 2 September 2021 – Lotus refurbishes the Hethel plant and entrusts Italian Dürr subsidiary CPM with the realization of an open and innovative production line for its renovated assembly. This involves the use of ProFleet AGVs designed for final assembly shops.**

In 2020 the iconic British sports car brand Lotus allocated significant investments to upgrade its plant in Hethel near Norwich, UK including the final assembly building.

With the development of an extremely innovative and flexible solution, Dürr was able to win the tender to develop and install the equipment for assembly of cars in Lotus’ new final assembly shop. It will take place on Dürr’s ProFleet system and start with the all-new and recently unveiled Lotus Emira sports car.

Produced by CPM, ProFleet is an automated guided vehicle (AGV) that has been specially designed for final assembly shops. Due to its innovative technology, ProFleet has already been selected by major car manufacturers worldwide.

**Final assembly at Dürr**

For the final assembly business, Dürr has set up a global strategy: NEXT.assembly. The strategy integrates all of Dürr’s technology and consulting spectrum in a one-stop-shop solution aimed at enabling manufacturers to assemble vehicles as efficiently as possible. The building blocks for this are conveyor, gluing, marriage, filling, and testing technology as well as digital solutions for intelligent control of overall production. Dürr offers the portfolio as a modular system of individual components or as a complete solution.

**High efficiency, excellent usability and a safe working environment**

The Hethel plant is equipped with a total number of 34 medium-sized AGVs, each being provided with natural navigation. This means that it is possible to change the AGV path and consequently also the production layout at any time without major impacts. ProFleet AGVs will be used for trim and final operations. The ProFleet at Lotus are provided with bi-directional kinematics and controlled by an in-house fleet management system based on an open software architecture. A clear advantage is the possibility for the plant's operational staff to intervene directly with each AGV’s operations without necessarily having to wait for external support. The AGVs are also equipped with an electrohydraulic lifting table which allows for raising or lowering the car body to an optimal position with high accuracy. It means manual operations can be carried out with the utmost respect for ergonomics, ensuring the highest safety standards.

**Stop-and-go and state-of-the-art**

Major car manufacturers are rethinking traditional production line concepts. They are constantly striving for higher efficiency and more flexibility as well as the reduction of the number of production stops while keeping production losses to a minimum. Using state-of-the-art solutions such as ProFleet supports that goal.

At the Lotus plant the AGVs load the car bodies at the beginning of the assembly line and transport them along the entire assembly shop in stop-and-go mode: stopping at a working station for the time required to perform the necessary operations and then continuing to the next one until the end of the line where tests and quality checks are performed.

**Dürr technology for the end of line**

At the end of line Lotus also relies on Dürr’s testing expertise. The scope of supply included the wheel alignment stand x-wheel which uses non-contact 3D measuring technology to measure and adjust the chassis geometry within angular minutes. Furthermore, the wheel aligner was combined with the x-light headlamp aiming system and the ADAS (Advanced Driver Assistance Systems) calibration system x-DASalign which is used to calibrate the FRM (Front Radar Module) and the FLC (Forward Looking Camera). The end of line is completed with the x-road testing system which performs final tests regarding roll mode, brake operation and ABS.

Immagine che contiene LEGO, giocattolo, interni

Descrizione generata automaticamente

Figure 1: Lotus ProFleet AGV for Final Assembly designed by CPM – Dürr Group

**About Dürr**

The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation and digitalization/Industry 4.0. Its products, systems and services enable highly efficient and resource-saving manufacturing processes in different industries. The Dürr Group supplies sectors like the automotive industry, mechanical engineering, chemical, pharmaceutical, medical technology and woodworking industries. It generated sales of € 3.32 billion in 2020. The company has more than 17,000 employees and 120 business locations in 33 countries. Since February 2021, the majority-owned automation specialist Teamtechnik has also been part of the Group. The Dürr Group operates in the market with the brands Dürr, Schenck and HOMAG and with five divisions:

* **Paint and Final Assembly Systems:** paint shops as well as final assembly, testing and filling technology for the automotive industry, assembly and test systems for medical devices
* **Application Technology:** robot technologies for the automated application of paint, sealants and adhesives
* **Clean Technology Systems:** air pollution control, noise abatement systems and coating systems for battery electrodes
* **Measuring and Process Systems:** balancing equipment and diagnostic technology
* **Woodworking Machinery and Systems:** machinery and equipment for the woodworking industry

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