Press release

AGVs for flexible capacity expansion

Dürr builds scalable paint shop for Enovate

Bietigheim-Bissingen, 5 March 2021 – Enovate is a high-end travel technology enterprise integrating R&D, production, sales and service of new energy vehicles. The new e-car factory currently being built by the Chinese manufacturer is scheduled to start production this year. It includes a scalable paint shop built by Dürr, which will grow flexibly with demand. An important building block for this are the EcoProFleet automated guided vehicles (AGV).

Enovate’s brand concept focuses on design, top quality and intelligent connectivity. Following this concept, the company aims to rethink intelligent and green mobility and implement its ideas with the help of innovative technology. The first ME7 model has been officially available since last fall. The new plant in Changsha, one of China's major cities, is designed for an initial annual capacity of 60,000 units. To enable Enovate to quickly expand its production in response to rising demand, Enovate opted to use AGVs around its manual workstations. AGVs are a flexible conveyor technology that is not bound to cycle times and can be easily extended as production figures grow.

Investment as and when needed

Unlike conventional in-floor conveyor technology, more AGVs can simply be added as additional workstations are built. This is economically attractive, especially for newcomers to e-mobility; they can begin with small quantities and gradually expand as demand increases. Driverless transport vehicles offer the flexibility to postpone expansion until as and when the manufacturer actually needs it.

Ready for use around the clock

Resistant to paint and solvent, equipped with an integrated laser scanner and a safety speed limit for utmost safety, EcoProFleet by Dürr is the first AGV specifically for paint shops. Four of the autonomous transport vehicles will be used at Enovate over an area of 60 meter by 36 meter to convey bodies between the manual workstations and the intermediate storage area. AGVs do not require breaks for charging, therefore they are ready for use around the clock. Charging points are installed at those points in the plant layout where the AGVs are stopping anyway to hand over or pick up bodies. In just 90 seconds they draw enough power to cover the next section. Dürr developed different adapter solutions for transporting the bodies to the AGVs and handing them off smoothly between the AGVs and other conveyor technology, for example from a roller track to an AGV. With the right adapter solution the AGVs can be used both with skids, as at Enovate, and without skids.

**Complete flexibility, even in the PT/EC area**

Enovate’s new paint shop is also the first in China to rely on the RoDip® E rotational dip process in pretreatment with a thin-film process and in cathodic electrocoating. Unlike the RoDip® M product variant established in many plants in China, RoDip® E is electric. This means that each trolley can be individually programmed for a car body. This opens up the flexibility to define an optimized immersion curve in terms of turning and travel speeds for each body type, resulting in the best possible draining and minimal carryover. All RoDip® variants have a comparatively short immersion tank with a small tank volume to keep consumption of water, chemicals, and energy as low as possible.

**Environmentally friendly overspray separation**

Dürr’s **Eco**Dry X system is installed for the topcoat spray booth. It uses cardboard filter boxes as a separating agent for overspray, and is therefore more environmentally friendly than processes that use a mixture of water and chemicals. The process air is redirected to the air recirculation system for greater energy efficiency. This reduces the total energy consumption of a paint shop by around 30 percent compared with a conventional wet scrubbing system that is operated without air recirculation. **Eco**Dry X also scores when it comes to handling since the disposable cardboard filters can be easily replaced, if necessary even while production is still underway.

Pictures

The following pictures are available for download [here](https://www.durr.com/en/media/news/news-detail/view/duerr-builds-scalable-paint-shop-for-enovate-80044) on our website.



**Picture 1:** Flexible transport of the car bodies by **Eco**ProFleet AGVs from Dürr.



**Picture 2:** After drying of the car bodies, the **Eco**ProFleet AGVs take over their transport.



**Picture 3:** The rotational dip process RoDip® E by Dürr is used at Enovate for pretreatment and cathodic electrocoating.

**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

**About Enovate**

Adhering to the brand concept of global design, top quality and intelligent connectivity, Enovate automobile is committed to reconstructing the design, quality and intelligent experience of automobile with innovative technology, constantly subverting the imagination of automobile, exploring the infinite possibility of green travel in the future, and gradually becoming the explorer and leader of green intelligent travel.

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