



MECHANICAL ENGINEERING

HCL ENGINEERING AND R&D SERVICES

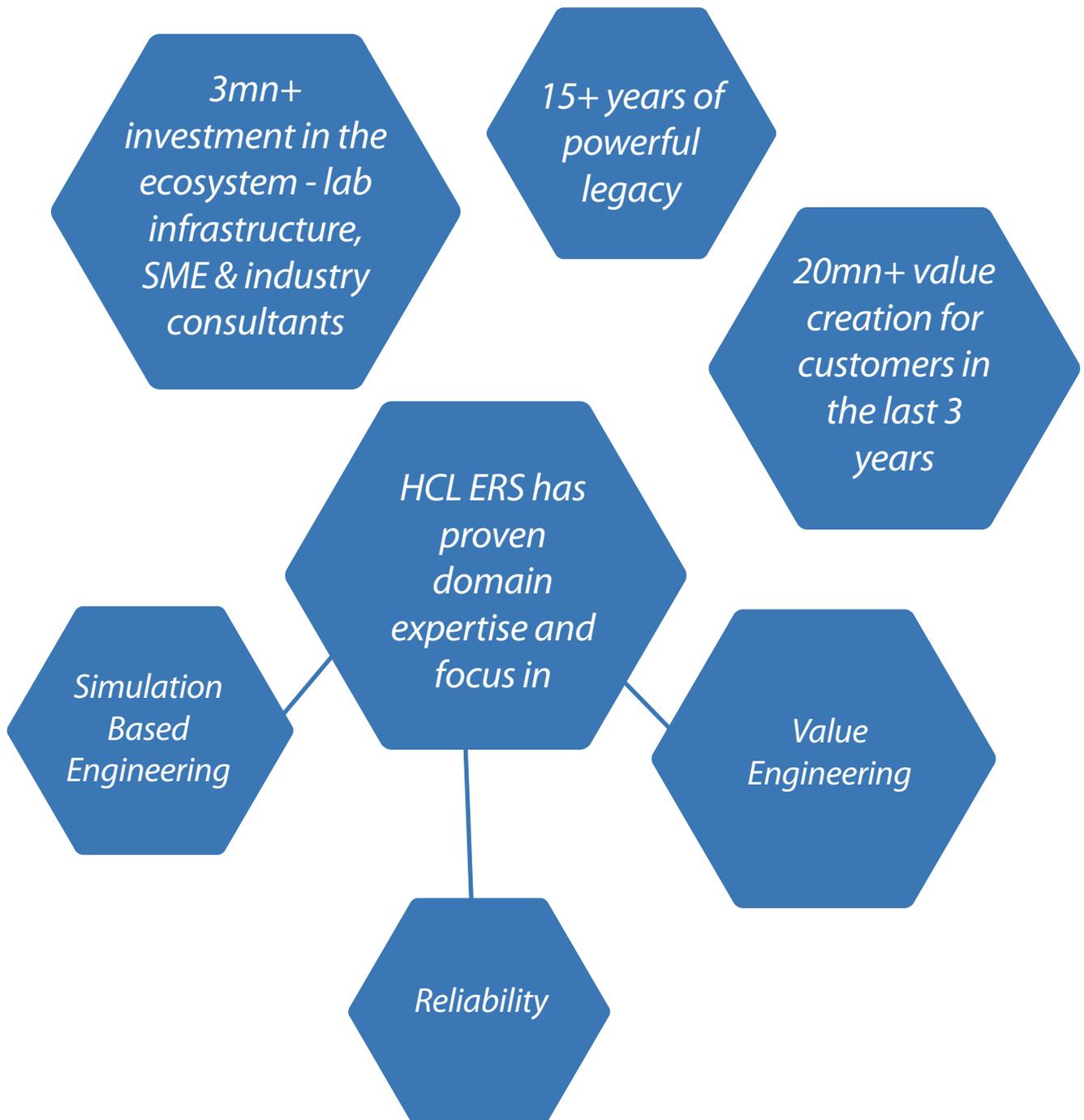
Designs that Matter

Mechanical Engineering at HCL

With rising costs and margin pressure across industries – manufacturing companies look beyond their shores to optimize their Product Engineering and R&D services to shorten their product development time and get an early edge in the competitive business ecosystem. At HCL, we understand the importance of innovating and customizing the existing products of our customers in the minimum possible time-frame.

HCL offers advanced Mechanical Engineering services to customers that help them in developing complex mechanical designs and products, significantly reduce their time-to-market and help them penetrate early and deep into the existing and emerging markets.

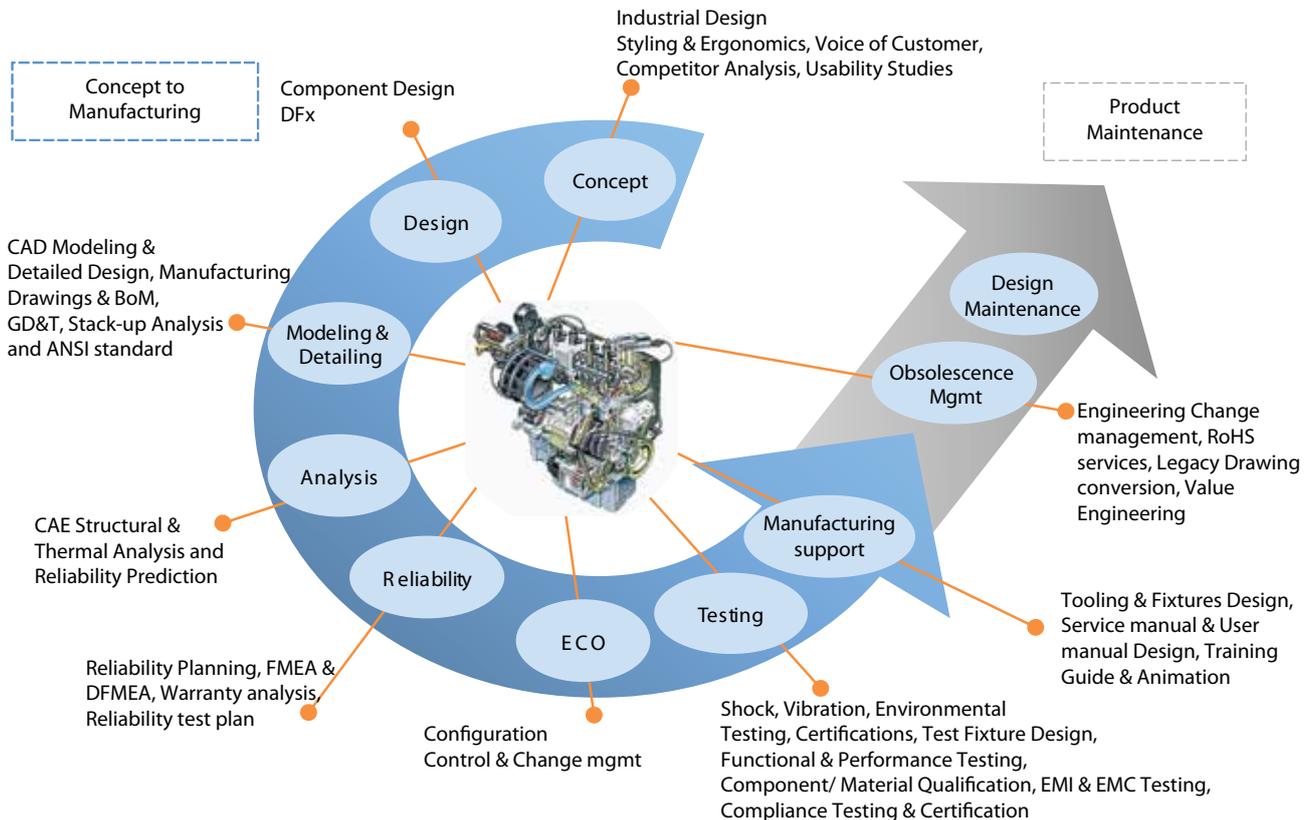
HCL's capabilities in providing solutions throughout the product development life cycle from conceptual design, industrial and mechanical engineering design, CAD modeling and detailing, to simulation, analysis and prototyping, product testing and low volume manufacturing makes HCL a unique one-stop solutions provider for Engineering Services. HCL also has expertise in implementation, maintenance and customization of PDM and PLM tools.



Mechanical Engineering Practice Snapshot

Process	<ul style="list-style-type: none"> ● ISO 9001 ● Processes compliant to SEI CMMI v 1.2 ● ISO 13485 : 2003 certification for medical devices ● BS 7799, ISO 27001, ISO-14971 certified
Tools	<ul style="list-style-type: none"> ● CAD: Unigraphics, Pro/E, CATIA, AutoCAD, Ideas, Solid Works, CCDraft, CADDs, - Solidedge , Solid designer ● CAE: Ansys, Nastran, Abaqus, LS Dyna, Ideas, Fluent, Icepak, Hypermesh, Moldflow, - Pro-Mechanica, Adams ● PDM/PLM: Metaphase , Windchill , eMatrix , ENOVIA/Smart team, IMAN , - Team center, Intralink ● Ind Design: Adobe Photoshop, Adobe Illustrator, Corel Draw, Rhinoceros, Alias ● TechPub: EpicEditor, IsoDraw CADProcess, Interleaf , Frame maker, Micrografx ● Reliability: Relex, ReliaSoft, CAFTA, Weibull
Infrastructure	<ul style="list-style-type: none"> ● State of the art delivery centers (Bangalore and Chennai) ● Testing Labs and Mfg capabilities

Concept to Manufacturing



21ST CENTURY TECHNOLOGIES

~\$ 50 Billion product revenue enabled over last ten years for our customers

Industry leading recognition by Gartner, Forrester, IDC, TBR and Frost & Sullivan

1250+ patents filed, 20+ Engineering Out of the Box Solutions

Delivery Expertise across 4 continents and 100+ development centres

#1 ESO provider from India, fastest growing, 500 basis point market share gain in 3 years

Experiences Engineered for our customers

- 1 Verify structural integrity of Assembly Fixture and provide design solution which passes the acceptable static & fatigue design criteria according to ASME-BTH-1-2005
- 2 Complete Product Development of Local Display for a range of Toxic Gas, Combustible Gas and Flame sensors - Firmware development on the Transmitter board for better detection of faults, alarms and events
- 3 For a medical device major, HCL did complex design and development on a cutting edge product - a drug delivery system for Class III medical devices. A time to market reduction of 30% was achieved by adopting ISO13485 compliant development activities including regulatory support.

 Hello, I'm from HCL's Engineering and R&D Services. We enable technology led organizations to go to market with innovative products and solutions. We partner with our customers in building world class products and creating associated solution delivery ecosystems to help bring market leadership. We develop engineering products, solutions and platforms across Aerospace and Defense, Automotive, Consumer Electronics, Software, Online, Industrial Manufacturing, Medical Devices, Networking and Telecom, Office Automation, Semiconductor and Servers & Storage for our customers.

For more details contact: ers.info@hcl.com
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