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Mastering Complexity with CLM

From Holger Senn and Jochen-Thomas Morr

Industrial companies are increasingly relying on Configuration Lifecycle Management (CLM) as part of their enterprise architecture to manage the growing complexity of products and processes. CLM is a holistic solution that realizes configuration management on a central platform.

In the transformation of the manufacturing industry, changes are increasing and require a consistent review and realignment of applied methods, processes, and tools, particularly in variant and configuration management. Customer-specific requirements, legal regulations and standards, as well as the increasing share of software in products, are driving variant diversity, complexity, and lack of transparency across all business disciplines.

The Configure-to-Order (CTO) share of customer-specific products and systems will continue to increase, resulting in higher cost, effort, and risk of errors. Innovative companies are addressing these challenges with a customer- and market-specific product architecture and integration into the enterprise architecture, which, depending on the industry, includes Product Lifecycle Management (PLM), Application Lifecycle Management (ALM), or Enterprise Resource Planning (ERP) systems. Industrial companies are increasingly relying on Configuration Lifecycle Management (CLM) for particularly complex products and individually configured product variants.

A central platform as the key to success

CLM is a holistic solution that realizes configuration management on a central platform that integrates all relevant business functions and systems - such as PLM, ERP, CRM - from product development, sales, production to service. This end-to-end approach enables companies to establish a company-wide consistent "single source of truth" for the trillions of possible configurations of product models.

The key to success lies in the central management of all feature catalogs and configuration rules of a company. CLM offers collaborative tools that involve specialists, skilled workers, and subject matter experts from all involved departments who collaborate on an enterprise-wide "master" of all product models.

The development of a configurable product model should begin in the requirements management. All iterative V-development phases of the product models are supported by the CLM platform, as well as the provision of consistent and revision-secure configuration data to authorized users. These are located in the aforementioned internal departments, but also with external sales partners – or even the end customers themselves, if it is possible to decouple the complexity of the internal variance from the external customer view and offer a transparent customer experience in the (web-based) configurators.

A scalable and agnostic CLM software platform such as Configit Ace™ offers functions for importing and synchronizing data and rules with other IT systems such as PLM, ALM, industry-specific engineering tools, CRM and service systems. A collaborative modeling and verify module for tests or the simulation of configurations with documented data sets are an essential part of building a CLM architecture.

Complete overview of all valid product variants

Based on compilation-based configuration technologies such as Virtual Tabulation™, every possible and valid product configuration of a product portfolio is calculated and stored in a compressed, compact, and portable file. This file contains the entire solution space and provides a complete overview of how many product variants exist that are both manufacturable and orderable.

This creates the necessary transparency to recognize which product variants are selling the most and which are selling little or not at all, and how high the actual profit is. With this knowledge, companies can focus their resources on profitable products and achieve significant cost savings by restricting or eliminating combinations that are either too expensive or sold so rarely that it does not make sense to keep components, parts, and drawings.

In addition, negative scenarios can be excluded in which sales sell invalid product variants because all departments involved, such as engineering and sales, collaborate based on the same data.

Cost savings in the millions

According to analyses of leading consulting firms, successfully implemented CLM projects in discrete manufacturing industries such as machinery and equipment or automotive have resulted in cost savings of several million euros annually. For example, by consistently introducing CLM, one business unit of a global electrical engineering company is saving $2.3 million per year. This company also reports a reduction in time-to-market from six months to a few weeks. The error- and redundancy-free view of configurations across departmental boundaries ensures that salespeople can always be sure that what they offer is also producible.

A leading European manufacturer of commercial vehicles and trailers also generated benefits with the introduction of CLM. To achieve profitable growth, the company decided to switch its entire market access from individual order production to modular series production. Existing data silos were consolidated into a unified central knowledge database. The result is an enterprise-wide "Single Source of Configuration Truth" that helps minimize manual maintenance effort, eliminate configuration errors, and scale with future revenue growth.

Successes based on a CLM platform can be transferred to many industrial sectors. Companies are enabled to quickly address challenges and make all possible complexities for products and processes transparent and manageable.

To learn more about CLM, please download the PwC-Configit whitepaper here:
https://go.configit.com/pwc-clm-whitepaper

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