Tailwind for Efficient PDM and MBE Processes

Shanghai Electric Wind Power Group uses SAP PLM for seamless integration of R&D with SAP ECTR

Shanghai Electric is a Chinese state consortium and one of the country's biggest conglomerates for mechanical and plant engineering. The portfolio of the make-to-order and series manufacturer ranges from electrical equipment and wind turbines to machine tools and heavy equipment to elevators and motors. To optimize product data management and ease interdisciplinary product development, Shanghai Electric recently came up with the following plan: Apply SAP Engineering Control Center | SAP ECTR successively in the Shanghai Electric Wind Power Group, seamlessly integrate the MCAD and ECAD systems, and will focus especially in NX integration. A start was made by the Shanghai Electric Wind Power Group. The project was kicked off by the group's own IT service provider in cooperation with a local SAP partner and with the support of two integration specialists from Germany: DSC Software AG and CIDEON Software & Services GmbH & Co. KG. This article sketches the initial situation, the contents, and the success of the project.

Challenges

In the Shanghai Wind Power Group, the CAD tools and the SAP system were not connected. Product data management and product structure management were run separately so that the consistency of the MCAD and ECAD data had to be ensured manually. There were also no standardized PDM processes, so 3D models, drawings, electronic designs, and project files were stored inconsistently: partly in personal folders, partly on local servers. All that hampered efficient, interdisciplinary engineering and the provision of reliable technical data for follow-on processes.

The challenges:

- ✔ CAD Tools and SAP System were not connected
- ✔ Manual securing of data consistency
- ✔ No standardized PDM processes
- ✔ No efficient, interdisciplinary engineering
- ✔ Difficult provision of reliable data for follow-on processes

Wanted: an integrated R&D platform

To meet these challenges, Shanghai Electric wanted to set up an integrated product development platform. This platform should not just support central, secure product data management, seamless change documentation, and controlled version and release management. It should also bring together R&D knowledge and improve its perceptibility and usability, with the aim of simplifying collaborative projects and giving product development more flexibility. All this was to be achieved by the introduction of SAP PLM, connecting the MCAD and ECAD

systems to the SAP system, and optimizing the R&D environment. So Shanghai Electric looked at various solutions and decided on SAP Engineering Control Center – SAP ECTR. For very good reasons.

SAP ECTR: the perfect module for SAP PLM

SAP ECTR is the only solution that seamlessly and uniformly integrates all kinds of authoring tools with SAP PLM. On top of that, it is a solution that offers an intuitive R&D cockpit: with familiar window and folder structures, context menus, and convenience features (drag&drop, etc.), standard and color icons, etc. This all makes the handling of SAP PLM very simple even for occasional users with no special SAP knowledge. All types of product-related documents can be viewed as required, transparently organized, easily classified, and logically linked: whether to each other or to business objects including material, customer orders, etc. And thanks to differentiated search options, product data is always quick to find, which among other things simplifies the reuse of parts and product standardization. Furthermore, much can be automated (neutral format generation, BOM derivation, product data distribution, etc.), thus reducing manual effort to a minimum.

Pilot project on the basis of SAP S/4HANA

The PLM project was managed by the group's own IT service provider, Shanghai Electric Digital Technology, and the local SAP implementation partner, HAND Enterprise Solutions. It was necessary to take into account that the Shanghai Electric companies used both SAP ECC and SAP S/4HANA. Subsequently, the pilot project was started in the Shanghai Wind Power Group – on the basis of SAP S/4HANA.

The project consisted of the following steps:

- ✔ Setting up an SAP PLM platform including SAP Project Portfolio Management and SAP Engineering Record

- ✔ Adapting SAP PLM to current the PDM requirements and R&D processes of the Shanghai electric Wind Power Group

- ✔ Providing SAP ECTR basic functionalities as well as integrating the tools AutoCD, EPLAN, NX and SolidWorks

- ✔ Standardizing and systematizing product data management using standardized document templates and processes

- ✔ Mapping seamless, fully-integrated MBE processes (model-based engineering) for collaborative product development

Remote support by integration experts

During the project, Shanghai Electric Digital Technology and Hand Enterprise received support from Germany. Partly by DSC Software AG, which had developed not only SAP ECTR but also SAP ECTR interface to NX. And partly by the CAD specialist CIDEON, from which the SAP ECTR interfaces for AutoCAD, EPLAN Electric P8 and SolidWorks came. Accordingly, CIDEON supported the local project partners primarily in the CAD integration processes. The DSC team, which had familiarized itself with the customer's requirements during a preliminary visit in China, provided all-round support for all those involved. This included technical support, know-how transfer, and exchange of experience as well as monthly update meetings. Thus Shanghai Electric profited from a central contact with over 30 years of pertinent consulting and project experience – and from smooth project progress.

Go-live of the new solution after only 4 months

SAP PLM and SAP ECTR Pilot Project have recently gone into productive operation in the Shanghai Electric Wind Power Group – after a project duration of only 4 months! Although not everyone uses the integrated R&D platform, it is already clear that the complex procedures of interdisciplinary product development have been considerably simplified. Not just because it has become very easy to share knowledge and find necessary information: development teams can now manage their documents in a common product structure. And that – thanks to SAP integration – includes automatic data synchronization, status monitoring, and change documentation as well as controlled and harmonized change and release management. Thus all project participants have a constantly updated overall view of their product and can exchange and coordinate information much more easily. Help comes here from the embedded 2D/3D viewer with which CAD documents can be visualized in neutral formats, regardless of their source. The bottom line: shorter development times plus fast, reliable technical data for production and other business divisions involved.

Currently, Shanghai Electric Digital Technology is gathering user feedback and identifying any additional requirements of the Shanghai Electric Wind Power Group. The results will be used to improve the new solution in the next step and expand functions – possibly through the use of different standard add-ons that are available for SAP ECTR. But whatever the case, it will be with the support of DSC.

Liu Yang, Director, Key Account and Solution Center, Shanghai Electric Group Digital Technology

"The collaboration with DSC was very good. DSC gave us active and helpful support, and willingly passed on to us know-how and information about the latest functionalities."

About DSC Software AG „Fascination with Integration"

True to this motto, the SAP PLM experts at DSC Software AG make the use of SAP software in the areas of CAD integration, document management, collaboration and Smart Factory more profitable than it has been ever before. With over 30 years of worldwide consulting and project expertise, especially in discrete industry, the Karlsruhe company relies not only on their vast know-how but also on a strong customer orientation as well as a strong partnership with SAP – now with platinum status.

DSC Software AG
Am Sandfeld 17
76149 Karlsruhe
www.dscsag.com | info@dscsag.com

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