

---

## Introduction

---

### Mileta M. Tomovic

Batten College of Engineering and Technology,  
Old Dominion University,  
Norfolk VA 23529, USA  
E-mail: mtomovic@odu.edu

**Biographical notes:** Mileta M. Tomovic is Chair of Engineering Technology Department, Batten College of Engineering and Technology, Old Dominion University. He holds BS ME from the University of Belgrade, Yugoslavia, MS ME from the Massachusetts Institute of Technology, and PhD from the University of Michigan, Ann Arbor. He authored over 50 papers in journals and conference proceedings. He made numerous invited presentations nationally and internationally on the issues of design optimisation and manufacturability. His research interests are in the area of system dynamics and controls, manufacturing, design optimisation, collaborative design, and product lifecycle management.

---

Product Lifecycle Management is holistic approach to product development from its conceptual design to its recycle. It deals with technical and human aspects involved in the entire process of product development, support and recycle. PLM is highly applied area which has significant impact on industry and provides numerous benefits to the adopters of technology and business practices, including:

- increase in revenue through shorter time to market
- decrease in product costs through knowledge reuse
- decrease in product development costs through effective feedback mechanisms.

Some of the commonly used strategic metrics to measure PLM's return on investment indicate significant benefits of using PLM. Number of companies are reporting significant benefits of implementing PLM processes and practices including 20% increase in design productivity and 50–80% reduction in the time required to modify complex design, ability to explore 50% more design options fostering innovation, conducting numeric control programming up to ten times faster and machining up to 35% faster, 60% reduction in pallet manufacturing time and 40% decrease in the errors found at the final assembly stage. PLM enables companies to operate across geographic boundaries and technical domains, in order to take full advantage of human resources and their expertise. PLM promises to become technology that will contribute to further 'flattening' of the world. Although highly promising, implementation of PLM concepts and practices is far from easy and there are numerous technical and scientific issues to be resolved before industry can take full advantage of this emerging approach to product development, manufacture, service and recycle.

The special issue of *International Journal of Manufacturing Technology Management* presents spectrum of current research in the area of Product Lifecycle Management. Topics range from general overview of Product Lifecycle Management to application in design and manufacturing, and competency models for effective performance in virtual teams. The special issue presents some of the latest scientific findings and ideas along with technical developments in PLM and covers broad range of interdisciplinary topics.

The editors wish to thank all authors for their contribution to the special issue of IJMTM on Product Lifecycle Management and to the general body of knowledge in this emerging and highly evolving field.