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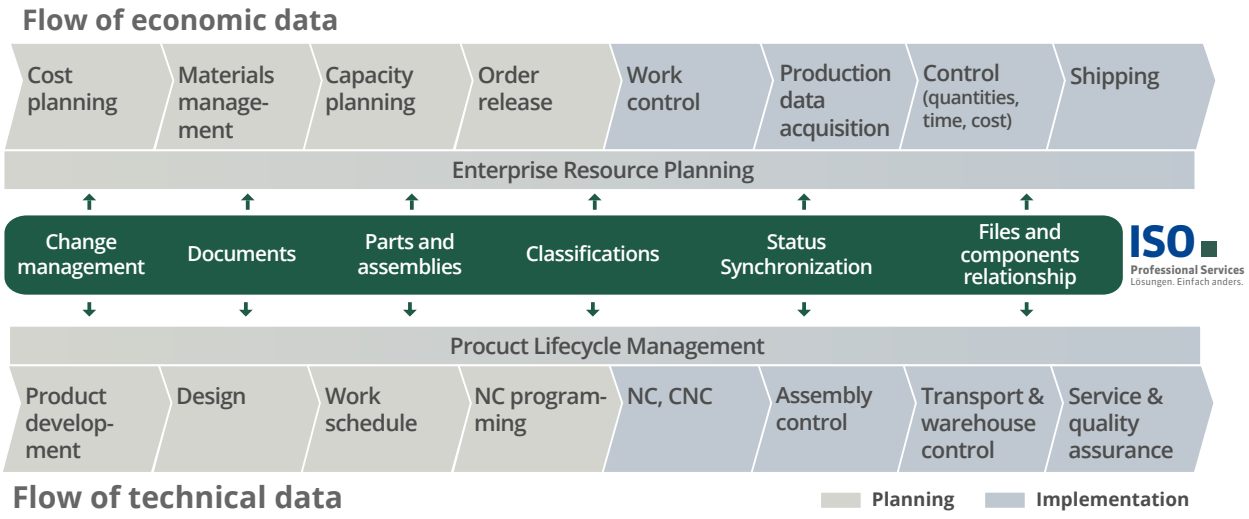
Managing Data between ERP and PLM Systems

Companies are increasingly moving toward digitalization. Some 80% of the currently stored data have been generated over the past two years. This huge amount of data is growing so rapidly that it is no longer possible to handle it without the help of a data management system with automated, cross-system processes.

A company's employees act according to the information made available to them. They receive it either by communicating with other employees or from digital systems. Because of the increasing complexity and volume of data, digital information for employees has to be reliable, complete and accurate. This requires that data is updated in real time and passed on to all employees involved.

Data is divided into three parts: technical data, operational data and data planning purposes. Project management, work management and process management all generate technical data. Data for planning purposes is generated within the organization and supports management in making decisions on company leadership and strategic focus.



The figure shows a simplified representation of the basic flow of data within a company. Business data is recorded and maintained in Enterprise Resource Planning systems. At the beginning and the end of the value chain is the customer who buys a product or a service from the company. The flow of economic data falls into these categories:

- cost planning
- materials management
- capacity planning
- order release
- processing control
- plant data collection
- control (quantity, time, costs)
- shipping

All these positions generate data important for decisions or further processing for positions downstream. Data is also valuable in retrospect – to avoid repeating errors in future orders and projects. Storing data properly in enterprise resource planning systems is crucial to duly manage and analyze the data from the fields mentioned above.
More and more technical data is managed in product lifecycle management systems, with product data management at their core. This covers the producing, organizing and distributing of product-related information – including the relationship between files in view of managing technical and organizational business processes. To date, there are no PLM systems that represent the entire value chain – only "island solutions" that cover some areas in the technical field. No shared data repository is currently available to store electrical, mechanical and automation engineering/design data as well as simulation data. The flow of technical data can be represented like this:

- product development
- engineering/design
- work scheduling
- NC programming
- NC, CNC
- assembly control
- shipping & stock control
- service & quality assurance

ERP and PLM systems do not operate autonomously. Exchanging data constantly is important for several reasons: it avoids errors, provides all areas with up-to-date information and increases business productivity. Data exchanged between PLM and ERP systems includes:

- change management data
- documents
- parts and assembly groups
- classifications
- status synchronizations
- relations between files and parts

In this case example, specifically the exchange of data between ERP and PLM systems was introduced. The ISO-Gruppe is specialized in all IT services for and data exchange with ERP systems.

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Sources:

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