



Department of Mechanical and Aerospace Engineering
Indian Institute of Technology Hyderabad
Kandi - 502285, Sangareddy, Telangana, India

MAE Industry Lecture 8 | ME6100 Industry Lecture



Title: Simulation Driven Product development

Speaker: Mr. Manoj Srivastava

Affiliation: Sr. DGM –Technology & Analytics, Larsen & Toubro (PES IC), Powai, Mumbai

Abstract | Simulation-driven product development (SDPD) utilizes advanced computational tools, including finite element analysis (FEA), computational fluid dynamics (CFD), and multi-body dynamics, to create virtual prototypes and simulate product behavior under realistic operating conditions. These simulations enable the analysis of structural integrity, thermal performance, fluid flow, and other critical parameters, facilitating design optimization and validation. SDPD streamlines the product development process, enabling engineers to explore a wider range of design options and improve product performance while minimizing physical prototyping and testing.

About the Speaker | Mr. Manoj Srivastava has been with Larsen & Toubro's Precision Engineering System IC since May 2001, joining as a PGET. Holding a master's degree in mechanical engineering with a CAD-CAM specialization from Gujarat University, he has progressed through various roles within the organization

Currently, he leads the Technology & Analytics Group in the Technology & Innovation Centre Department. His team focuses on emerging technologies and supports New Product Development by employing advanced simulation techniques. These techniques encompass structural dynamics, CFD, multi-physics, thermal management, fluid-structure interaction,

hydrodynamics, and propulsion. Additionally, the team is responsible for developing control algorithms, control system design, software integration, and system tuning and testing.

Mr. Srivastava's areas of expertise include structural dynamics, CFD, thermal analysis, shock, noise and vibration, and hydrodynamics. His experience spans a diverse range of equipment and systems, including underwater platforms, torpedo launch systems, radar systems, hypersonic wind tunnels, modular bridging systems, armored systems, and rail-less halo traversing systems

Date: 19/03/2025

Time: 1430 Hrs.