Announcement

Industry 4.0 SCIENCE

Lean Product Life Cycle Management

In the era of Industry 4.0, Product Life Cycle Management (PLM) is evolving beyond its traditional role as a data backbone. Increasing product complexity, shorter development cycles, and sustainability demands call for a more integrated, value-driven approach. Lean Product Life Cycle Management (Lean PLM) addresses this by combining lean principles with digital technologies and modern engineering practices.

At its core, Lean PLM focuses on eliminating waste while maximizing value across the entire lifecycle. By connecting data, processes and stakeholders through a digital thread, it enables transparency, faster decisions and effective cross-functional collaboration. Methods such as value stream mapping, agile development, and concurrent engineering help streamline processes and improve coordination from design to production.

Key enablers include product data management, model-based systems engineering and simulation-driven design, allowing earlier validation and fewer costly iterations. Continuous feedback loops and integrated product development further support adaptability, better change management, and data-driven portfolio decisions.

This issue of Industry 4.0 Science (www.industry-science.com) explores how Lean PLM transforms product development into a faster, more collaborative, and sustainable process—reducing time-to-market while enabling integrated collaboration across business functions and heterogeneous software systems.

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