



# Accelerating Product Innovation with Syntel's Engineering Services

- Today's highly competitive world demands constant innovation and modernization to stay ahead and make a mark. Manufacturing companies are therefore facing profound operational challenges in reducing their product development cycles.
- Manufacturers are struggling to reduce development costs while trying to meet the evolving and ever-increasing demands of emerging markets with new products. This mandates that organization have an experienced engineering partner with deep industry knowledge and process expertise to help them unlock the true potential of their product portfolio.

## Business Need

Syntel's **Engineering Services** is a strategic offering that enables clients to expedite product design and development. This helps clients to focus on innovation, increasing efficiency, gaining competitive edge and compressing time-to-market. Manufacturing organizations require an Engineering Services partner that is able to:

- Increase bandwidth for existing or new projects
- Meet mandatory and strict project schedules
- Reduce the cost of engineering project execution through various models, including outsourcing
- Automate engineering processes for accurate results and human error redundancies
- Ensure faster time-to-market

## Syntel's Solution

Syntel offers a full spectrum of Engineering Services competencies including **Product Design, Detail Engineering, CAE/FEA** (Computer Aided Engineering/ Finite Element Analysis) Modeling and analysis, **CAD** (Computer Aided Design) data migration across platform, **Training Support, Engineering Application Support, Technical Publication** and **Catalogues**. Our services cover leading technology platforms to deliver superior solutions.

Syntel's engineering teams function as virtual extensions to customer product development groups. According to the client workflow, each team simulates the exact understanding of a particular product design and engineering standards, best practices and processes – integrating the client and offshore teams.

## BUSINESS BENEFITS

- Cost saving of 30% for clients
- Reducing project duration by 25% with quality deliverables
- Accuracy of 100% in engineering analysis result
- Automating manual processes, reducing errors and enhancing quality

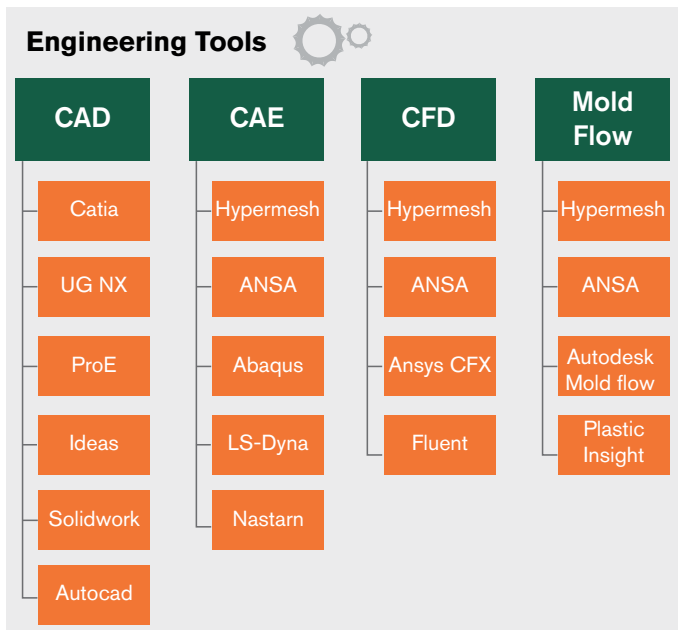
## WHY SYNTEL?

- A leading global IT and KPO service provider
- Established in 1980 (NASDAQ: SYNT)
- More than 24 offices in North America, Europe and Asia
- Flexible and successful global delivery model to deliver cost-effective solutions

## Syntel's Engineering Services Overview

<b>Detail Engineering</b> <ul style="list-style-type: none"> <li>Concept Design</li> <li>3D Modeling</li> <li>Detailing</li> <li>Data Migration, Legacy Migration</li> <li>Homologation</li> <li>Dimension Management</li> <li>Change Management</li> <li>Teardown Analysis</li> <li>Reverse Engineering</li> <li>Value Engineering</li> <li>Reliability Engineering</li> </ul>	<b>CAE Offerings</b> <ul style="list-style-type: none"> <li>2D,3D Modeling</li> <li>Structural Analysis</li> <li>Crash Analysis</li> <li>NVH Analysis</li> <li>Optimization</li> <li>Thermal Stress Analysis</li> </ul>	<b>CFD Offerings</b> <ul style="list-style-type: none"> <li>Grid Generation</li> <li>Incompressible Flows</li> <li>Laminar &amp; Turbulent Flows</li> <li>Heat Transfer Studies</li> <li>Multiphase Analysis</li> <li>Moving Reference Frame (MRF) Analysis</li> <li>Moving /sliding Mesh Analysis</li> <li>RTD Analysis</li> <li>Hydrodynamic Analysis</li> </ul>	
<b>Training Services</b> <ul style="list-style-type: none"> <li>Corporate CAD Training</li> <li>Basic &amp; advanced Domain Training e.g. Sheet Metal, Harness</li> <li>Customized Trainings</li> </ul>	<b>Technical Publication and Catalogues</b> <ul style="list-style-type: none"> <li>Create static &amp; interactive Manuals</li> <li>Standard part Library creation</li> <li>Create 3D Models with Design Table and XML Rules</li> <li>Create web based catalogues</li> </ul>	<b>Engineering Application Support</b> <ul style="list-style-type: none"> <li>L1/L2 User Level Support</li> <li>Documentation</li> <li>CAD Admin Support</li> </ul>	<b>Mold Flow Analysis</b> <ul style="list-style-type: none"> <li>Design for Manufacturing (DFM)</li> <li>Product Design Optimization</li> <li>Mold Design Optimization</li> <li>Material Selection</li> <li>Mold Management Studies</li> <li>Flow Analysis, Cooling Analysis</li> <li>Warping and Shrink Analysis</li> </ul>

Syntel's Engineering Practice is experienced with working on multiple engineering tools, as depicted below:



## Syntel Differentiators

- Experience of serving clients in sectors like global automotive, manufacturing, consumer electronics, medical devices and oil & gas companies across geographies
- One stop solution for all CAD/CAE/CFD (Computational Fluid Dynamics) /Mold Flow requirements
- Domain specific skills
- Skilled and experienced resource pool for faster project ramp-ups
- Capable of helping clients set up CoEs in Syntel's in-house infrastructure
- Flexible to start engagement with pilot project and ready offshore resources
- Over 6,00,000 hours spent in delivery of Engineering Services projects
- Dedicated teams earmarked for every customer

## Delivering Excellence with Syntel's Engineering Services

### Client

A leading global supplier of automotive components and systems with \$5 Billion in annual revenues.

### Solution & Services Extended

- Packaging study for existing systems using CATIA, UG NX and I-DEAS C3P platforms
- 3D modeling, assembling and drafting using CATIA Version 5
- Generating master sections
- Manufacturing and tooling

### Current Footprint

- Design activity ownership with Syntel
- Design for manufacturing and assembly
- Supporting the tooling vendor of the customer
- Optimum design for minimal tooling, manufacturing and maintenance costs
- Prototype vendor

### Roadmap

- Industrial Design for body trims and instrument panels
- New product design and development
- Reverse engineering
- Design validation and optimization - Meeting regulatory requirements through FEA
- Production support