

ABSTRACT

The requirements for the optimization of the Product Development Process (PDP) in manufacturing companies have grown enormously. There are many key concerns to which a modern PDP must respond. Lean production, structures oriented towards the business process, shorter product cycles and delivery times, as well as decreasing vertical range of manufacture in conjunction with decentralized customer/supplier cooperation, cost pressure, and quality management are only some examples.

It is evident that in the early phase of the product development process 70% of the product costs are specified. This fact led to the beginning to already use improved methods, processes and IT solutions even in the early concept phase to have the highest influence on development projects.

Typical topics for the optimization of the development processes and later realization in Product Lifecycle Management (PLM) solutions are Complexity Management, integration from Requirement Management to Product Structure, Multi-Domain (Mechatronic) Functional Product Description and Collaboration.

This paper discusses above mentioned challenges to outline the originating problems arising from these challenges. Based on that, approaches to overcome these issues are outlined. Upcoming realization trends of PLM such as process oriented PLM implementation and Acceptance Management (to center human factors) complete this paper.