

Design Services Partner Profile



TOPIC Embedded Products B.V. Company Overview

Date : 10/12/2023

www.topicembedded.com

Partner Details

Partner Tier: Premier
Headquarters Location: Materiaalweg 4,Best,,Netherlands
Xilinx Alliance Partner Since: 10/22/2008

Key Contact Info

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Regions Served

Supported Product Types	Yes	Design Services	No	Embedded Products
	No	IP	No	EDA Tools
	Yes	Boards		

Engineering Service Types	Yes	General Purpose Services	Preferred
	Yes	Services in Support of Products Sold	
	Yes	Services Leading to Contract Manufacturing	
		Maximum Service Scope: Turnkey / full product design	

Engagement Models Supported	Yes	SOW-Based Fixed Bid Projects	Preferred
	Yes	Time and Materials	
	Both	Captive Resources at Partner or Customer Premises	

Xilinx Design Tool Experience	Yes	Vivado	Yes	SDSoC
	Yes	HLx	Yes	SDAccel

Industry Certifications Achieved ISO 13485

Industry Certification Services Offered CE, DO-254, FCC, SIL3/4

Government Clearances None, was not required sofar.

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TOPIC Embedded Products B.V. Segment and Application Focus

Primary Focus	Defense/Aerospace	<ul style="list-style-type: none"> Primary Focus Secondary Focus Secondary Focus No Focus No Focus Primary Focus No Focus No Focus No Focus Primary Focus 	<ul style="list-style-type: none"> Homeland Security Electronic Warfare ISR Space Missiles & Munitions Military Avionics Commercial Avionics SatComm Wireless Milcom Other A&D
Primary Focus	Audio, Video, Broadcast	<ul style="list-style-type: none"> No Focus No Focus No Focus No Focus No Focus Secondary Focus Primary Focus Primary Focus No Focus 	<ul style="list-style-type: none"> Encoders & Decoders Monitors & Projection Networking & Converters Audio Systems Video Processing Cards Video Conferencing Routers and Switches Pro Cameras & Camcorders Other Broadcast
Secondary Focus	Automotive & Transport	<ul style="list-style-type: none"> Secondary Focus No Focus No Focus No Focus Primary Focus 	<ul style="list-style-type: none"> Driver Assist - Camera Driver Assist Radar/LIDAR Driver Info/Infotainment Automated Driving Other Automotive
Secondary Focus	Consumer	<ul style="list-style-type: none"> No Focus No Focus Primary Focus No Focus 	<ul style="list-style-type: none"> Digital Display Drones Multifunction Printers Other Consumer
No Focus	Datacenter	<ul style="list-style-type: none"> No Focus No Focus No Focus 	<ul style="list-style-type: none"> Storage Compute Networking
Primary Focus	Industrial, Medical	<ul style="list-style-type: none"> Primary Focus Primary Focus Primary Focus Primary Focus No Focus Primary Focus Primary Focus 	<ul style="list-style-type: none"> Motor Control Industrial Networking Surveillance Machine Vision Medical Imaging Medical / Clinical Other ISM

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TOPIC Embedded Products B.V. Segment and Application Focus (continued)

Secondary Focus	Test & Measurement	<ul style="list-style-type: none"> Primary Focus No Focus Secondary Focus No Focus No Focus Primary Focus 	<ul style="list-style-type: none"> Simulation / Emulation T & M Instrumentation Semiconductor Test Wired Communication Test Wireless Communications Test Other Test & Measurement
No Focus	Wired Comms & Networks	<ul style="list-style-type: none"> No Focus No Focus No Focus No Focus No Focus No Focus No Focus No Focus 	<ul style="list-style-type: none"> Access Equipment Long Haul/Transport Wired Mobile Backhaul OTN Enterprise Equipment Ethernet Interlaken Connectivity Packet Processing Other Wired Communications
Secondary Focus	Wireless Comms & Networks	<ul style="list-style-type: none"> No Focus No Focus No Focus No Focus No Focus 	<ul style="list-style-type: none"> Baseband Wireless Backhaul Connectivity & Switching Radio Other Wireless

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Design Competencies

System Architecture	Primary Focus	Total systems development from Research to complete product development for end customers (Proof of Concept, Definition, Execution to Deployment and Support) in multiple domains ranging from Medical to Industrial, Space, Avi
RF and Analog Design	Secondary Focus	Software defined radio for active and passive RF ID applications. 24 bit analog frontend for EEG/ECG/EMG applications. Wireless connected dependable equipment (434M/868M/2.4G public band).
FPGA Design and Integration	Primary Focus	System integration platform: reduction of board form factor, power and complexity. Communication interfaces and protocols. Algorithm translation from mathematical descriptions via Matlab/Simulink/C/C++ into FPGA code using co
FPGA Timing Closure	Primary Focus	Part of our design methodology: no designs are released unless proven timing closer with documented exceptions (clock domain crossings, etc.)
FPGA Design Optimization	Primary Focus	Offered as a service
Signal Integrity Design and Analysis	Primary Focus	DDR3/4, PCIe, HMC, PLL lock 10ppb(!) @ ~50GHz, 400Gbps Ethernet, HD-SDI video, iBert, IBIS, board simulation, layout simulation, Mentor Graphics based.
	Inhouse or Subcontracted: Inhouse Typical Serial Speed: 50	
PCB Design & Layout	Primary Focus	Board size from 30x30mm upto 400x300mm. From 2 layers upto 30 layers, geometries < 100um, burried via's, micro vias, IPC610 compliance, FR4 to Megtron6
	Inhouse or Subcontracted: Both	
Industrial and Mechanical Design	Primary Focus	Complete systems development (requirements, design and implementation) of systems for radiation treatment simulation and non-destructive testing in steel plate inspection. Collaborated with partners from architecture to impl
	Inhouse or Subcontracted: Both	
Industry Certification and Compliance Testing	Secondary Focus	Complete compliance to all relevant medical and electrical and electronical standards, like IEC60601, ISO13485, ISO14971, like FDA QSR, ISO62304, EMC/EMI regulations, ISO62366.
	Inhouse or Subcontracted: Subcontracted	
Quality and Reliability Testing	Primary Focus	Main and core competence on automated verification using several test-driven practises including HIL testing and continuous integration and delivery. When applicable: bump and vibration tests, tests for electromagnetical int
	Inhouse or Subcontracted: Both	
Contract Manufacturing	Primary Focus	PCB assembly. Enclosure design (limited). Mechanical integration/Industrial design
	Inhouse or Subcontracted: Subcontracted Max Quantities Supported: 10,000+	
Digital Signal Processing	Primary Focus	OMAP Davinci, PicDSP, Versal, Ultrascale+, Nvidia Jetson
	Experience: OMAP Davinci,	

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	PicDSP, Versal, Ultrascale+, Nvidia	
Embedded Processors	Primary Focus	RTOS and Linux based applications. UI and control. Data processing, acceleration and optimization, debugging, TDD, BDD, automatic build&test, configuration management
Experience:	EFM32,MSP430,Cortex M0/M3/M4/A53/A9/A7, Risc5	
Embedded Porting / BSP Extension	Primary Focus	Various and multiple OS-es often including maintenance.
OS and RTOS Design Experience:	FreeRTOS, Linux, Other / Contact Partner, VxWorks, Windows Embedded	
Embedded Application Development	Primary Focus	Almost all-in-house work includes a significant part in application development having an interface to customers or users including iOS / Android development, Windows development, Linux development
Image Sensor Fusion	Primary Focus	Radar image reconstruction for water depth measurements at sea using wave reflection; Navigation for visual impaired people based on cane integration
Homo or Heterogeneous:	Heterogeneous	
Sensor Types Design Experience:	Accelerometer, Compass, GPS / Position, Gyro, IR, Inclinator, LIDAR, Radar, Thermal, Tilt, Video (4K, 8K), Video (SD, HD)	
Computer Vision	Primary Focus	We have a lot of experience with vision implementations, but the focus is more related to vision related algorithmic design then providing generic vision solutions. Now also with AI on Alveo V70.
Machine Learning	Primary Focus	WISH is a Topic developed AI based application for workflow optimization in an operating theater context in hospitals. Nvidia high-performance video processing and AI replacement by AMD Alveo V70 solution.
Framework Experience:	Caffe, Other / Contact Partner, TensorFlow, torch	
Network Model Experience:	AlexNet, GoogLeNet, ResNet	