

**DEVELOPMENT OF ON-LINE MECHANICAL
ENGINEERING DESIGN AND MANUFACTURING
PROCESS**

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ABSTRACT

The globalization and competition in manufacturing industries have focused on producing parts to be first in the market with high quality and precisely, at lower cost and shorter lead time. Consequently, they have tried to use the computer's huge memory capacity, fast processing speed, and user friendly interactive graphics capabilities to overcome the problem. Automated design and manufacturing is one of the technologies used for this purpose during the product development cycle. Design and manufacturing process will be done in a more effective approach and the manufacturing process can be monitored and controlled from start to finish with a single system. This paper aims to exhibit the integration of CAD/CAE/CAM approach product development cycle towards Computer Integrated Manufacturing process (CIM). Comprehensive methodologies were presented, and car side mirror as a case study will illustrate the approach. The results clearly proved that integration of CAD/CAE/CAM could become an important tool in aiding engineering design analysis, modification and improvement towards Computer Integrated Manufacturing process.

Keywords: CAD, CAM, CAE and CIM