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# AMC TECH

competencies  
& capabilities



# IT outsourcing for industry

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## OUR ADVANTAGES:

**20+**

YEARS OF EXPERIENCE

**100+**

ENGINEERS

**300+**

CUSTOMERS

**150+**

PROJECTS

## WHY US?



industry  
oriented



price  
competitive



24/7  
availability



proven  
quality



electronics  
production  
line



professional  
test lab

## THEY TRUSTED US:



**ALSTOM**

**BOMBARDIER**



**THALES**

**LOTOS**



**SOLARIS**



**PULAWY**

## software

### INDUSTRIAL COMPUTERS

#### architectures

- X86
- ARM Cortex-A (Ti Sitara AM3359, Freescale i.MX51)
- ARM Cortex-M (Cortex-M3 and M4)

#### real-time systems

- Windows Embedded
- RTX, QNX
- Open RTOS

#### skills

- OS installation and configuration on customized HW platform
- Knowledge of tools for: developing, programming and debugging, toolchain selection and installation
- Ability to develop applications without OS (bare-metal programming)

### PROGRAMMING LANGUAGES

#### .NET

- User interfaces: WinForms, WPF, XBAP, ASP.NET, Steema, DevExpress, Telerik
- Communication: WCF, .NET Remoting, TCP/IP, Web Services
- Communication protocols: MODBUS, OPC UA, KWP2000, SAEJ1939
- Tests: NUnit, MSTests, MSBuild, NAnt, CruiseControl
- Other: Add-ins and Extensibility, Matlab Compiler Runtime, XPath, XSLT, XSD

#### C/C++

- User interfaces: WinForms, Stingray Grid, BCG, National Instruments Tools
- Communication: TCP/IP, RS232, RS422, RS485, RPC, OPC
- Communication protocols: MODBUS, ADAM (ADVANTECH)

#### Java SE / EE / ME / FX

- User interfaces: GWT, SmartGWT, Android enabled
- Frameworks: Eclipse, Netbeans, Spring, REST, JMS
- Communication: TCP/IP, RS232, RS422, RS485

### DATABASES

#### engines

- MS SQL Server 2005-2016, vNext; OracleDB 10g, 11g; MySQL; SQLite, Cassandra, MongoDB, Influxdata, Elasticsearch

#### skills

- Database server management
- Database design (OLTP i OLAP)
- SQL Queries optimisation
- Programming in languages: T-SQL, SQLCLR, PL/SQL
- Libraries in languages C#, C++, Java

### MOBILE & WEB

- HTML5, JavaScript, Angular, Ionic, Node.js, Xamarin

### OPERATING SYSTEMS

- Windows XP/Vista/7/8/10;  
Windows Server 2003-2016; Linux/Unix

### BIG DATA

- MQTT, ActiveMQ, Apache Kafka, Apache Camel, Apache Spark, Apache Flink, Grafana, Kibana, OSGi

### CLOUD

- AWS, GCP, AZURE

### OTHER

- Software: Matlab, Labview, DasyLab
- Methodologies: SCRUM, PRINCE2, PMBOK

## electronics

### ANALOUGE CIRCUITS

#### linear analogue circuit

- Low-pass, high-pass and band-pass filters; active/passive
- Analog signal amplifying in range from 1 to 10000
- Specialized high impedance input circuits
- Charge amplifier circuits
- Input circuits for precise A/D processing
- D/A processing in band, DC 2,5 MS/s
- High voltage power amplifiers

### DIGITAL CIRCUIT

#### microcontrollers

- Atmel: AVR32, ARM7, ARM9, ARM11
- Analog Devices: ADuC, BlackFin
- Texas Instruments: MSP430, TMS320
- STMicroelectronics: CORTEX M0, M3, M4
- Microchip: PIC 8/16/32 bit, DSPIC
- Freescale/Motorola, NXP
- DSP (Texas Instruments, Motorola)

#### A/D Processing

- 8 to 24 bit, frequencies up to 2,5 MHz
- Parallel processing up to 64 channels (24bit/100kHz/channel)

#### FPGA

- Xilinx/Vidvado: ZYNQ, Family-7, Spartan/Virtex-6
- VHDL, Verilog, SystemVerilog

#### communication bus

- Modbus RTU, Modbus TCP, Hart, CAN, GSM/GPRS

#### wireless communication

- Radio band 433 MHz, 868 MHz, 915 MHz, 2.4 GHz
- MASH Network, Wireless Hart, 6LoWPAN

### PCB

- Up to 32 layers
- Line impedance adjustment
- Differential pairs impedance adjustment
- Group delay optimisation on parallel buses
- Microwave circuits

### ELECTRONICS MANUFACTURING

- Automatic Pick-and-Place machine
- Manual fixed assembly
- Solder paste and glue SMT Stencil Printer
- Solder paste and glue dispensing
- SMT Reflow Soldering
- Climate chamber, EMC tester

### OTHER

- Standard: ATEX, RoHS, IEC 61508, ISO 14 000
- Design software: Altium Designer, IAR, Eclipse, CAD

## mechanics

- Design: Autodesk Inventor, Solid Edge, NX, SolidWorks,
- Modelling: Abaqus, Ansys Workbench, Matlab-Simulink,
- Programmable Logic Controllers (PLC): TIA PORTAL, SIEMENS STEP 7 (S7-300/400, Siemens S7-1200/1500)
- Machinery design directive 2006/42/EC
- Industry branch norms: ISO 16949, IRIS
- Manufacturing: CNC, 3D printing, manual assembly
- CE marking

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**amc TECH Sp. z o.o.**  
Pilotow 2e  
31-462 Krakow, Poland

**Phone:**  
T: +48 (12) 362 97 60

**Sales:**  
T: +48 (12) 362 97 63

[info@amctech.com](mailto:info@amctech.com)  
[www.amctech.com](http://www.amctech.com)

