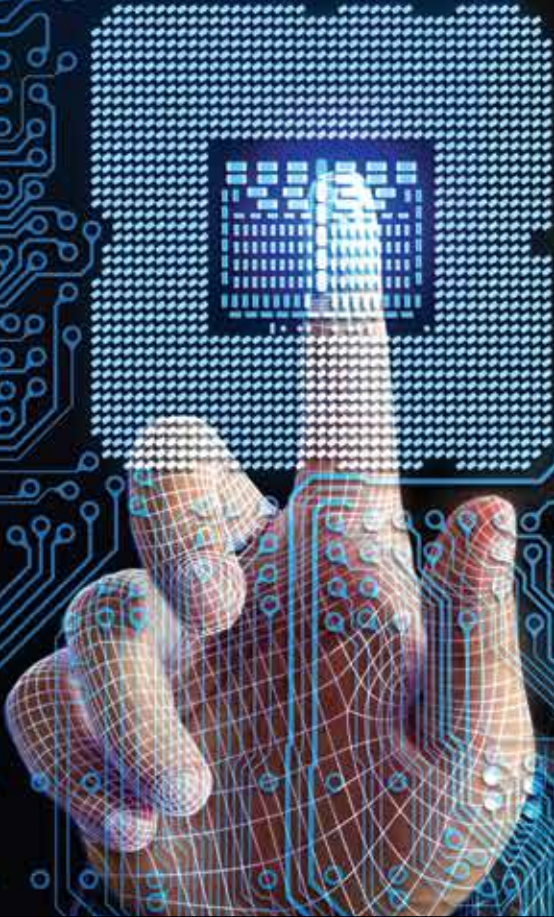


21ST CENTURY GLOBAL ENGINEERING

GLOBAL | SCALE | VALUE



HCL ERS **SEMICONDUCTOR ENGINEERING SERVICES**

21ST CENTURY TECHNOLOGIES

HCL IN SEMICONDUCTOR INDUSTRY

Customers include **6**
out of the top **10** Semi
OEMs

14+ years & 5000+ person
years engineering experience
with Semi OEMs & Fab
applications

Largest
engineering team
focused on Semi in
the industry: **1100+**
engineers

Highest investments - 5
customer labs, **10k** Clean
room, **\$5M+** in Solution
frameworks

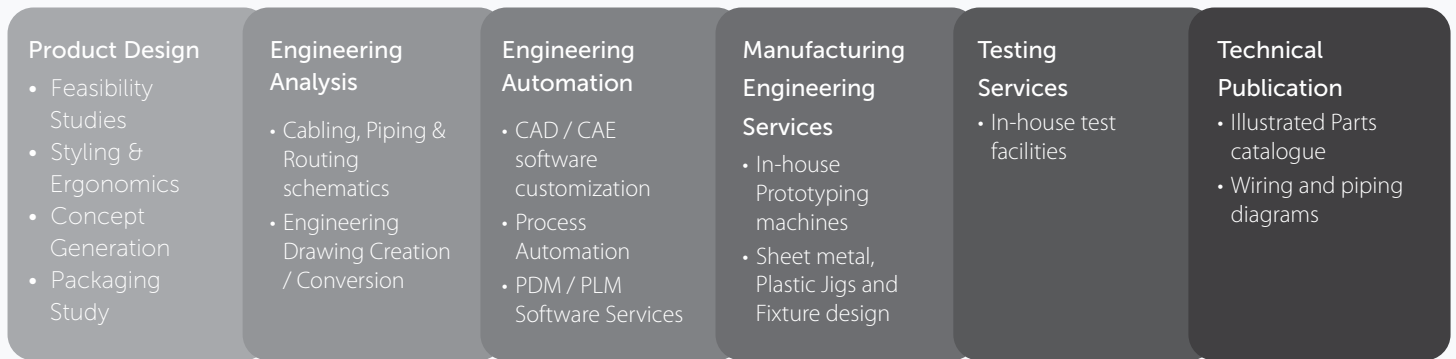
10,000 Sq. Ft. of Customer
specific Semi Equipment Labs
including Ion Implantation,
Wafer Inspection, ATE

6 Automation
solutions, 4 customer
awards, 450 mm focus,
EtherCAT Solution
framework

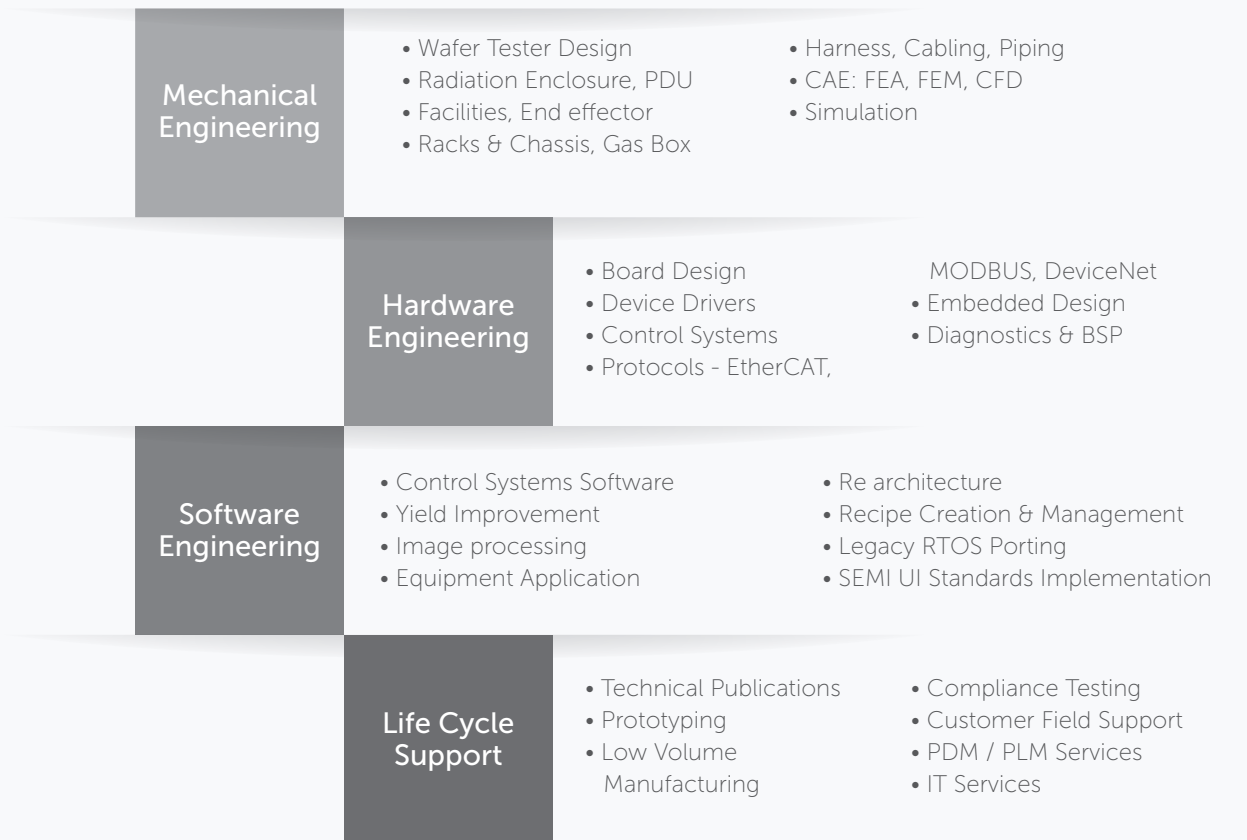
THE SEMICONDUCTOR INDUSTRY **TODAY**

All things ranging from PCs, Mobiles to all smart IoT devices like sensor, console, and any client devices are going to be connected to the cloud. New technologies such as FPGA and silicon photonics will be in production soon and with 5G round the corner, connectivity to the cloud will drive everything. These new technologies will drive the industry and will force enterprises to become to adapt and only the truly global, efficient, ecosystem driven and experience centric enterprises will survive.

SYSTEMS AND SUBSYSTEMS



SERVICES AND SOLUTIONS SEMI EQUIPMENT



SERVICES AND SOLUTIONS-SEMI CHIP



Reduction of cost by 20% accumulating to \$60M in 10 years and acceleration migration to new platforms & reduction of time to market for leading semi ATE

Setup customer specific labs and clean rooms for autonomy of projects and established a collaborative engagement model with customer's India captive center. Cost savings of \$150M in 12 years

Balanced new product engineering vs. sustenance and non-core activities. Cyclical market impacting time to market. Final result was \$30M cumulative cost savings

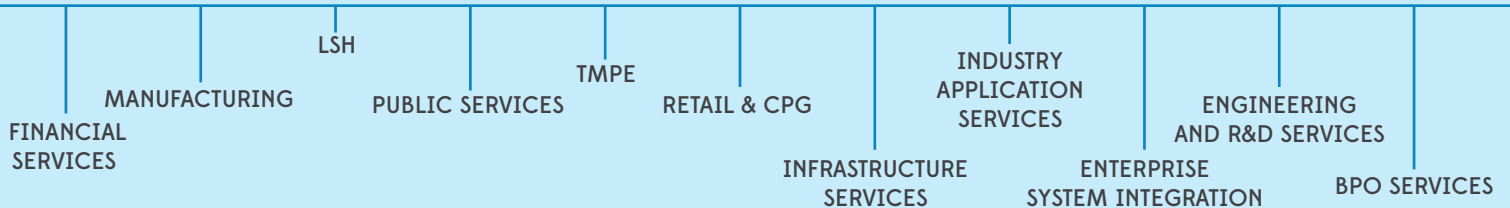
Supporting Intel Customers for Porting, Bug-fixing and Enhancements of Intel Multi Application Framework for Set-Top Box and Home gateways. Redefine Build process to increase efficiency and automate wherever possible

Porting of Fedora packages on Customer Platform. Porting of Debian packages on Customer's Platform. End Customers able to put 3rd party applications on Fedora/Debian

▲
**EXPERIENCES
WE ENGINEER
FOR OUR CUSTOMERS**

HCL - A \$7 BILLION GLOBAL ENTERPRISE

HCL Technologies brings IT and engineering services expertise under one roof to solve complex business problems for its clients. Leveraging our extensive global offshore infrastructure, network of offices in 31 countries and 110,000 employee base, provide holistic, multi-service delivery in industries such as financial services, manufacturing, consumer services, public services and healthcare. HCL's 38 year journey has been truly transformational.



\$1 BILLION IN NET PROFIT

\$5 BILLION IN REVENUE

\$15 BILLION IN MARKET CAPITALIZATION

**WE ARE AMONGST THE ONLY EIGHT
21st CENTURY COMPANIES TO ACHIEVE ▲**

HCL ENGINEERING AND R&DSERVICES IS BUILDING 21ST CENTURY TECHNOLOGIES

Organizations today are experiencing an unprecedented phenomenon. In the previous century, a company would remain listed as a Fortune 500 company for about 60 years. Today, they stay in that list for less than 18 years! Corporate profits are shifting to asset-light idea-intensive sectors. Emerging-market giants are gaining global scale; with the share of US and Western European companies in the Fortune 500 falling. Asset light technologies are creating more incremental value creating the need to pivot to service R&D. Firms with large legacy product R&D organizations will have to transition in a non-disruptive way. Kick starting Service R&D organization will need extensive collaboration. Thus, engineering spend is going to change drastically in the coming decade.

HCL with its engineering heritage, global presence, cumulative revenue impact and being the largest and fastest growing engineering services provider from India is ideally placed to transform your enterprise.

CUSTOMER CENTRIC
Design Centric, Accessible, Innovative

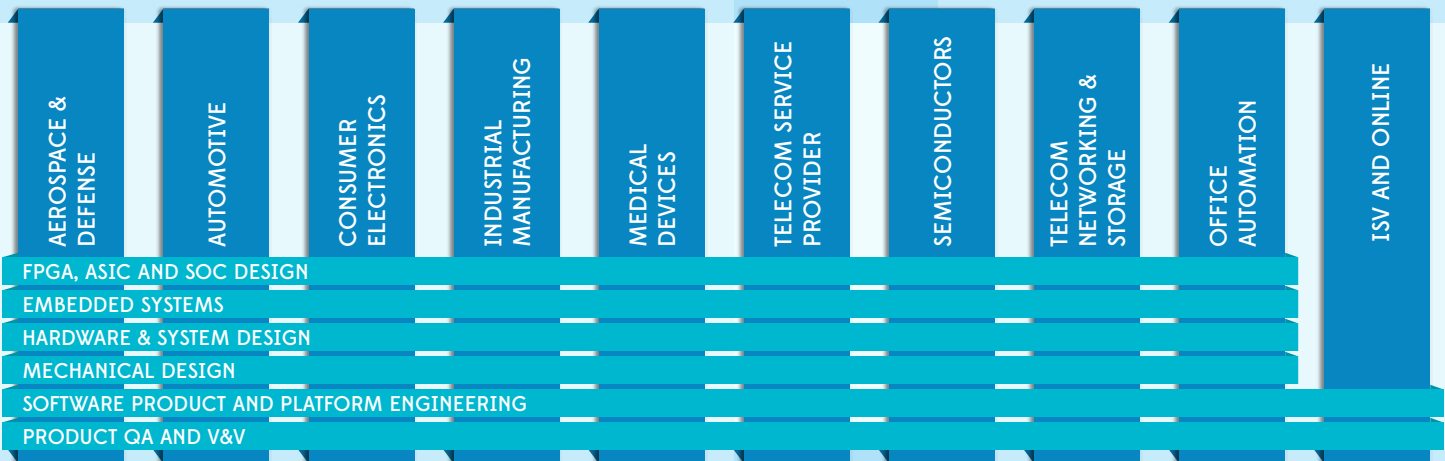


AGILE
Platformized, Continuously Released, Data Driven

The face of 21st century technologies will be **Customer Centric** - in terms of design centrality for industrial and UX design, accessibility & innovation as a service ; **Agile** - in terms of e-business platforms, DevOps framework and engineering analytics; **And Efficient** - in terms of Support & test automation, Value engineering and intelligent sustenance.

EFFICIENT
Automated, Frugal, Sustained

HCL ERS has been instrumental in engineering multiple products for 300+ customers across 10 industry verticals. Our engineering services straddle the entire product development lifecycle from new product introduction to end of lifecycle.



~\$ 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, \$20M invested in own labs, 35+ customer labs

Work with 55 of the top 100 R&D spenders globally

#1 ESO provider from India, fastest growing, 600+ basis point market share gain in 4 years

Relationship™ BEYOND THE CONTRACT

Gartner

Endo selected HCL as one of its partners not only for its technical depth and expertise, but more importantly because it was able to secure HCL's commitment to a long term R&D partnership.



The HCL-Rockwell Collins relationship is a model case study in technology services outsourcing best practices.



Meggitt sees HCL's role not only in executing to statements of work but also in contributing and adding value such as suggesting ideas for design improvements.



FROST & SULLIVAN

We have used HCL all the way from testing, specification engineering, software engineering and areas in media as well.



FROST & SULLIVAN

We have given HCL not only development responsibilities, but product management responsibilities and technical engineering responsibilities.



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 & Telecom, Office Automation, Semiconductor and Servers & Storage for our customers.

For more details contact: ims.orchestration@hcl.com

Follow us on twitter: <http://twitter.com/hclers> and our blog <http://ers.hclblogs.com/>

Visit our website: <http://www.hcltech.com/engineering-services/>

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