

# SIEMENS

*Ingenuity for life*

Automotive and transportation

## ZKW Group

Enhancing change processes enables leading automotive lights manufacturer to shine

### Product

Teamcenter

### Business challenges

Product and tooling complexity

Short design schedules

Frequent design and manufacturing changes

High number of design variations

Distributed locations

Significant bureaucratic workload with paper-based change processes

### Keys to success

Transition to electronic change management with Teamcenter

### Results

Change procedures across locations

Consistent traceability of all changes

Accelerated change execution

Protected intellectual capital enabled by central documentation

Changes are scalable, extendable and analyzable

Reliable process specifications

### Use of Teamcenter facilitates smarter decision-making, product innovation

#### Light = vision = safety

When driving, the right light is critical to making sure that you can see enough of the road and surrounding environment, and that you can be seen. Good visibility means safety. For several decades, the innovative lighting systems created by the ZKW Group (ZKW) have made a substantial contribution to this end. The company designs and produces lighting systems for cars, trucks and motorcycles, mainly in the premium segment.

ZKW owes its outstanding market position to its roughly 3,800 employees' capacity for innovation. Based at six locations, the company is continuously developing new technologies that improve the driving experience of millions. As an example, ZKW developed and manufactured the world's first adaptive cornering lights for motorcycles in the shape of a headlight assembly with active roll-and-pitch angle compensation. This keeps the light/dark boundary straight on the road surface at all times during acceleration, deceleration or cornering, thus substantially enhancing driving safety.

As ZKW helps its customers develop unique features based on cutting-edge technologies, it is tied into the process



*Lighting system with BendLite Xenon cornering light module, ring-shaped daytime driving and position lights and LED turn indicators. Photo: ZKW.*

chain at an early stage. Research and development projects are frequently carried out exclusively for, and in close cooperation with, customers. Each product entails an enormous amount of information on all of its parts as well as the development path.

This is why in July, 2007, ZKW implemented Teamcenter® software from Siemens PLM Software as its corporate information base for administration and management of all digital design data. The deployment covered 55 users.

Aside from product data, information related to the items is also managed using Teamcenter, including the required injection molding tools, some of which are designed and built to ZKW requirements by external suppliers.

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Erich Schildberger  
Group Leader  
Data Management  
ZKW Group



*In six locations, ZKW designs and manufactures lighting systems for cars, trucks and motorcycles, introducing technologies that are sure to raise eyebrows when seen on the road in coming vehicle generations. Photo: BMW.*

“Teamcenter plays a strategic role in our success in the market, so we’re continually expanding its use to cover additional application areas,” says Erich Schildberger, group leader of data management for ZKW. “Converting to Teamcenter has sustainably boosted the efficiency of the ZKW change procedures, and further increased the company’s capability to react swiftly and get excellent results.”

#### **Achieving full compatibility**

Use of the system starts as soon as a request in sales has been made, where it is used for optimal integration of engineering data for parts and assemblies in 2D and 3D, as well as other project-specific documents from various sources. It is also used for data gained in various simulations

(illumination simulation, strength or temperature analyses, injection molding simulations, etc.) and in quality assurance.

“Our goal is to have all documents created during the product lifecycle in Teamcenter and to keep variants as managed versions,” explains Schildberger. “This is why in 2012 there were close to 600 Teamcenter users, three times the 200 that had been forecast.”

When Schildberger joined the company 15 years ago, ZKW had approximately 600 employees. He started in the central project management department. Currently, he leads a group of six in charge of data management that primarily focuses on technical Information Technology (IT)



*The adaptive ZKW cornering light for motorcycles keeps the light/dark boundary on the road’s surface straight at all times, thus improving driving safety. Photo: ZKW.*

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The LED Matrix headlight automatically masks oncoming or leading vehicles while brightly illuminating their surroundings. Photo: ZKW.

infrastructure and systems, including the SharePoint® platform and computer-aided design, engineering and manufacturing (CAD/CAE/CAM) software.

“ZKW uses products from various suppliers to ensure that we can provide full compatibility with the systems preferred by our customers,” explains Schildberger. “As with custom designs for different purchasers, often the same parts or subassemblies can be used, so we have a multi-CAD environment for the overall design of our products.”

#### **Facilitating transparency**

A car headlight featuring a fully automatic light emitting diode (LED) matrix system makes night driving both safer and more

comfortable. The LED light sources in the headlights can be switched on and off within fractions of a second using intelligence from a front camera. This way, other vehicles are automatically masked off while their surroundings stay brightly illuminated with high-beam light. The dynamic cornering light functionality and turning light of the Matrix Light have already become standard for ZKW, as has the exclusive use of energy-efficient, durable LEDs in the headlight itself.

This kind of innovation has fuelled ZKW's rapid growth. Teamcenter has helped support this expansion by providing transparency and a comprehensive information repository. It enables collaboration among dispersed teams, making expansion across the globe feasible. The capabilities of

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ZWK Group



Since 2011, ZKW has also been producing full LED main headlights. Photo: ZKW.

Teamcenter for project planning and classification have been used for several years with great success.

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#### **Embracing change**

With the company gaining in size, a growing number of individual projects and increasing product complexity, the number of changes to items has naturally increased dramatically.

“In a world in which the basic technologies are subject to rapid change, it makes sense that things can change between order entry and shipment of the last pieces,” says Schildberger. “In 2011 alone, all the various ZKW items together with the associated production processes underwent no less than 4,300 changes and optimization runs.”

Due to this volume, it became clear that the established change process was not feasible. It was a paper-based procedure with forms that were sent for approval

with other documents attached. Due to the growth of the internal organizational structures, the forms had repeatedly been extended to accommodate more boxes and questions. Also, the number of people involved had continuously grown, which did nothing to speed up implementation and transparency of review procedures. Attempts to accelerate the process via parallelization resulted in the concurrent circulation of different copies. Consolidation of content generated extra work and added an additional layer of complexity. Therefore, efficient functioning of the pre-existing change and review procedures across distributed locations was impossible.

#### **Managing change**

With Teamcenter, a platform for data provision and the construction of classified workflows was already in place, so extending the toolkit by adding the change management capability made sense.

“The high and growing number of employees made a cautious implementation strategy a requirement,” says Schildberger. “Following a one-year preparatory period, the change management capability of Teamcenter fully superseded the previous change procedures.”



## Solutions/Services

Teamcenter  
[www.siemens.com/teamcenter](http://www.siemens.com/teamcenter)

## Customer's primary business

As one of the leading suppliers on the world market, Zizala Lichtsysteme designs and manufactures front lighting systems for cars, trucks and motorcycles.  
[www.zkw.at](http://www.zkw.at)

## Customer location

Wieselburg  
Austria

Now every Windows® software user throughout the company can use a module programmed in-house to submit a problem report or a suggestion for improvement. The users do not need to worry about who the right recipient might be, as all product responsibilities during the design phase and serial production are clearly regulated and stored in the system's database.

## Providing traceability

The defined workflow enables the person in charge to be notified as soon as there is a change to a document and he/she is required to act. This conversion led to a substantially reduced workload. Colleagues are only notified if all information required in their work is present, and they do not need to spend time searching because all required data is put on their desk, and is fully transparent in the attached container. Furthermore, during all phases of change planning and execution that are implemented in Change Request and Change Report, the system takes care of noting the processes for users.

The use of the change management capability accelerates the change process since it can accommodate parallel processing, enabling experts to work on different parts simultaneously. Additionally, the current status of every change can be viewed at any time and is independent of the viewer's location, which makes answering customer questions and planning a lot easier. This also shows where bottlenecks exist in the change process. With Teamcenter, all it takes is one look to see the process status. This also makes it evident if change action is stalled for too long because, for instance, the person in charge is on vacation and his/her stand-in is ill.

"The most significant benefit of the electronic change management capability is that, at all times, it can not only be determined how something was changed and why it was changed but, most importantly, also who had been involved." says Schildberger. "Teamcenter Change Management enables ZKW to control change procedures throughout the group with central documentation and analysis."

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## Siemens PLM Software

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