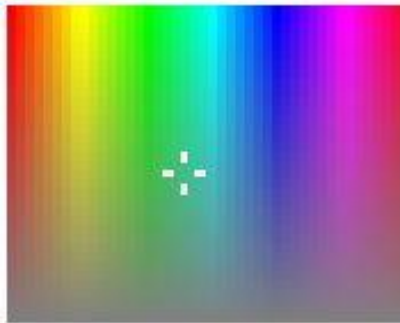


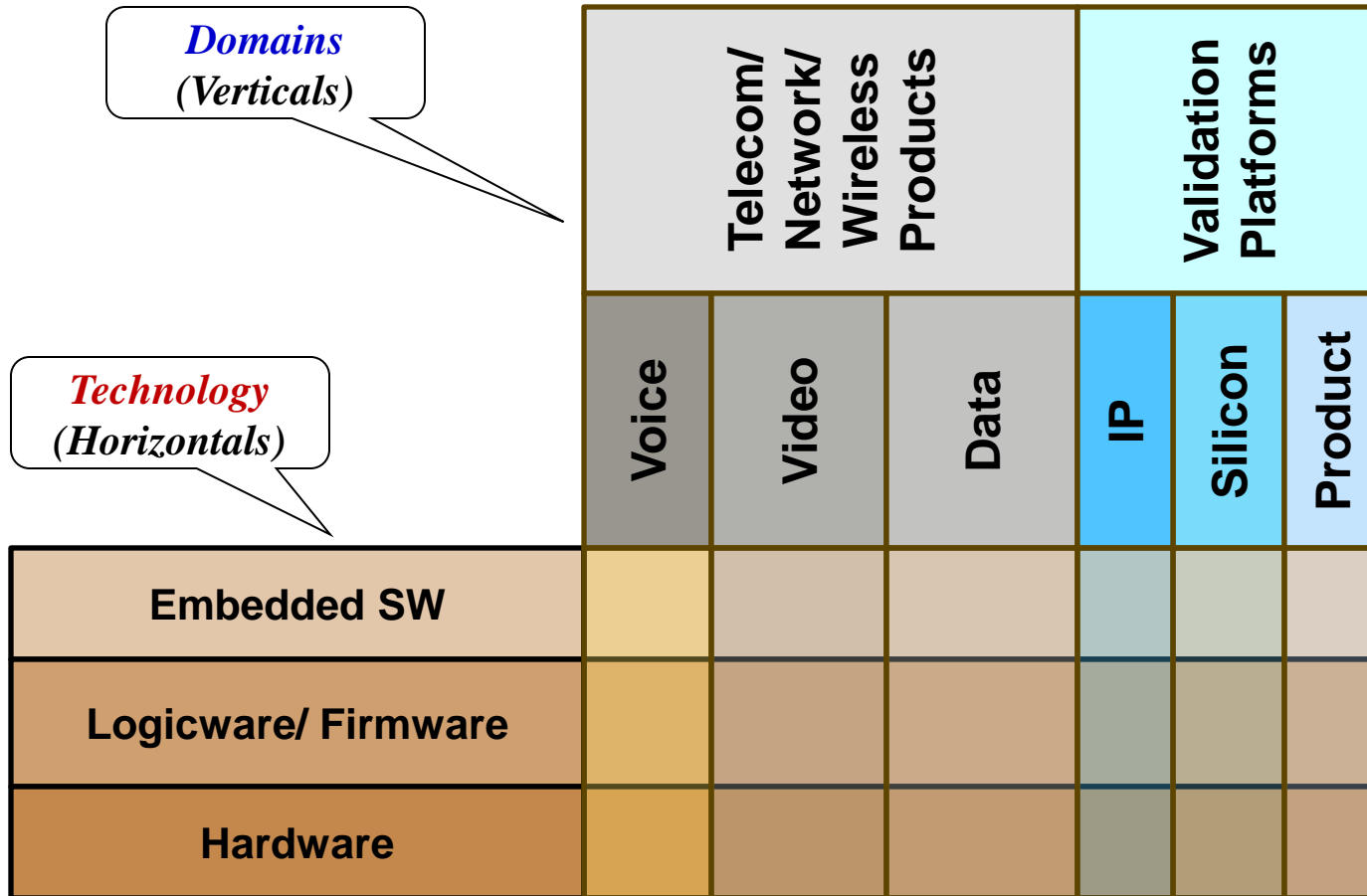


VVDN
TECHNOLOGIES

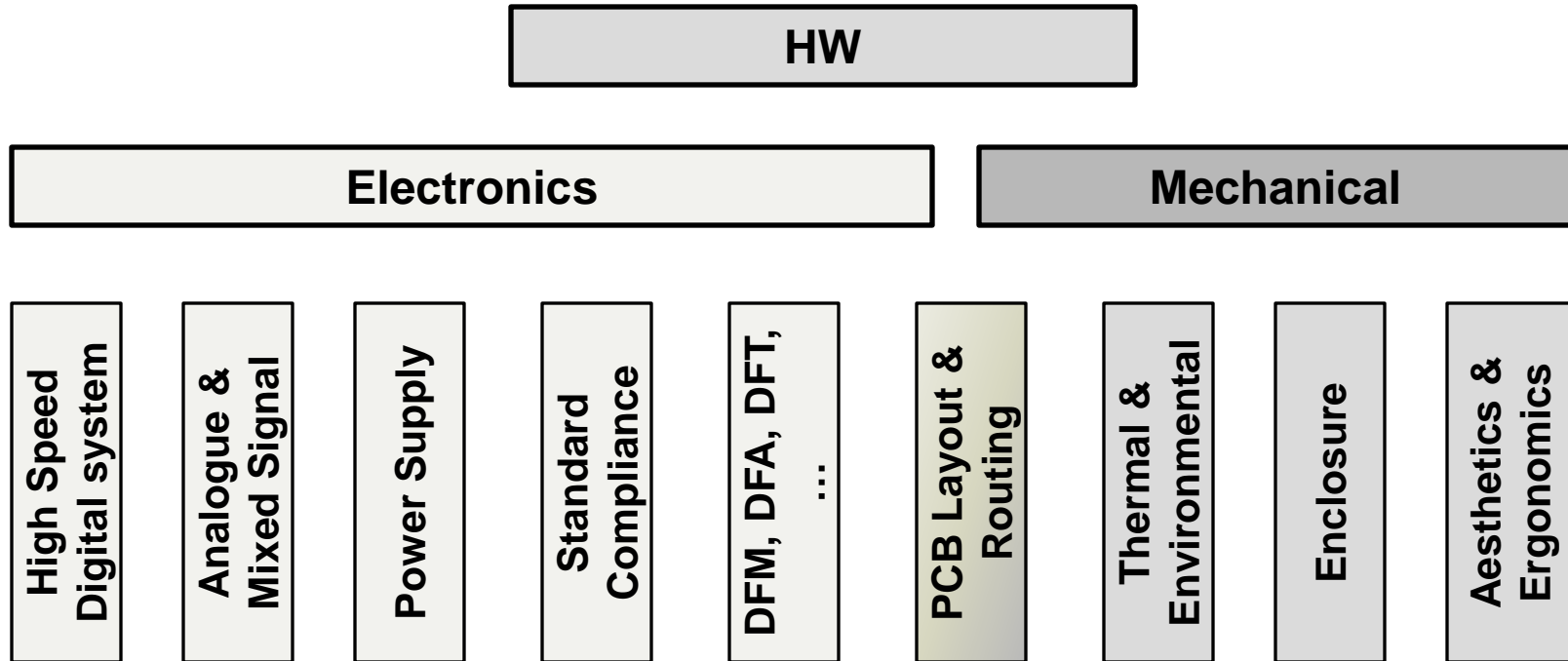
*Spectrum of
Embedded System Design
Expertise*



Expertise Spectrum

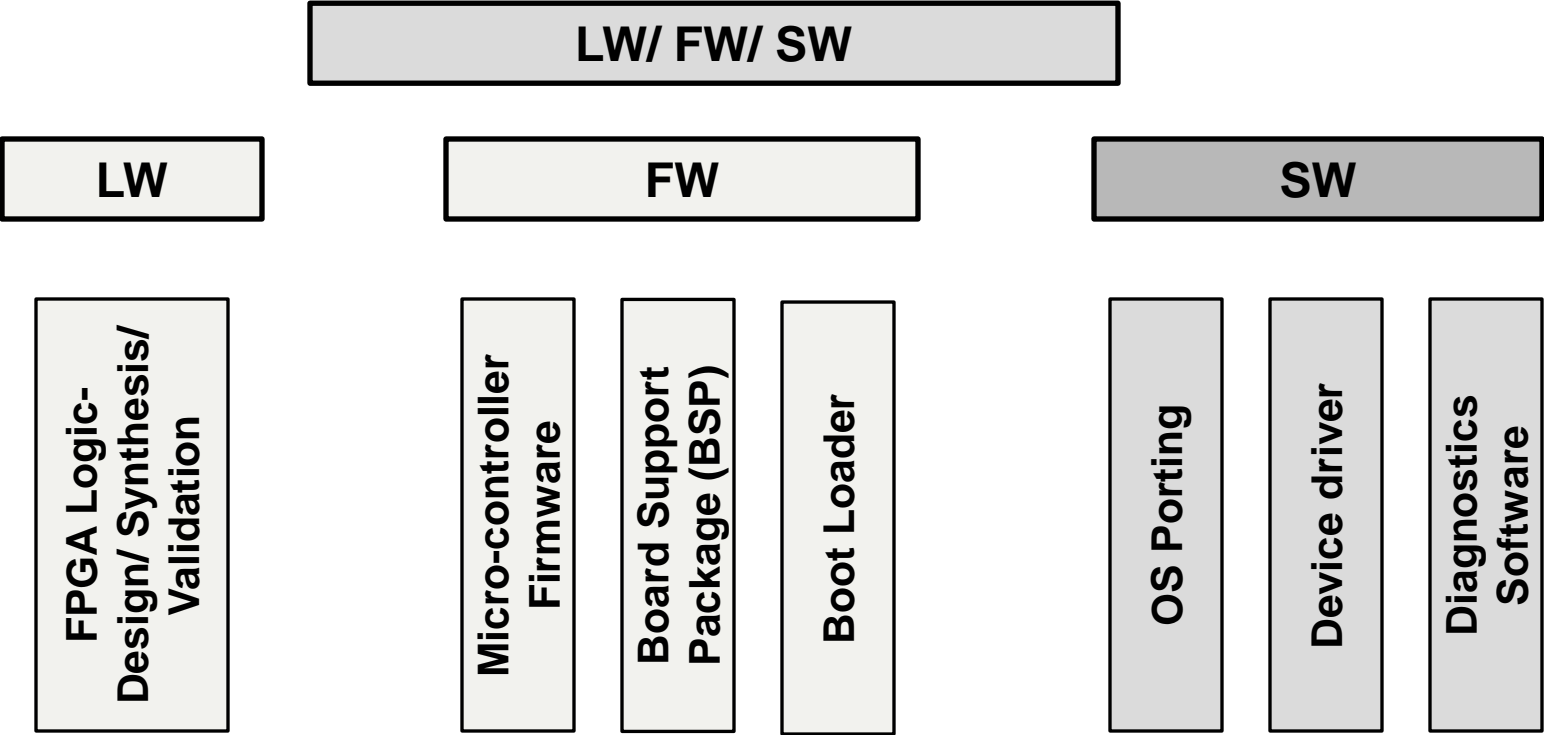


Embedded Hard-Ware



Mechanical -Electronics Co-Design

Software



LW/ FW/ SW/ HW Co-Design

Electronics Design

- *High Speed Processor based designs*
 - *Single-core/ Multi-core Processors:*
PPC/MIPS/ ARM/ iMX / Davinci Media Processors
Memory Interfaces: DDR / RLDRAM/ TCAM/ SRAM
 - *Peripheral I/Fs: PCI/ PCI-express/ USB/ SATA/*
 - *Network I/Fs: OC196/ XGigE/ GigE/ XFI/ XAUI/T1/E1...*
- *Media interfaces*
 - *CMOS/ CCD based Video sensors – HD & 5+ MP*
 - *Video Encoders/ Decoder, Graphics controllers*
 - *Analogue video, BT656, HDMI, DVI, VGA, LCD Interface etc.*
 - *Audio encoder/ decoder, SPDIF, I2S*

Electronics Design

- *Board Power supplies and Power management*
- *Intelligent Platform Management Controllers*
- *FPGA/ CPLD based designs*
 - *Xilinx and Altera family devices with multi-Gbps ports
(HW + Logic design/ synthesis etc.)*
- *Standard Platform based design*
 - (Electronics/ PCB/ Mechanical etc..)*
 - *PCI / CPCI/ PCI Mezanine*
 - *ATCA / AMC/ uTCA (including IPMC)*
 - *ATX, PCMCIA, Mini-Card etc.*

PCB Designs

- *Digital/ Analogue / RF and mixed PCBs*
- *Up to 24 Layer PCBs with 1500+ pin BGA devices*
- *Complete PCB design expertise – from Schematic to Gerber*
 - *Board stackup and controlled impedance*
 - *Layout /Routing analysis and optimization*
 - *Signal integrity analysis*
 - *EMCompatibility design*
 - *DFM/ DFA/ DFT*
 - *Power & Thermal design at Circuit & Board level*
- *EDA Tools: Altium & OrCAD*
- *Working Partnership with EMS for prototype & Volume production*

Mechanical Design

- *Mechanical design compatible for Standard platforms*
 - *PCI/ CPCI/ ATCA/ uTCA etc.*
 - *Custom enclosures / platform*
- *Complete Enclosure design / Tooling/ development support*
 - *PCB- Enclosure Co-design*
 - *Thermal & Environment aspects*
 - *Aesthetics and Ergonomics in design*
 - *DFM, DFA & Cost optimization*
- *CAD Tools: Solid Works*
- *Mechanical Prototyping (Through Partners in India/ Taiwan)*
- *Tooling - Plastic / Metal options (Partners in India/ Taiwan)*
- *Production & Sub-assembly (Partners in India/ Taiwan)*

Logicware/ Firmware

- *FPGA / CPLD Logic-Ware (LW)*
 - *Design Xilinx and Altera Family devices*
 - *VHDL/ Verilog/ Schematic models*
 - *Requirement analysis, Design/ Synthesis/ Simulation*
 - *On-Chip testing & Validation*
- *Firm-Ware*
 - *Microcontroller FW development for different family devices*
 - *FW Applications like Platform/ Board/ Device management*
 - *BSP / Boot-loader/ Board diag etc for ARM/ MIPS/ PPC*
 - *Low level device driver/ bus driver etc.*

Software

- *OS porting to new platforms*
 - *Linux Porting on PPC/ MIPS/ ARM/ DSP based platforms*
- *Device driver /Protocol Development / Porting*
 - *Standard Bus based drivers – PCI / USB/ UART/ I2C etc.*
 - *Driver for Network devices:*
 - Ethernet/ Wi-Fi/ SFP/XFP / T1/E1 framers*
 - *Drivers for media devices*
 - Video Sensors, Video & Audio CODEC, Display devices..*
- *VoIP Protocols related development*
 - *SIP/H.323/H.248/MGCP Protocols*
 - *Legacy SS7, CAS R1/R2 Protocols*

Networking Domain

- *Voice & Video Networking (HW/ FW/ SW)*
 - *Network Security Camera*
 - i.MX 27 Based (Nethra, USA)*
 - DM365 Based (MaxVision, VNL/SHYAM)*
 - Aptina / Omnivision CMOS based HD models*
 - *Video Conferencing System*
 - DM365/ 358 Based*
 - *Video Management & Analytics*
 - *Door Phone*
 - i.MX27 Based*

Networking Domain

- *Data Networking products (HW/ FW/ SW)*
 - *Wired*
Switches/ Routers/ Gateways
(Realtek / Atheros based)
 - *Wireless*
Wireless Broadband / Access point/ CPE
(Realtek / Atheros based)
 - *Combo*
Home Gateway/ Enterprise Gateway
 - *Telecom*
E1 Radio / Enterprise IDU
(Maxim/ Freescale devices)
ATCA hub board for ASN Gateway
(for Wichorus, USA)

Validation Platforms

- *IP Validation Platform*
 - *FPGA based PCB, FW & Host SW for IP Validation*
 - DVE IP Validation Platform (Microsoft)*
 - IPSec IP Validation Platform (Samsung)*
- *Silicon Validation Platform*
 - *PCB, FW & Host SW for New IC (Silicon) Validation*
 - DVE Chip Validation Platform (Microsoft)*
 - IPSec Chip Validation SW (Samsung)*
 - Multi-core (XLR/XLS) Processor validation Board (RMI)*
- *SW/ Application Validation platform*
 - *Reference Board / Prototypes for new concept validation*
 - PowerQUICC (85xx) reference platform (PCI/ AMC)*
 - i.MX 27 & i.MX31 Reference platform*

Test System/ Tool Development

- *Test Platform (In house development)*
 - *Nail bed based Board PTS (for assembled PCBs)*
 - PTS hardware & Software Including Test Scripts*
 - Test Automation Script (PERL, TCL)*
 - Detailed test report / Statistics logging*
 - Developed and deployed for Multiple products*
 - *Product Level Testing*
 - Script based Functionality test, configuration check etc.*
 - Serial number vise report logging*



*Few Examples of Team's
Experience on
Specific platforms*



- ***MPC 7455***
Dual Processor CPCI blade for VoIP Application
Board Design, BSP & OS Porting, Driver Development
- ***PowerQUICC 85xx***
8548 / 8555/ 8560 Reference platforms (PCI & AMC)
Board Design, BSP & OS Porting, Driver Development
- ***PowerQUICC 83xx***
8313 based TDMoIP & TDM Switch Products
Full product Life cycle:
(HW/SW development, testing, deployment etc.)

8349 based Board for custom application (GE)
Board Design, BSP & OS Porting, Driver Development

i.MX Media Processors

- ***i.MX27***

i.MX27 based CMOS, Mega pixel Network Camera

Full product Life cycle:

(HW/SW Development, Testing, Deployment etc.)

i.MX27 based Door phone

Full product Life cycle:

- ***i.MX31***

i.MX31 based custom application Board

Board Design, BSP & OS Porting, Driver Development

Multi-core Processors (RMI/Netlogic)

- *XLR/XLS multi core Processors*

Silicon validation Board (RMI)

Design of Three different reference boards platforms for the first silicon of XLR/XLS processors

XLR based L3 switches (Extreme Networks)

System Software / device driver development for the XLR based Management Blade and IO processor blades of BD2K family switches

DaVinci Media Processors

- ***TMS320DM365***

TMS320DM365 based CMOS/CCD Mega pixel Network Camera

- *Multiple models of Network/ security cameras*
- *Complete product development*
 - *Mechanical, PCB, & Embedded SW*
- *Full product life cycle – From Concept to Customer Deployment*

ATCA blades /AMC cards

- ***ATCA***

- Complete HW design and BSP porting for ATCA (hub) blade*

- *18 layer PCB with multiple HD BGAs*
 - *10 Gig & multiple High speed links*
 - *DDR2/ RLDRAM/ TCAM memory interfaces*
 - *IPMI (BMC) & Power management*

- ***AMC/ uTCA***

- PowerQUICC 85xx processor based AMC blades*

- Board Design, BSP & OS Porting, Driver Development*



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*A **Partner** you can count-on
for
all dimensions of
Embedded Product Development
life cycle*

*“**From Concept to Customer**”*