

# HARDWARE DESIGN SERVICES

Design | Deploy | Maintain

## Trends

Embedded system market is projected to grow from USD 86.5 billion in 2020 to USD 116.2 billion by 2025. microcontrollers segment accounted for the largest share of the embedded system hardware market.

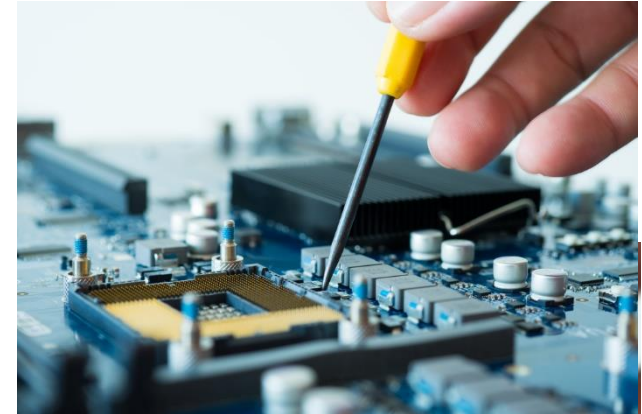
Real-time embedded systems segment accounted for a large share of the embedded system market in 2019.

Incorporation of IoT in various devices, smart environments, and platforms is one of the factors driving the demand for real-time embedded systems.

## Opportunities

Smart homes and increasing demand for IoT-based embedded systems present major opportunities of growth for embedded systems market.

- Smart Appliances
- Healthcare – Medical devices
- Network embedded systems - routers, Ethernet devices, wireless infrastructures, and protocol converters
- Automotive embedded system – IVI, ADAS, autonomous driving, electric, and hybrid vehicles



## Consumer benefits

- Real-time embedded systems reducing cost inefficiencies
- Automation opportunities

# SERVICE OVERVIEW

## BOARD DESIGN AND DEVELOPMENT

- System design, modelling, and analysis
- Component sourcing / BOM planning
- IoT device design
- Intelligent sensor application systems design
- Power circuits design
- Low, medium and high speed interfaces design
- Displays

## BOARD BRING UP

- Firmware and FOTA
- Device driver
- Flash Partition
- Boot-up scenarios
- Power Management
- Secure boot up
- Main board interface and communication commands
- Sensor information

## PRE COMPLIANCE TESTING AND CERTIFICATION

- HW Bench Testing
- Waveform Capturing
- Circuit Characterisation
- Over/Under voltage testing
- Load dump testing
- Reverse voltage testing
- Current measurement for various operating modes
- Pre-Compliance testing
- Electrical, Environmental

STANDARDS ISO-26262 | ISO16750/7637 | CISPR | JASO | ISO11898 | IEC 60601

## Product experience

Media Equipment's



Automotive ECU

Medical grade hardware



Space Grade hardware



Wireless Base Stations



Networking Hardware



## Differentiators

- Complex Board Design capability
  - 26 layers PCB design
  - Supporting upto 10Gps
- High count BGA package design
- Small form factor design expertise
  - Wearable devices
- Established ecosystem partnership for System Manufacturing services & turnkey development

## Design Tools

- Cadence Allegro
- ZukenCR5000
- Spectraquest, Hyperlynx
- Altium
- PADS
- CADSTAR