



**PART**  
SOLUTIONS

# DRIVELINE AND CHASSIS TECHNOLOGY AT ZF FRIEDRICHSHAFEN AG

CASE STUDY





# PRODUCT DEVELOPMENT WITH STRATEGIC PARTS MANAGEMENT BY CADENAS

## The decisive selection criteria

PARTsolutions helps companies to find CAD components faster and easier, as well as reducing creation of new parts by better managing them, creating a long-term cost savings. The system offers access to 3D CAD data from millions of standard and supplier parts from more than 400 leading manufacturers' product catalogs.

## The initial situation at ZF

Until 2005 there was no dedicated system to manage parts in use at ZF. Standard parts were stored in a Standard LIP database, which was only useable with the PTC Pro/E CAD environment, and not with CATIA, their secondary CAD system. This resulted in a high amount of newly created parts, entailing cost of approximately 1,000 Euros per part. Combined with a clean interface, the new parts management system must prove compatible with their existing software environment:

"A crucial point to us was the connection with our existing Axalant product management system. Besides saving and managing all our documents, product CAD data, etc. the PDM is also an interface for our SAP system. Therefore, it was mandatory that the new strategic parts management system could be linked with our PDM system", says Salhi.

## CADENAS specific solution: Strategic Parts Management PARTsolutions

After a thorough review by the ZF team, CADENAS' Strategic Parts Management PARTsolutions was chosen. Deciding factors were PARTsolutions' compatibility with their existing systems, as well as the function of managing and searching for parts. The ability to preview individual parts with a 3D model before downloading was a driving factor, leading to considerable time savings. Additionally, the broad parts selection and powerful search functions enable ZF to find components topologically, by sketch or by text, which reduces the work-load significantly. The system is mainly used to streamline the CAD design, process, especially equipment design, where many supplier parts are in use. Altogether, ZF holds 2400 licenses of the system, so virtually every CAD user has access to PARTsolutions.

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»It was important to us that the parts are no longer obtained from external sources on the internet, this can create substantial problems for the whole company. As soon as one designer would look for a certain cylinder, he would create a new number for it. This would create a myriad of costly duplicates over the course of time.«



CHRISTIAN SALHI  
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CAD/CAM PROCESSES (FIDC23)  
ZF FRIEDRICHSHAFEN AG



### Integration into the ZF system environment

Besides linking the parts management system to the existing PDM system, the integration requires a specific configuration to meet the needs of individual departments:

“Internally, each division has very different needs and approaches. For instance, requirements in product development, where gear units and axes are planned, are very different from the traditional mechanical engineering and fixture design methods. In product development for instance we use PARTeditor and PARTproject to create our own native catalogs. Another special configuration to consider, was the connection to our second PDM system. A few years ago we integrated a subgroup that does not work with Axalant but with PTC’s PDM Link, this adjustment was handled successfully with PARTsolutions, and has been working perfectly ever since”, says Salhi.

### Jointly planned projects

Many other changes are planned once ZF upgrades from PARTsolutions version 8.1 to version 9.05. To better represent native catalogs, parts will be converted from the previous SDL data to the newer JT representation format. For this, there is already a limited implementation of PARTsolutions version 9.07 for the ZF plant in Schweinfurt.

“An upcoming project will be the improved distribution of catalogs over our internal ZF synchronization process with the individual ZF production sites. Here we rely on CADENAS’ application server, released in 2014”, Salhi explains.

The application server of 2014 makes it possible to detain catalog data and automatically hand it over to the respective clients. This way it is no longer necessary to keep the extensive catalogs locally at the respective production sites, which allows a higher performance of the complete system.

### Conclusion: Improvements and optimizations at ZF by using PARTsolutions

Salhi summarizes their experience regarding the PARTsolutions implementation:

“At big companies like ZF you need a certain amount of time until the new applications are completely implemented. The key user training with CADENAS contributed a lot to accelerate this process and there was a lot of positive feedback about it. Meanwhile, the employees have become very enthusiastic about the Strategic Parts Management, especially the ability to search visually for a specific part, this feature of PARTsolutions’ PARTdataManager was a welcome improvement over our previous PDM system. Although we still have the need to reduce our component diversity, the multiplication of parts has significantly decreased since the introduction of PARTsolutions.”

Altogether ZF recorded a considerable decrease in costly duplicate parts. Due to the improved search functionality, the 3D view and the simple export of catalog data into the 3D CAD environment, ZF profits from a noticeably accelerated and streamlined component development process.



**ZF Friedrichshafen AG** is a global leader in driveline and chassis technology with 121 production companies in 26 countries. ZF is one of the ten largest automotive suppliers worldwide. Since 2005 ZF has been using CADENAS Strategic Parts Management PARTsolutions at 2400 workstations to manage standard and supplier parts.



# COMPANY DESCRIPTIONS

## ZF Friedrichshafen AG

ZF is a global leader in driveline and chassis technology with 121 production companies in 26 countries. The corporation with approx. 75 000 employees achieved 17.4 billion Euros revenue in 2012. ZF ranks as one of the 10 largest automotive suppliers worldwide.

ZF was founded in 1915 to develop and produce gearing mechanisms for dirigibles and vehicles. Today, transmissions, steering and chassis components as well as complete vehicle axis systems are part of the product program. Main shareholder of the enterprise are the Zeppelin-Foundation with 93.8 percent, who is managed by the city of Friedrichshafen and with 6.2 percent the Dr. Jürgen und Irmgard Ulderup Foundation, Lemförde.

## ZF in figures

- Cooperation with CADENAS: since 2005
- Savings per newly created part: approx. 1.000 Euros
- Number of PARTsolutions workstations: 2400

You find further information about the company at:

[www.zf.com](http://www.zf.com)



## CADENAS GmbH

CADENAS is one of the leading software developer in the areas of Strategic Parts Management and parts reduction (PARTsolutions), as well as Electronic Product Catalogs (eCATALOGsolutions). With its customized software solutions, the company acts as a link between the component manufacturers and their products and the purchasers.

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With its 300 employees at 14 international subsidiaries, the name CADENAS (Hispanic: process chains) stands for success, creativity, consulting and process optimization since 1992.

As a trend setter and visionary, CADENAS has established many important trends and innovations:

- Search of CAD components by topology
- The similarity search for CAD parts which runs automatically in the background.
- CAD part search by sketch

You find further information about the company at:

[www.cadenas.de](http://www.cadenas.de)

