Press release

Dürr builds the first EU Taxonomy-compliant paint shop

Dürr paint shop with EcoQPower requires about 21 percent less energy

Bietigheim-Bissingen, June 13, 2024 – Paint shops must become “greener” to help vehicle manufacturers feel certain about meeting their ambitious climate targets. Assessing a technology’s sustainability is a complex task. In a comprehensive life cycle analysis, the Fraunhofer Institute for Building Physics (IBP) studied the carbon footprint of two different paint shop concepts. The result: Dürr’s paint shop with the EcoQPower system, which networks all energy flows to supply all process steps, reduces carbon emissions by **19.2 percent over its entire life cycle compared to paint shops without this system. This is mainly due to an energy consumption reduction of** about 21 percent in the utilization phase, making it the first paint shop to comply with EU Taxonomy requirements.

Paint shops consume the most energy throughout the entire vehicle manufacturing process since applying paint and drying car bodies are very energy-intensive. Consequently, modern paint shops’ carbon footprints are still significant despite technical progress. “The EU wants to be climate neutral by 2050. We had this target in mind when we adopted a new strategy on the path to a carbon-neutral paint shop from an energy perspective. Instead of continuously increasing the energy efficiency of individual elements such as paint booths and ovens, as we did before, we developed the EcoQPower system, which considers all paint shop energy sources and network components, as well as energy flows,” explained Jens Oliver Reiner, Senior Vice President Sales in the Paint and Final Assembly division at Dürr. The new concept analyzes energy sources and energy sinks in operation, considering various operating states and historic climate data. Based on this analysis, the EcoQPower energy network systematically recovers energy in one place, which can then be reused elsewhere.

Significant carbon footprint reduction

Sustainability is often promised, but these promises frequently turn out to be nothing more than greenwashing. Dürr partnered with the Fraunhofer Institute for Building Physics to prove that the first paint shop optimized with EcoQPower being built for a German vehicle manufacturer emits fewer greenhouse gases than a paint shop without the energy network system. The scientists analyzed the effects on the carbon footprint by simulating and calculating the values for two identical, all-electric factories in the same location and with the same performance data – one with and one without an EcoQPower system.

In keeping with the circular economy, the entire life cycle from paint shop production, including the transportation of materials to the utilization phase and the end of life, was analyzed. The Fraunhofer Institute for Building Physics’ study found that the EcoQPower system reduces the carbon footprint by 19.2 percent over this entire period. Since 91 percent of emissions are produced in the utilization phase, EcoQPower enables paint shop operators to run a more climate-friendly business. The investment also pays off in terms of sustainability, with Dürr’s energy consumption analysis confirming that EcoQPower reduces utilization phase energy consumption by 20.6 percent, making the optimized paint shop about 21 percent more energy efficient than a modern standard system. As a result, operators can reduce their energy costs by seven figures over the assumed utilization period of 15 years and 110,000 painted car bodies per year.

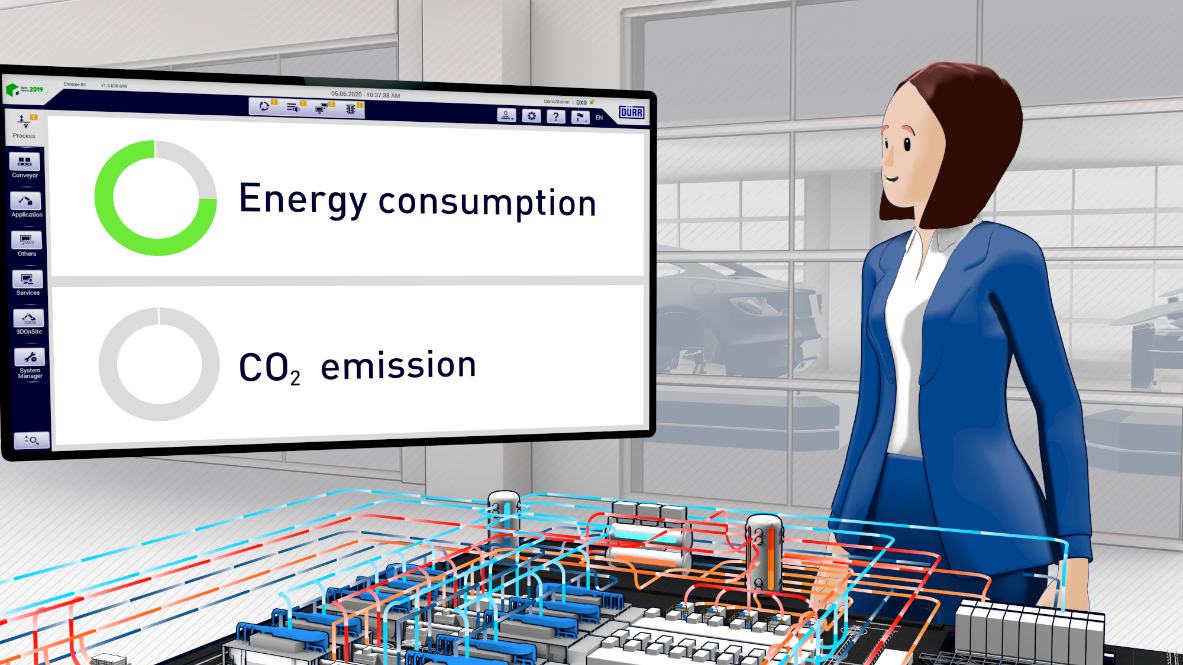
**No more unused energy with EcoQPower**

**Eco**QPower is based on the concept that each manufacturing area only receives the appropriate energy and temperature level it actually needs. In a standard paint shop, all process steps, such as pretreatment, the oven, and the paint booth, have been viewed and supplied as individual components until now. For example, excess energy from the drying process that could be applied elsewhere is released unused into the environment. By considering the entire scope, the **Eco**QPower system delivers real benefits by integrating all waste heat sources, including those not previously used, and reuses energy at low temperatures. Heat pumps generate heating and cooling energy simultaneously, which is possible because Dürr’s experts measure each paint shop process step's heating and cooling requirements using proprietary software. With this knowledge, they leverage synergies from the processes and – in combination with resource-saving technology – enable economical energy use.

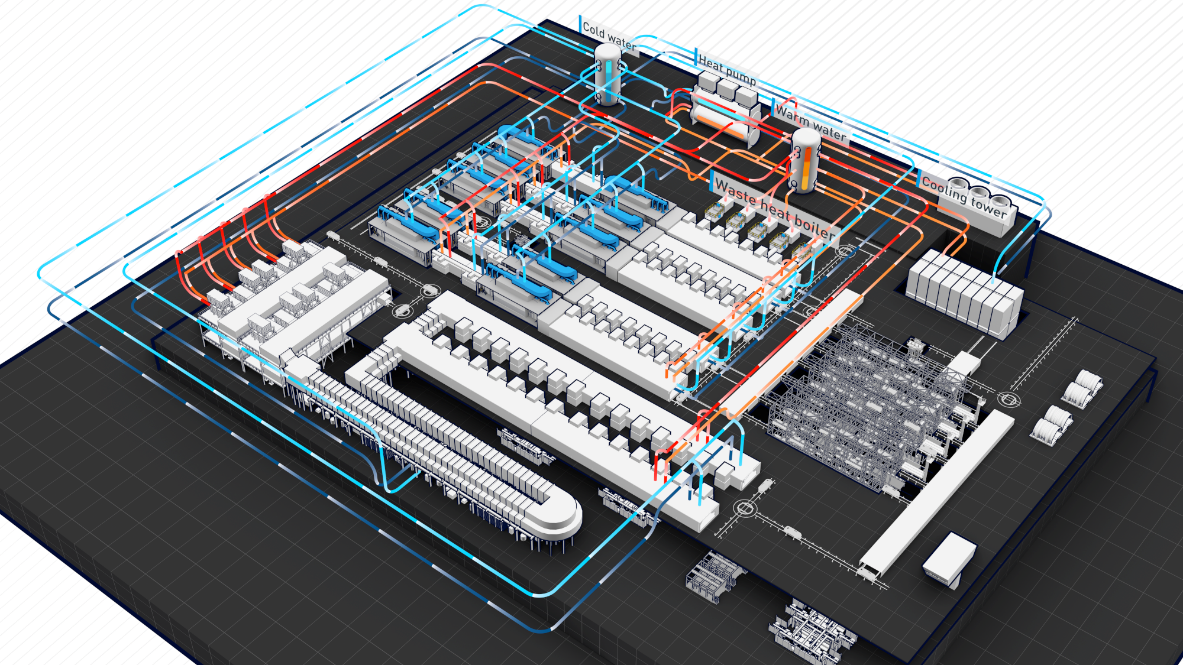
**EU Taxonomy defines standards for sustainable projects**

The EU Taxonomy is an instrument developed under the Green Deal, with the political objective of making Europe the first climate-neutral continent by 2050. By providing a transparent classification of sustainable investments, the regulation aims to ensure that financial resources fund projects that support climate and environmental protection. “Sustainability is becoming increasingly important for companies in the manufacturing sector. We help our customers make their production processes as energy-efficient as possible to achieve their decarbonization targets. We know that companies engaged in sustainable production will have more and more advantages in the long term for sourcing funding in Europe,” explains Reiner.

**Pictures**

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Picture 1: EcoQPower optimizes all available paint shop energy sources and also enables complete electrification.

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Picture 2: EcoQPower networks all cooling and heating flows across all process steps to supply each area with exactly what’s needed.

**About Dürr**

The Dürr Group is one of the world's leading mechanical and plant engineering firms with particular expertise in the technology fields of automation, digitalization, and energy efficiency. Its products, systems, and services enable highly efficient and sustainable manufacturing processes – mainly in the automotive industry and for producers of furniture and timber houses, but also in sectors such as the chemical and pharmaceutical industries, medical devices, electrical engineering, and battery production. In 2023, the company generated sales of €4.6 billion. The Dürr Group has around 20,500 employees and 142 business locations in 32 countries, and it operates in the market with five divisions:

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

Contact

Dürr Systems AG

Carina Lachnit

Marketing

Phone: +49 7142 78-4899

E-mail: carina.lachnit@durr.com

http://www.durr.com