

Skoda Power increases productivity by 30 percent with CATIA V5



“CATIA V5 allows us to capitalise on existing designs and in-house expertise to reduce design time for new parts. The result is a 30 percent increase in productivity.”

– Jan Ruzicka, Director Engineering, Skoda Power

Overview

■ The Challenge

Power generation solutions provider Skoda Power needed to increase productivity, reduce costs and expand its geographical reach to safeguard its competitive advantage

■ The Solution

To transition from a 2D to 3D CAD environment, Skoda Power chose CATIA V5 operating on a Microsoft Windows® platform

■ The Benefit

With CATIA V5, Skoda Power can leverage existing designs and know-how, reducing parts design time by as much as 85 percent and increasing productivity by 30 percent.

Custom manufacturer streamlines development

For more than 100 years, Skoda Power, a subsidiary of Skoda Holding, has developed and manufactured steam turbines and heat exchangers for fossil-fuelled power stations, cogeneration units, incineration facilities, and nuclear power plants. The company boasts more than 900 product installations in 57 countries, in addition to the service and consulting activities it provides to its customers.

Since Skoda Power provides custom engineering for ‘made to order’ production to all its customers, it wanted to streamline development, reduce costs and expand its geographic reach to maintain its advantage over non-custom turbine competitors. Company management, however, knew its reliance on 2D design technology stood in the way of achieving its goal of increasing productivity by 30 percent at the product engineering stage.

“To remain competitive and expand our reach, we knew we needed to reinvent our design and development processes to both reap the benefits of our long history of design excellence and position our company to continue to be a leader in turbine design for the future,” says Jan Ruzicka, Director Engineering, Skoda Power.

To meet this challenge, Skoda needed to adopt a scalable customised product lifecycle management (PLM) strategy that would allow the use of 3D models for structural and flow analysis and provide progressive product data management. The ideal solution also would facilitate the seamless transfer and reuse of existing data and connect with Skoda Power’s existing ERP system.

CATIA V5 completes Skoda Power's PLM system

Although Skoda had previously considered moving to CATIA V4 for 3D modelling, it was not willing to change its hardware infrastructure to UNIX® systems. With the introduction of CATIA V5, Skoda found a solution that was both cost effective and could meet its designers' needs running on a Microsoft Windows platform.



An established strong relationship with business partner Technodat, coupled with the security and expertise afforded by working with IBM PLM, played a critical role in Skoda Power's selection of CATIA V5, developed by Dassault Systèmes.

"The combined benefits of the demonstrated advantages of CATIA software for 3D modelling, our confidence in the size and quality of IBM's resources and our strong local relationship with IBM Business Partner, Technodat, made the decision to implement CATIA V5 an obvious one for Skoda Power," says Ruzicka.

Technodat provided assistance with training and managed the integration of CATIA V5 with Skoda Power's other systems, including its ERP system and several custom built, proprietary scientific quantification modules specific to turbine design.

"CATIA V5 has been integrated seamlessly with our existing systems and in-house applications to give us a complete solution that has allowed us to quickly begin realising our goals of increasing productivity and reducing costs," Ruzicka says.

CATIA V5 provides 26 percent return on investment in first three years

The shift to 3D modelling with CATIA V5 allowed Skoda to increase productivity by 20-25 percent in the first two years and to reach its goal of a 30 percent increase in productivity by the third year following implementation.

Leveraging best practices developed with the help of Technodat, Skoda has been able to effectively capture and reuse employee design knowledge and existing design data. With this 'knowledge cache', Skoda has been able to reduce the design of new parts from a timeframe of several weeks to just a few days.

This increase in productivity has allowed Skoda to shorten product delivery times, reduce engineering costs and improve product quality.

And CATIA V5 is already paying for itself. A total cost analysis conducted by Skoda across the implementation period, shows CATIA V5 has delivered a 26 percent return on investment in just 2.6 years.

"Our next challenge is to more widely apply our use of CATIA V5 to our complete R&D, engineering, design and production environments, but we are pleased with the quick boost to productivity that CATIA V5 has allowed us to achieve thus far and the significant return on investment it is already demonstrating for our organisation," Ruzicka says.

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