

Company facts

- Founded in 1991
- 300+ employees
- 2 production sites in Spb and 1 in Finland

- 500+ completed projects
- Customers from the EU and USA
- Partnership with leading educational and research institutions

About Electronics Development Center Industries Served

- HW & SW for Embedded systems
- Telecommunication equipment control
- Network and multimedia protocols
- Real-time audio and video encoding/decoding
- Digital video broadcasting
- Digital processing of radio signals, noise reduction, echo cancellation, channel equalizing
- Optimization of algorithms and SW for DSP, SoC and other specialized HW
- FPGA-based HW accelerators

- Telecommunications
- Transportation
- Automotive
- Aerospace/ Defense
- Energy
- Healthcare
- Electronics/ High-tech

Technological Experience

Application Development Platforms

Microsoft Windows, Linux Kernel, RTOS, embedded systems

Technologies

XML/XSL, HTML/DHTML, Web Services, Matlab/Simulink

Hardware development Platforms

FPGA, CPLD, DSP, RISC, ASIC

Design technologies

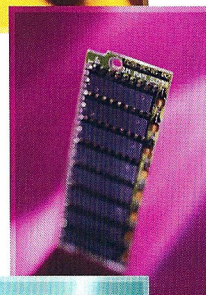
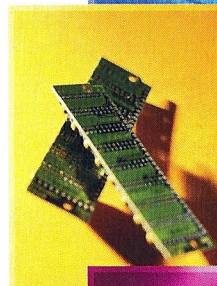
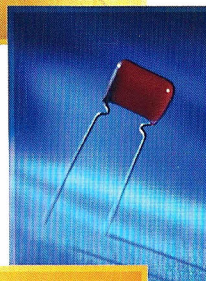
Functional/timing simulation, hardware re-engineering, logic synthesis, rapid prototyping, verilog
IDE and SW tools by Mentorgraphics, Xilinx, Altera

Programming languages

VB, VB.NET, JavaScript Transact, C/C++, C#, VHDL, TCL, Assembler

Network technologies

ATM, FDDI, Ethernet/Fast Ethernet, xDSL, GEAPON, DVB-T, DVB-H, ISDBT, ATSC-M/H, VoIP, TSP/IP, DSP frameworks (Texas instruments analog devices)



Advantages

- Non-standard solutions for data processing algorithms and control algorithms
- Using of system-level synthesis for leveraging VHDL-based technologies
- Wide experience working with modern electronic components: FPGA, DSP, RISC
- Reputation as a reliable business partner providing stable long-term relationship (maximum 10+ years collaboration)
- Engineering methodologies tailored to the particular needs
- Optimized organizational structure: time and effort-proven methodology for the project management
- Professionalism, talent and high level qualification of company's employees. (1 full professor, 6 PhDs all other employees have MCs degree)

Project Examples

- Switch for heterogeneous computer networks
- ATM switch (Asynchronous Transfer Mode)
- Fault-tolerant computer
- DSP software for DVB networks
- Echo canceller
- Telephone exchange reengineering
- Radio noise compensator "Symmetry"
- DSP Platform Emulator
- Sound effects processor
- Satellite router

Selected Large Customers

LANIT, Elron Software, Italtel, NetHawk, Russian Automobile Partnership (Russia), BETO, Softelcom, Oplayo, LOCATEL, Impulse Research and Production Corporation, ProTelevision Technologies.

Digital electronic and telecommunications equipment

Switches, routers, gateways, repeaters, receivers, transmitters, access multiplexors for:

- Ethernet
- GEAPON
- ATM
- FDDI
- xDSL
- DVB – T/H
- GSM etc.

Fault-tolerant equipment

Fault-tolerant equipment exploits different sparing architectures, including redundant hardware with shared loads, duplex hardware in standby mode, triplex hardware with voting. True fault-tolerant system supports six key elements of reliability:

- No single point of failure
- No single point of repair
- Fault recovery
- 100% fault detection
- 100% fault isolation
- Fault containment

The combined reliability of redundant fault-tolerant system can reach as far as $1 \cdot 10^9$ MTBF (1 billion hours before failure in average).

Software/Hardware systems re-engineering

- Increases the capacity and functionality of mass produced hardware/software systems
- Improves reliability, lowers energy-consumption and the overall size of the system
- Replaces key legacy components of systems

Audio/Video broadcast

- Image recognition
- Audio/video digital processing
- Real-time audio and video encoding/decoding
- Digital video broadcasting
- Wireless communication systems
- Digital processing of radio signals, noise reduction, echo cancellation, channel compensation

Digital signal processing

- Radar, locators, noise cancellers, noise generators, communications, encryptors
- Measurement instrumentation, life support monitoring systems
- Information processing for all types of sensors, diagnostics
- Encoding and identification of sounds, audio-processors
- Digital TV, video compression, identification of shapes

Engineering printed wired boards

- High-density and high speed boards
- Boards with controlled impedance and limited radio emission
- Decreased cross-disturbance

