

axONiM

D E V I C E S

AXONiM Devices Company Overview

Founded in	2011
Headquartered in	Lithuania
Engineers	30+ core employees
Organizational model	open system – only two hierarchy levels: project managers and engineers of the development teams, others are supporting subsystems
Services	embedded solutions development, digital devices development, prototyping, ready-to-manufacturing
Clients' geography	CIS, Germany, UK, US
Industries	digital optics, industrial automation, telecom, consumer devices, medical devices
Selected clients	Yukon Advanced Optics, Lifodas, Round Concept, Polimaster
Solutions	video processing, digital optical systems, consumer electronics, hardware & low-level SW solutions for industrial automation, UAS, embedded systems

Examples of works



Embedded development

Spheres	Connectivity and networking, Video processing
Objects	Sensors, Automation, Wearables, Smart Handheld, Consumer Electronics
Subsystems	Hardware, Firmware & ROM code, Drivers & Controllers, RT/Kernel Development and Optimization, Embedded Applications & Platforms, User Experience and Interface
Devices, IoT	Device hardware & firmware, RTOS, drives development
Embedded appliances	Embedded software engineering
Firmware	Domain specific hardware controllers and firmware software
Sensors and Automation	Analog & digital signal processing, image & video processing, processing algorithms, HW, FW, SW, SCADA systems development and integration
Networking	RTOS, data processing, transmission

Selected customers



End-to-end service offering

Electronics design	Architecture, components selection, throughput & consumption calculation, thermal dissipation estimation, schematics & PCB design, PCB size optimization, signal integrity modeling, PCB prototyping.
Mechanical design	Exterior design selection, detailed 3D design, mounting places, volume minimizing
Firmware, Embedded SW	Embedded SW architecture, OS selecting, proof-of-concept at development boards. Board-up, debugging and testing features and benches. Consumption, dissipation, throughput & signal integrity verifying and correction
MATLAB analysis	Algorithms development, R&D activities, Computational analysis & optimization, Verification environment preparation, Digital signal processing
FPGA design	FPGA / CPLD design (VHDL, Verilog, System Verilog, ANSI C), Emulation and implementation, Hardware and software debugging, RTL design, Verification, co-simulation, Advanced design systems and development boards
Portable RTL design for SoC	Portable RTL design for SoC, Verification of SoC, FPGA HIL

Toolset

Architectures	ARM, SuperH, x86, TI DSP, ADI Blackfin, ADI DSP, AVR32, MSP430
Manufactures	components from leading manufacturers
Operating systems	Embedded Linux, Android, Microsoft Windows Embedded, eCOS, FreeRTOS, ADI VDK, DSP/BIOS
Wireless communications interfaces	IrDA, Bluetooth, WiFi, GPRS / GSM / 3G / HSPA / LTE / LTE Advanced, ZigBee, GPS
Communications interfaces	USB Host/Client/OTG, SPI/SSP, I2C, LVDS, UART, RS232 / 485 / 422, LCD HDMI, DVI, SD / SDHC / MMC / CF / PCMCIA, ATA, SATA, PATA, Ethernet, PoE, PCI, PCIe, 1-Wire, uWire, CAN, SPORT, S/PDIF, PPI, I2S, AC97, TDM, RMII, MII
Industrial interfaces	ProfiNET, EtherCAT, ProfiBUS, ModBUS, CANOpen, IEC 61850, MQTT, GigE Vision
languages	C/C++ (incl STL/ATL), TCL, CDL, Java (J2ME), MatLab, Mathematica, VHDL/Verilog, ASM, XML, XAML
Multimedia	MPEG2, MPEG4, MP3, WMA, H.264, WMV8, JPEG, JPEG2000, Motion JPEG, OGG Vorbis, G.711 u/a-Law, G.722 ADPCM, G.726 ADPCM, Speex, GSM 6.10

Qualifications



Member of TI Design Network, expertise at ARM-Based Processor Platforms, Digital Signal Processors, Microcontrollers (MCU), OMAP Applications Processors, Wireless Connectivity



AXONiM is an accredited partner of Intel Corp. in the design of devices based on Intel processors



Participant of 3rd party developers program. Analog Devices highly appreciate our abilities in software and electronics development.



AXONiM is member of EtherCAT Technology Group. The EtherCAT protocol is used for hard and soft real-time requirements in automation technology, in test and measurement and many other applications.

Solutions and competences

Video processing	Video data processing algorithms development. Color correction algorithms. Eliminating defects algorithms. Resolution and detailing increasing algorithms. Examples: automatic screening, automated monitoring and measuring systems, computer vision, laser scanning, others.
Optical devices	embedded solutions design, electronics, printed circuit boards, processor modules, algorithms and software development, prototyping and preparing for serial production of various optical devices - thermal imagers, monoculars, binoculars, sights, night vision attachments for sights, binoculars, monoculars.
Consumer electronics	Contract development, prototyping.
Industrial automation	Hardware platforms, hardware and software solutions development.
UAV, UAS, Drones	Hardware and software solutions mostly in regards to image and video stream processing.
Telecom	Development and prototyping of the communication devices – radio, GSM, Ethernet, IP, etc.
Embedded solutions	Processor modules, embedded systems contract development and integrations into serial projects.

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