



Cost management with a PDM system

Challenge

A new product under development is the largest R&D product investment in the history of the case company and is created for a very specific market. Bringing such a product to the market is an enormous and highly complex task that involves hundreds of engineers. Other products on the market include approximately 30.000 components. The case company's new product is expected to include even more components.

For a large R&D project, cost management is a complex matter that requires great attention. Cost is traditionally managed by ERP systems such as SAP. A precondition for cost management in an ERP system is that the components are assigned material numbers. Consequently, ERP systems do not support cost management in a R&D project until a BOM (Bill of Materials) exists. Typically, spread sheet software such as Microsoft Excel is used for cost management until the ERP system can take over.

However, the components often exist in CAD and PDM systems (Product Data Management systems) a long time before they are created in ERP systems with material numbers. It is therefore natural to utilize modern PDM systems for cost management in R&D projects.

Approach

CPC has been involved in rolling out a PDM system and one of the main tasks has been to ensure that the PDM system fully supports Modularization and Systems Engineering. To support the new product development project in the challenging task of managing the cost, the task has been to develop a concept for how to utilize the PDM system for cost management, implement it in the PDM system and roll it out in the organization.

An important precondition for being able to do successful cost management in a PDM system, is that the module and system structures are built up in the PDM system, so that both purchasers and cost controllers will be able to allocate the cost at the right structural level as the design of the modules and systems matures. One of the primary actions has therefore been to build up these structures in the PDM system, and define the concept for how to allocate cost. This has been done in close collaboration with the cost controllers and the vendor of the PDM software, defining the right cost attributes to fill in, how to do cost follow up the right way, how to manage user and administrator rights to view and change the cost etc.

Along with the development of the cost management setup in the PDM system, a process for cost management has been developed describing who is responsible for BOM, cost adding, cost follow up, etc.

One thing is to be able to monitor cost developments - it is just as important to be able to know the reasons for cost developments. This is supported by graphs showing the cost development over time for the entire product as well as the systems and modules. For detailed investigation of why cost has changed, a log is created for each system and module showing components added and deleted, cost values changed, etc. This provides the unique possibility of actually tracing cost changes.

The case company

The case company is one of the world's largest manufacturers of products within the energy sector, with units installed in more than 70 countries all over the world. The business covers everything from manufacturing, sales and installation, to monitoring and service of the products.



Results

With the new cost management system in place for the new product, the case company now has a cost management system implemented in the PDM system, which provides an overview and control of the cost development that has not been seen before in earlier development projects.

The implementation of the cost management system as part of the PDM system, has given the following main benefits and results:

- Cost reports are generated automatically on a weekly basis
- The cost reports calculate the target cost and the likely design cost
- The likely design cost is supplemented with best and worst case estimates to show the cost range for the new product
- The costs calculation is done for the entire product as well as for its individual systems and modules
- It is easy for purchasers to add and maintain cost
- It is easy for cost controllers to follow up on the cost and to see the reason for each of the cost changes
- The cost reports are used by top management to make sure that the new product is kept within budget

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