Detroit Engineered Products (DEP) is an Engineering Solutions and Product Development company, Since its inception in 1998 in Troy, Michigan, USA, DEP is now a global company with footprints in Europe, China, Korea, Japan and India. DEP uses the accelerated and transformed product development process, accomplished by utilizing our proprietary platform, DEP MeshWorks, which rapidly reduces the development time of products for all segments.

Rapid time to market of new products across several industry sectors such as automotive, defense, aerospace, energy, oil & gas, consumer products and heavy equipment is a unique value proposition delivered to clients via DEP's world class engineers and the DEP MeshWorks platform.

DEP is working on semiconductor market in end-end Integrated Circuit Design from specification to GDSII.



Smarter solutions, Realized.

















# **ELECTRONICS**

#### SOFTWARE/ FIRMWARE

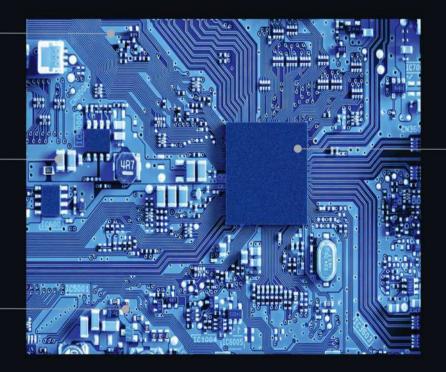
- BSP
- Device drivers
- RTOS
- Muxing software

#### HARDWARE .

- Microprocessors
- Microcontrollers
- **ASICs**
- **FPGAs**

### HARDWARE .

- **PCB**
- Memories
- RS232
- RJ45



#### **PROTOCOLS**

- Ethernet
- CAN
- **ProfiBUS**
- **FieldBUS**

## **Integrated Circuit Design Services**

**Expertise and Focus Area** 

Macro/Micro Architecture IP/SOC

SOC Integration
- LINT, CDC, SPYGLASS

IP Design

Powers & Performance
Analysis

Test Bench Development

IP/SoC Verification

Formal Verification

Power Aware Simulation

Gate Level Simulation

FPGA Implementation

Synthesis & Timing Closur
Floor Planning (Block/Top)
level
Power Planning
Place & Route
Physical Verifications

Emulation using FPGA/Zebu/Palladium

Board Design & Development

Test Suite Development

FPGA/ASIC Bring-up

Functional & Performance Validation

USB 2.0/3.0
SATA
PCIe
DDR3/4
LPDDR
MIPI
Ethernet

HDLs
System Verilog
Specman
C, C++
Verilog
VHDL

OVM
UVM
eRM
VMM

SemiConductors

Consumer Electronics

Storage

Automotive

IOT

Industrial

Medical

Integrated Circuit Design services - ASIC/FPGA Design, Verification, Synthesis, Timing closures, Emulation

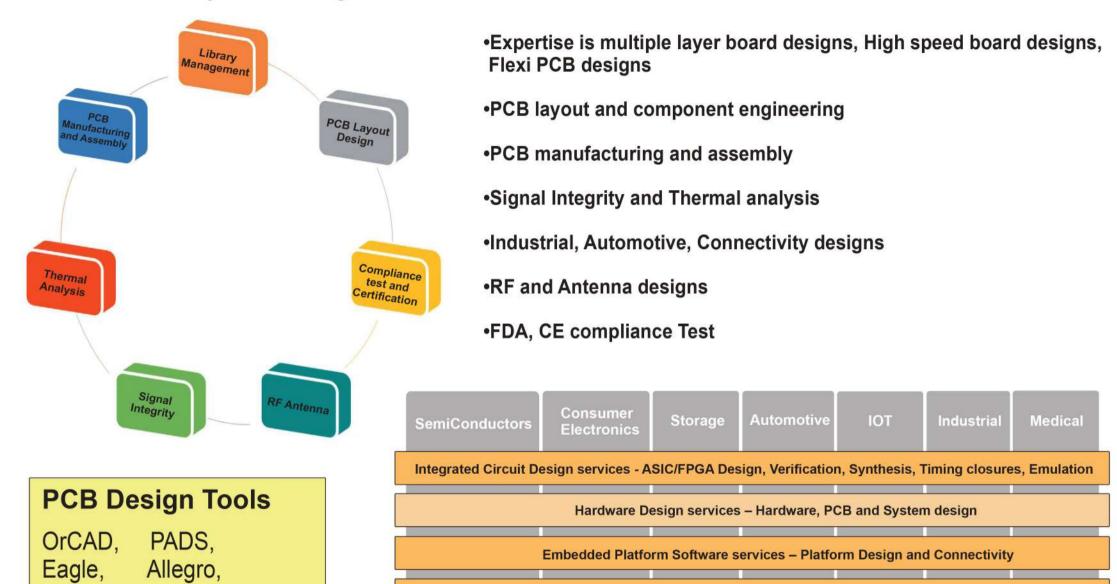
Hardware Design services - Hardware, PCB and System design

Embedded Platform Software services - Platform Design and Connectivity

Test Services - Board Test, Platform Test, Compliance, Product QA and V&V



## **Hardware and System Design Services**





Altium

Test Services - Board Test, Platform Test, Compliance, Product QA and V&V

## **Embedded Platform Software Services**

#### OS

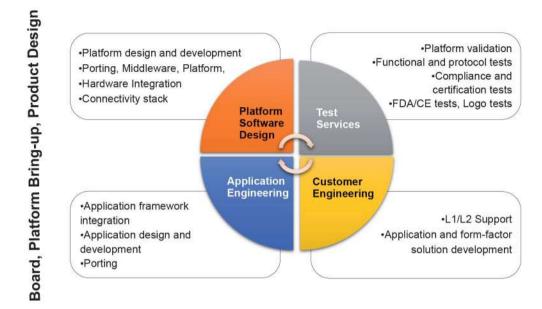
• Linux, Windows, OS X, Android, Meego, FreeRTOS, ThreadX, QnX, eSOL, Symbian, WinCE

#### **Processor**

 ARM, Microchip, ATMEL, Qualcomm MSM, LPC series, PB11MPCore, TI OMAP Freescale iMX and MXC300-30, Cortex Mx, A8, Luminory Micro LM3S37483748, Intel x86, E6xx and Platform IOH

#### **Tools**

- · IDE, Build and Debugging tools
  - Microsoft Visual Studio, Custom specific assembler & debugger, Realview ICE and Trace, BullsEye, Purify & Pure Coverage, Eclipse, Source Insight, IAR wok-bench, Jlink, Greenhills Toolchain, eSoL tool chain, Lauterbach



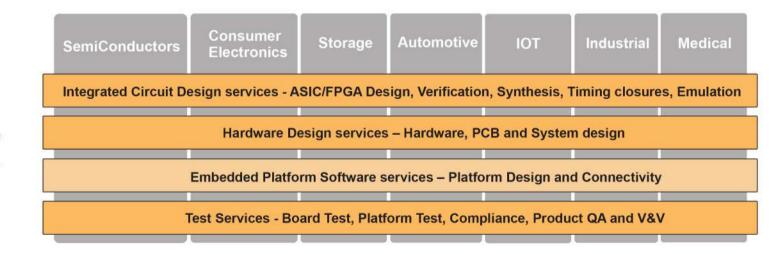
#### **Programming**

 C/C++, Python, Perl, Shell, Symbian SDK, Windows SDK

#### End to End Services

Product conceptualization to conformance testing. Embedded software development

 Board bring-up and BSP, Device Drivers, Protocols, Middleware, Applications on variety of operating systems, Processors and Devices





## **Test Services**



DEP should be considered for the Qualified test engineering resources and test solutions for IC test and Product engineering test at various levels, due to partnership with various test labs such as TUV, CPRI and Sameer.

Hardware Verification & Validation	Platform Validation	Compliance	Product System Validation
<ol> <li>Signal and Power Integrity</li> <li>DC, Timing, Thermal</li> <li>EMI/EMC</li> <li>Functional and interfaces tests</li> </ol>	Diagnostic tests     BSP Validations     Platform component tests	Wireless compliance     Compliance to spec     Coexistence tests     Certification tests     Logo tests	1. Compatibility tests 2. Benchmark tests 3. Performance tests 4. Temperature, environment and vibration tests

## Hardware debugging tools

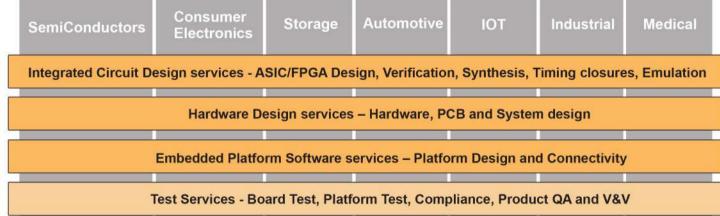
- CRO, Logic Analysers, Logic probes.

### **Protocol Analysers**

- SAS/SATA
  - SerialTek Jammer/Analysers, Lecroy
- Wireless Protocol
  - Ellisys USB, BT, Wifi Protocol analysers

WIFI test solutions from Tektronix

IXIA Traffic generators





**Expertise**