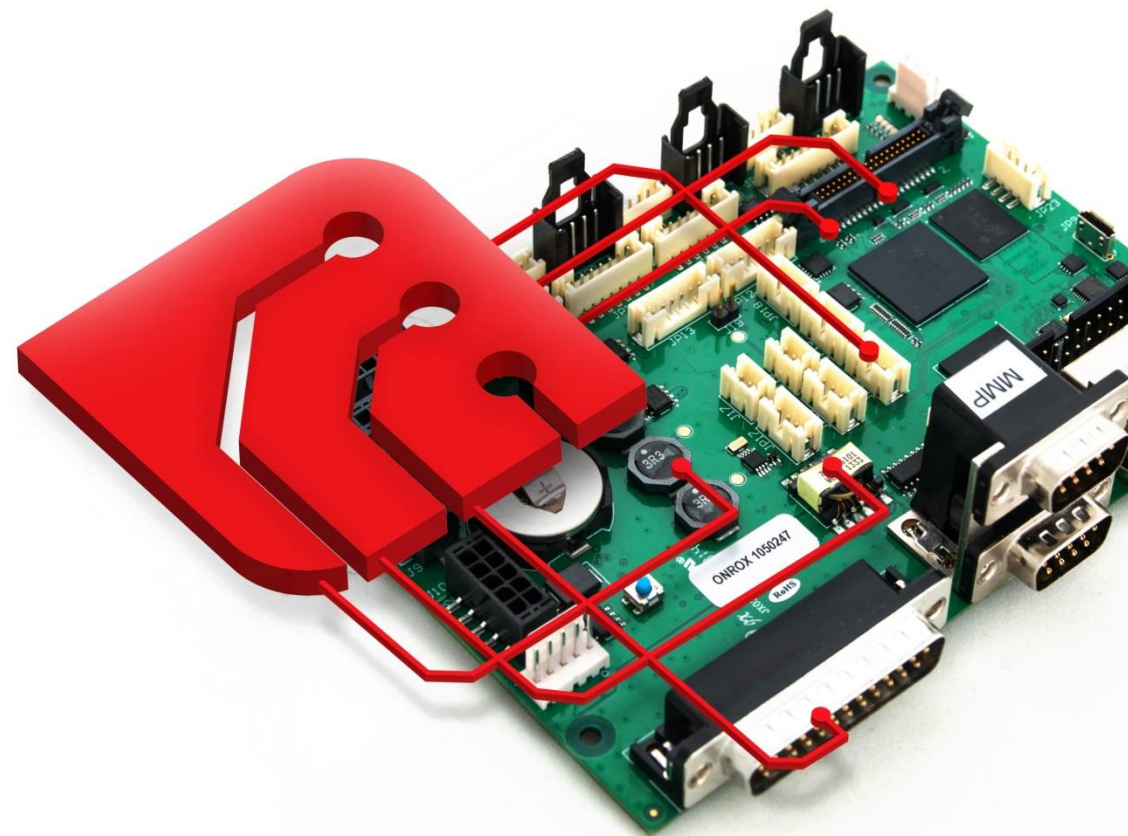


2017

- **FP INSTRUMENTS SKILLS & TOOLS**





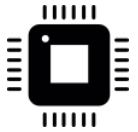
HARDWARE DESIGN

- Analogue circuits (sensors frontends, audio, power amplifiers, ADCs/DACs)
- Multilayer PCB layout
- Microcontroller applications (Cortex M3, M4, PIC)
- Embedded processors (Cortex A5, A8, A9, A53)
- Low power systems (MSP430, Cortex M0, PIC)
- Digital Signal Processing (TMS320C55xx, TMS320C674x, Blackfin)
- High speed (serial ATA, DDR3, USB3.0, CSI, DSI)
- Application specific communication interfaces (ex. MBUS, KNX, Dali)
- Radio communications (BT4.0, WiFi, GSM, custom)
- Industrial systems
- Design for EMC compatibility



FPGA DESIGN

- VHDL / Verilog
- Xilinx / Lattice devices



EMBEDDED FIRMWARE

- Bootloaders
configuration, customization and porting for hardware platforms
- Barebone
peripheral drivers, protocol stacks and application code
- Operating systems
Embedded Linux, Embedded Android, eCOS, FreeRTOS, RTX, uC/OS, system interfaces, protocol stacks, development of device drivers, hardware dependent code and application code



CASING DESIGN

- Plastic
- Metal
- Keyboard design



SOFTWARE

- C/C++
- C#
- iOS and Android
- QT
- Firemonkey/Delphi
- Objective C
- Java
- Design and development of user interfaces



SIGNAL PROCESSING AND CONTROL

- Adaptive filters (echo cancellation, noise control, line equalization, beam forming)
- Signal analysis in time and frequency domain
- System identification and modelling
- Sound and voice compression
- Industrial control
- Nonlinear control
- Adaptive control
- Biometrics



SECURITY

- Digital security hardware
- Embedded cryptography



TESTING AND CERTIFICATION

- Hardware functional testing, development of automated test equipment
- Software functional testing



PROTOTYPE PRODUCTION

- In house – pick and place machine, stencil printer and vapor phase oven
- Third party



BATCH PRODUCTION

- Third party



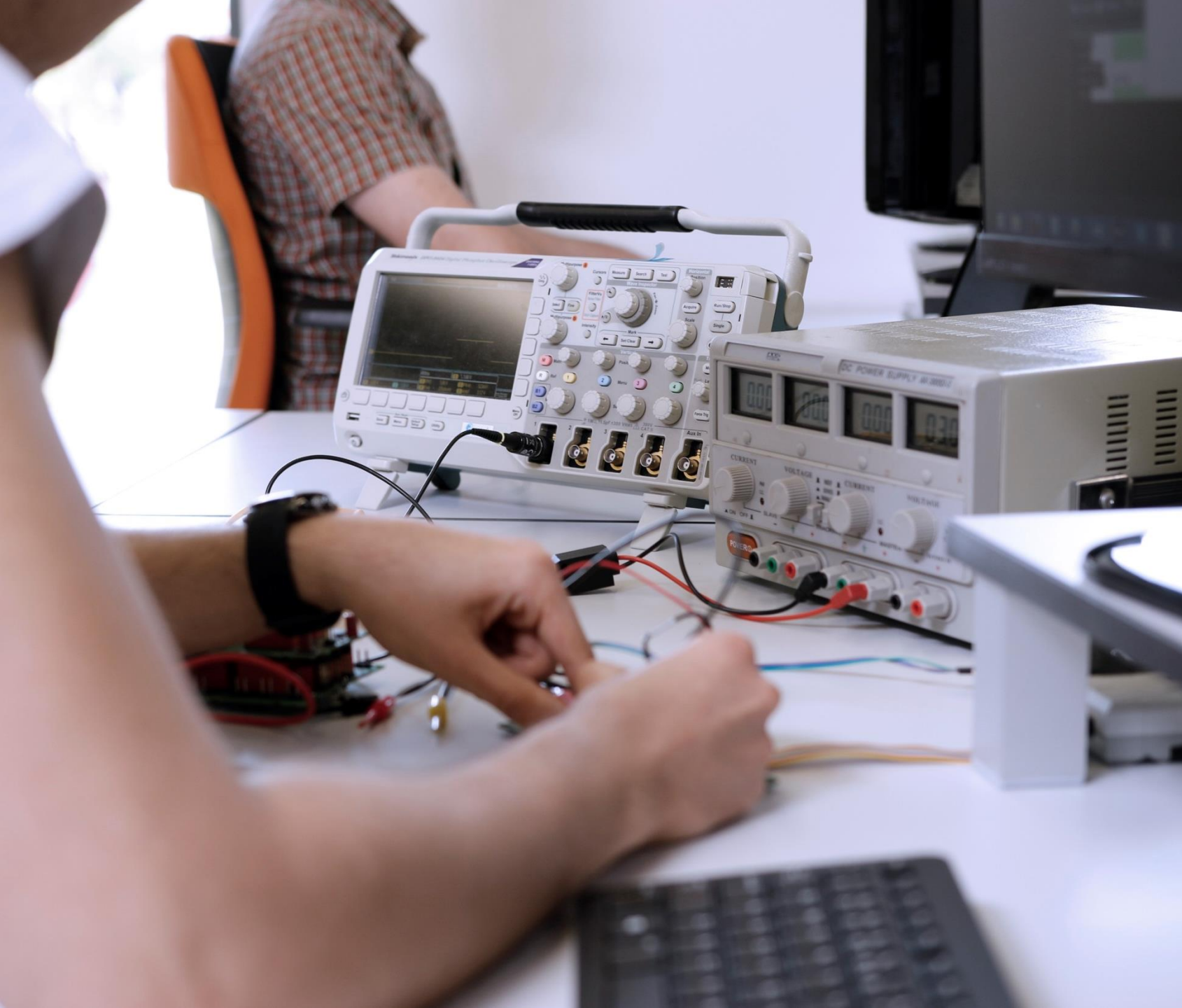
ADDITIONAL SERVICES

- Turn-key product design
- Graphical design, industrial design



Tools

- Hardware design:
Altium Designer, PSpice
- Software design:
Eclipse/GCC, IAR Embedded Workbench, Code Composer Studio, VisualDSP++
- Hardware based debug probes:
J-Link, Tektronix DPOs
- Version Control Systems:
Subversion, Git
- Project management:
Jira, Confluence, MS Project, Sharepoint



• THANK YOU

"We combine experience with scientific background, high level of knowledge with great design skills and prototyping capabilities.

And we do it all with passion. "

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