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## **Innovative transport system without expensive infrastructure - the battery-powered electrified monorail system from PENTANOVA**

*Böblingen (Germany), May 25, 2023* – With the battery-powered electrified monorail system, PENTANOVA CS GmbH enables plant operators to use self-generated energy in their production and logistics facilities. The battery-powered, high-performance transport system requires no complex infrastructure and is easy to install and operate. Due to its design and rail construction, it is particularly suitable for complex plant layouts and cleanroom environments.

On the way to the legally anchored climate neutrality in Germany by the year 2045, companies are increasingly being held responsible. One part of company-specific sustainability strategies is usually in-house energy generation, such as through photovoltaic systems. With the battery-powered electrified monorail system (EMS), which material handling specialist PENTANOVA Conveyor Systems presented for the first time as an innovation at LogiMAT in Stuttgart in April 2023, it will be possible in the future to operate a material handling solution with self-generated electricity because it is powered by DC voltage. "Until now, it has often only been possible for companies to use self-generated energy to power their buildings and company infrastructure, but not for one of their biggest energy consumers: production and intralogistics equipment. We focused on this point when developing our battery-powered EMS in order to create a future- and sustainability-oriented solution for our customers here as well," explains Sebastiano Sardo, CEO of PENTANOVA CS GmbH.

### **Simple and time-saving installation and maintenance**

The vehicles of the battery-powered EMS are driven with 48 V voltage from accumulators (batteries). The control system, drive unit and batteries are housed directly in the vehicle. This eliminates the need for much of the technical equipment and system components previously required. The rail system requires only a minimum of power supply, since the complete conductor rail system for the vehicles is also eliminated. This means that not only maintenance-intensive and lock-prone components such as conductor rails or collector strips, but also complex conductor rail installation are a thing of the past. The system is lighter, easier to install and cleaner, which makes it very interesting for cleanroom environments. The vehicles of the battery-powered EMS are controlled via WLAN, for example via a system controller coupled with a host computer.

### **Small, nimble and maneuverable**

With a motor power of 600 W and a battery capacity of max. 2016 Wh, the battery-powered EMS is a small powerhouse and can transport payloads of up to 700 kg at a high speed of up to two meters per second. Its compact design makes it

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ideally suited for transport tasks in confined spaces. Thanks to the reduced use of live components in the switch and rail equipment, complex system layouts with many branches can be implemented without any problems.

### **Plug & Play**

The range of the vehicles is up to 20 km and the usage time is about seven and a half hours. After that, the vehicle must go to the charging station, where it is charged. The charging time takes about 45 minutes for a full charging cycle. The charging time is reduced if the battery level is lower or the battery-powered EMS is equipped with more batteries. If there is the possibility to charge in between (e.g. during waiting times or low utilization), the range increases accordingly.

### **Efficient solution for complex tasks**

Compared to conventional EMS solutions, this system is particularly interesting for use in confined spaces that also require more complex system layouts. Also, for environments where power-operated systems could not be used so far due to dust exposure, the battery-powered EMS represents an efficient, safe and economical solution for the automation of material handling tasks. As a battery-powered transport system without expensive infrastructure, the arguments in favor of the battery-powered EMS are similar to those of a driverless transport system, except that - thanks to the rail-guided, floor-free design - neither complicated control technology nor an elaborately prepared smooth, obstacle-free floor is required.

PENTANOVA's battery-powered electrified monorail system enables energy- and environmentally-friendly operation of production and logistics facilities with self-generated energy. Thanks to the simplified rail system, the system can be installed quickly, is easy to operate and requires little wear and maintenance. After a brief introduction, every employee is able to operate the battery-powered EMS. Overall, the advantages of the system have a positive impact on energy and operating costs.

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*With its high-quality, innovative products, technologies and services, PENTANOVA enables individual solutions for smart industrial processes. For more than 20 years, the system provider has been successful internationally and across sectors in the areas of industrial automation, intralogistics and plant engineering and is now represented at 21 locations in eleven countries. Around 800 highly qualified employees worldwide ensure that every customer receives the right individual, component or complete solution to create efficient and flexible process flows. This is how PENTANOVA makes its customers fit for the future - smart solutions for to-morrow.*

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*The intralogistics division PENTANOVA Conveyor Systems plans, implements and supports customized complete solutions for a wide range of intralogistics sectors. The service portfolio also includes comprehensive technical consulting for the development of intralogistics solutions and the implementation of complete intralogistics systems as a general contractor. As a former division of the plant engineering company Eisenmann, the company brings decades of experience in the planning, development and implementation of individual material flow projects, using its own reliable, highly efficient and proven products. A wide range of service solutions is also available to customers after completion.*

### **Image**

*Battery EMS at LogiMAT23.jpg*

Thanks to the battery-powered EMS from PENTANOVA, material handling solutions can be operated with self-generated electricity in the future. The company exhibited the innovative system for the first time at the LogiMAT trade fair in April 2023 (see photo).

### **Contact**

PENTANOVA CS GmbH

Marketing & Communications

Katrin Renz

Tübinger Str. 81

71032 Böblingen

Tel.: +49 7031 2098-109

E-Mail: [marketing@pentanova.com](mailto:marketing@pentanova.com)