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The new generation of electric vehicles.

EDAG Light Car: Electric Car of the Future

Sets New Standards for Information Acquisition with DELMIA V6

The EDAG Light Car has a body concept developed specifically for the new generation of electric vehicles, using the latest lightweight materials, semi-finished parts and assembly sequences. With its innovative lighting concept, it is one of the first vehicles to use O-LED technology as an individually adaptable design and communication element outdoors. EDAG Group is a partner of the international mobility industry whose main activities include the complete development of vehicles and production facilities. Additionally, the company is positioned as a turnkey partner in plant construction and small-series production.

To develop and implement this unusual, future-oriented approach for design, traffic control systems and vehicle technology, the teams at EDAG take advantage of the software portfolios from Dassault Systèmes. Starting with the design on up to the finished product, the process includes the entire scope of manufacturing lifecycle management and product lifecycle management. The EDAG Light Car was developed using CATIA V5. The production concept was realized with DELMIA V6—from planning the assembly and process sequence to the setup of the manufacturing cell, robot simulation and line balancing of the EDAG Light Car manufacturing cell. Karina Schäfer, a project manager and expert responsible for digital factory production solutions, explains the decision for DELMIA V6 with the positive experience in using DELMIA software for other EDAG projects.

Detailed Engineering in Three Phases

“The detailed engineering with EDAG basically occurs in a three-stage model,” says Schäfer. The first stage covers pre-engineering, including the definition of product standards and the investigation of influential factors. “Pre-engineering influences the product with regard to production requirements.” In the second stage of the digital factory, the concept engineering and 3D detailed engineering are depicted. Finally, the third step describes the virtual commissioning and implementation of the system. “After-all, our customers are also able to inspect the system using the virtual model,” Schäfer points out.

This method using DELMIA V6 provides clear advantages by accessing an integrated data model that doesn’t require problematic interfaces. “With EDAG Light Car, we’ve implemented DELMIA V6 for the first time in a pilot project,” says Torben Möller, a planner from EDAG. “The product developer generally determines the structure of how the individual parts are assembled. With V6, operation is simpler than with V5, because through an intuitive drag and drop function, the necessary components and elements can be used and integrated, for example, into the assembly or process sequence.” Basically, DELMIA V6 is conceived in such a way

that it permits database-supported planning in conjunction with ENOVIA. For the EDAG Light Car, the simple and intuitive operation of the planning software has been employed and tested with the database.

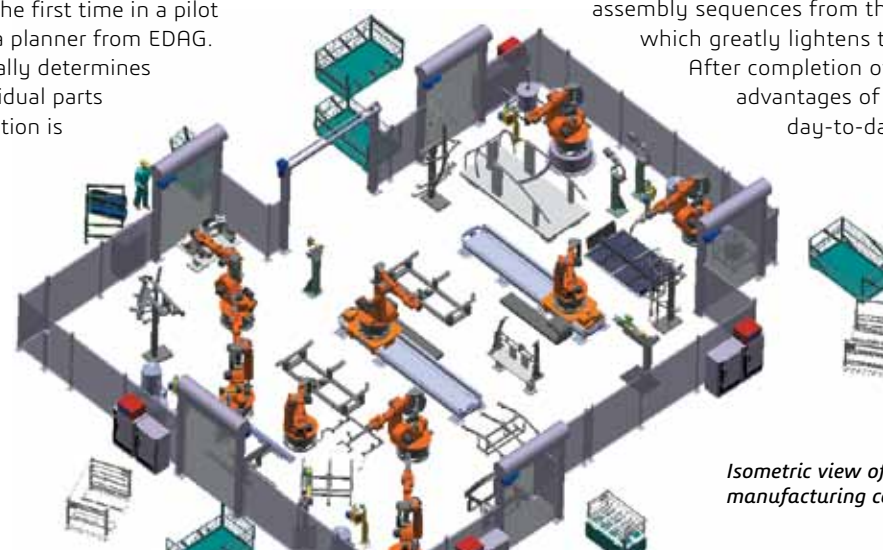
The successful pilot project demonstrates even more improvements for the day-to-day work of users. The “lifelike experience” provides users with a better overview of intermediate products and greater transparency throughout the manufacturing process. Here the V6 solutions offer powerful, user-friendly search and navigation capabilities in order to access desired information from anywhere online and depict it in realistic 3D environments that people understand intuitively, because they correspond to real life. “V6 opens up completely new horizons for 3D applications. This is reflected in the simple and intuitive representation of assembly sequences from the EBOM by drag and drop, which greatly lightens the workload,” says Möller.

After completion of the pilot phase, the advantages of DELMIA V6 can be applied to day-to-day tasks.

element, application is simplified, more comprehensible and efficient for the planner,” says Möller. In particular, data acquisition can be carried out more easily. “If in fact all information is available when using V6, the real work of the planner—that is the creative part of his job—can be significantly expanded, since with DELMIA V6 the process of information acquisition is considerably more transparent for planning,” he concludes.

In conclusion, with V6 the creation of assembly sequences, linking of processes and resources and the creation of process sequences can be realized more easily than with V5. Nevertheless, there are further requirements that must be fulfilled in order to better meet the production needs.

In the course of the year, the successful, constructive and close cooperation between DS and EDAG will surely lead to further optimizations in using DELMIA V6. Adds Schäfer, “We are engaged in a close dialogue with Dassault Systèmes in order to improve DELMIA V6 even further for productive project implementation by drawing on experience from the EDAG Light Car project.” ■



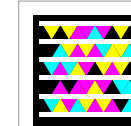
Isometric view of the manufacturing cell.

Since processes are assigned with the pre-defined and planned resources in 3D, this significantly simplifies project processing. “Thanks to the 3D

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