

Mechanical Design and Simulation

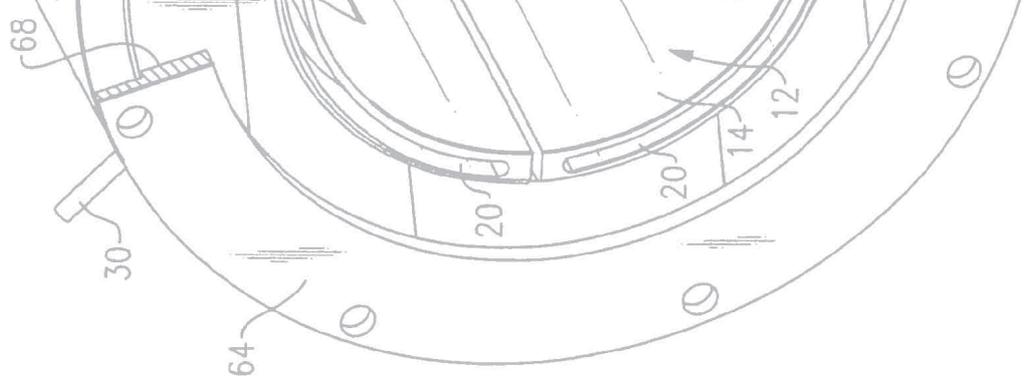


Accelerating product development, competitively

Global supply chains pose the following challenges:

- Time-to-market pressures
- Customer demands to be the best on quality and costs parameters
- Complexities of a collaborative development process

Thus, organizations need to decide what they must focus on against what they can get done and leverage. Our experience is that up to 65% their mechanical design and simulation activities could be leveraged from design partners, who can bring in speed, quality and best practices, while lowering costs of product development.



Mechanical Design and Simulation Services

Capgemini Group's Mechanical Design and Simulation (MDS) services are an industrialized approach to a broad spectrum of competencies:

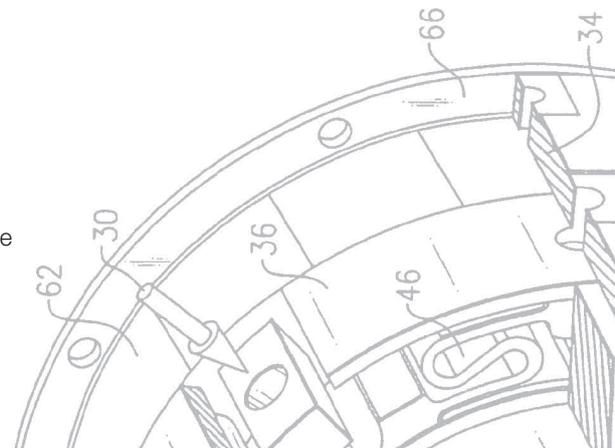
Product Design Support	CAE/CFD Modeling	CAE Analysis	Thermal & CED Simulation
<ul style="list-style-type: none"> Computer Aided Design(CAD) Modeling and Detailing High Accuracy CAD Conversion/Migration Part Library Creation Smart Modeling Reverse Engineering Engineering Change Management Product Localization Value Analysis/Value Engineering Should Costing 	<ul style="list-style-type: none"> Finite Element (FE) Modeling (1D/2D/3D) CFD Modeling (Structure/Unstructured) Scripting for Automation and Customization 	<ul style="list-style-type: none"> Durability- (Linear/modal/non-linear material/geometry, Linear & non linear stability) Impact, Crash, Contact Fatigue & Damage Tolerance (Life prediction) Noise Vibration & Harshness (NVH) (acoustic, vibro-acoustic) Analysis Reports and Correlation 	<ul style="list-style-type: none"> Thermal Flow Analysis reports and correlation
Tools & Technologies <ul style="list-style-type: none"> CATIA V4/V5/V6 NX/I-DEAS Pro/ENGINEER (Creo) SolidWorks AutoCAD Autodesk Inventor Patarn/Nastran HyperWorks ANSA ANSYS Abaqus LS-Dyna Fluent CFX Advance Steel 			

MDS is one part of Capgemini Group's Global Engineering Services portfolio—a strategic offer bringing together a range of services from design to Product Lifecycle Management (PLM), including testing, to help firms reduce time-to-market, improve quality and increase competitiveness of their products. It is positioned to:

- Support your design and simulation requirements across the product lifecycle
- Provide better cost proposition
- Provide transparency in the development and delivery cycle through our proprietary tool, Technical Process Manager(TPM)
- Leverage Rightshore®—a customized mix of onshore and offshore resourcing for effective and efficient delivery

Meeting your requirements—from schedule to budget—we deliver design and engineering support services from our engineering centers, globally.

We offer high-value, cost-effective product engineering support services to our clients across the globe. Our contributions in design, process and technology innovation have earned us the reputation of a leading engineering support services company. Our engineering expertise, along with our ability to offer innovative business models, help our clients to develop better products, get to market faster and reduce costs. We have helped clients in various industries such as aerospace, automotive, transportation, industrial equipment and energy to develop and execute successful globally engineered products.



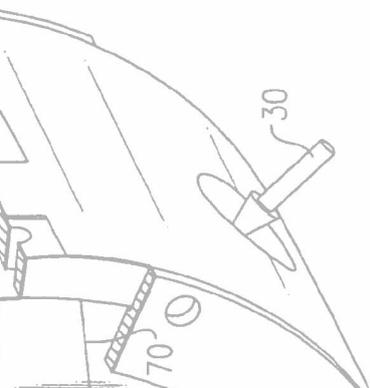
Our design experts work seamlessly as an extension of our your design and development team to provide solutions that help you meet your optimized cost, weight and functional targets. As an ISO 9001:2008 and AS 9100 Rev C certified organization, we are committed to the consistent delivery of high-quality services, with a focus on continuous improvement.

A key to success in the outsourced engineering services industry is to have a robust and transparent project management system, which improves decision making and creates proactive opportunities for enhancements in the engagement. Hence, we have installed a state-of-the art project management tool (TPM) developed in-house for all our globally managed engineering engagements. Some of the salient features of this tool are:

- An integrated platform to manage operations and collaboration between dispersed global teams
- Resource management – Manage utilizations and inventory of skills and experiences, and control resource availability and allocation
- Reduces operational delays and overruns to maximize profitability
- Provides critical information for business decisions
- Query resolution and knowledge capture
- Optimizes the time and efforts of employees
- Real-time transparent visibility to customers on their projects, thereby improving customer experience
- Facilitates effective QMS compliance
- Customized metrics dashboards

Differentiators:

- **Credible experience:** 20+ years of global experience in solving business critical engineering problems for 50 of the largest, global players in Transportation, Industrial Goods and Energy & Utility
- About 7,000,000 hours of CAD and 3,000,000 hours of CAE expertise with more than 50 customers
- **Scalability:** Over 500 CAD/CAE engineers globally, with proven ability to ramp-up. Ready to use, highly secure infrastructure
- **Technical Process Manager (TPM):** Single in-house developed tool for project management. Transparent KPI-driven delivery through a network of centers certified for information security standards (ISO27001)
- **Rightshore®:** A network of industrialized centers, custom-made for you, to add value by leveraging global talent from the right balance of locations
- **End-to-end services:** Expertise in complete product lifecycle from concept design, detail design and manufacturing to after-sales support



Value Proposition:

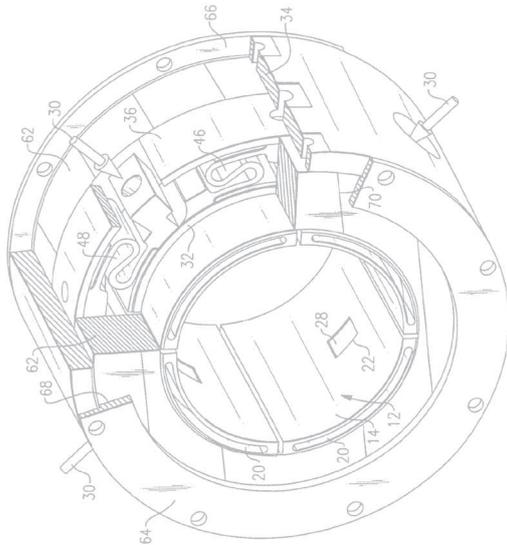
- **Assured productivity improvement:** Lower TCO, quick turnaround time, and ROI realization through Rightshore® and industrialized processes
- **Flexibility:** Unit-based engagement providing financial flexibility and business model alignment to ensure that you leverage benefits of scale
- **Engagement visibility:** Monitor your projects and the broader engagement through TPM
- **Alleviate resource bandwidth:** Enable your product designers to focus on core business rather than noncore activities



Proven Expertise: A large aircraft manufacturer reduces structural design and analysis costs by up to 25%

Early in the development program of its flagship civilian aircraft, a large aircraft manufacturer faced multiple design challenges from concept design to production drawings and stress justification. Additionally, the manufacturer was interested in building a structural design and analysis competency while also training engineers to work in alignment with internal processes and tools.

Capgemini Group's MDS experts helped the manufacturer achieve this goal by deploying an offshore-centric solution. We developed the capability through internal and external training and knowledge management for end-to-end solutions. To achieve cost optimization, junior resources were trained on the manufacturer's tools and processes. The aircraft manufacturer achieved nearly 25% cost reduction in design and stress justification competency development.



For more details contact:

Vijay Mallya

vijay.mallya@capgemini.com
 For more information write to:
 globales.in@capgemini.com



About Capgemini and Sogeti

With more than 130,000 people in 44 countries, Capgemini is one of the world's foremost providers of consulting, technology and outsourcing services. The Group reported 2012 global revenues of EUR 10.3 billion. Together with its clients, Capgemini creates and delivers business and technology solutions that fit their needs and drive the results they want. A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™ and draws on Rightshore®, its worldwide delivery model.

Sogeti is a leading provider of technology and software testing, specializing in Application, Infrastructure and Engineering Services. Sogeti offers cutting-edge solutions around Testing, Business Intelligence & Analytics, Mobile, Cloud and Cyber Security. Sogeti brings together more than 20,000 professionals in 15 countries and has a strong local presence in over 100 locations in Europe, USA and India. Sogeti is a wholly-owned subsidiary of Cap Gemini S.A., listed on the Paris Stock Exchange.

Global Engineering Services is a strategic offer from the Group, bringing together a range of services from Design to Product Lifecycle Management, including Testing, to help firms to reduce their time to market, improve the quality of their products, and increase their competitiveness.

For more information, please visit:
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