# LABORATORY OF AUTOMOTIVE MECHATRONICS AND INTELLIGENT VEHICLES

Faculty of Engineering, Research Centre of Vehicle Industry

### **HEAD OF LABORATORY**

Gábor Szakállas researcher

#### CONTACT

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## LABORATORY PROFILE

- Year of foundation: 2012
- Capacity (working hours/month): 10 working hours/month free capacity in addition to educational and investigational activities
- The laboratory equipment is suitable to investigate, research and develop the mechatronical and communicational units built in different vehicles
- Technical Specifications: a station created and equipped to meet educational requirements with maximum 10 students, and research and development requirements with maximum 5 students. National Instruments hardware and software operated either in PCs or portable computers create the significant part of laboratory equipment.
- Services Provided: In the free available capacity of the laboratory we can provide support in the field of research and development building upon the laboratory equipment and the specialized knowledge our colleagues have
- References:
  - Developing the CAN communication system of an E-VAN Hybrid vehicle
  - SZEvo 5 development of the sensor system, the communication and on board system of solar cell driven vehicles

## Equipment and software of the laboratory

#### LABORATORY NI EQUIPMENT

- Year of purchase: 2007-2013
- The technical specifications of the devices can be found on the website of NI using their 4-digit codes or names from the list below. (http://hungary.ni.com/)



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#### LabVIEW (NATIONAL INSTRUMENTS) .....

- NI Labview 2013 software
- DAQ Signal Accessory (2 units)
- NI CAN Demo Box
- NI USB-6341 X Series multifunction data acquisition (DAQ) (2 units)
- NI USB-8473 1 Port, High-Speed CAN, USB Interface
- NI USB-6008 12-Bit, 10 kS/s Low-Cost Multifunction DAQ (10 units)
- NI 9217 4-Channel, 100 ? RTD, 24-Bit Analog Input Module
- NI USB-9162 C Series USB Single Module Carrier (2 units)
- NI cRIO 9004 Real-Time Controller with 64 MB DRAM, 512 MB CompactFlash
- NI 9411 6-Channel, 500 ns, ±5 to 24 V Digital Input Module
- NI 9201 8-Ch, ±10 V, 500 kS/s, 12-Bit Analog Input Module, C Series
- NI 9853 2-Port, High-Speed CAN Module for NI CompactRIO
- NI DAQPad 6016 16-Bit, 200 kS/s Multifunction DAQ Device, 32 Digital I/O
- NI 9237 Bridge and Strain Measurement Module
- NI 9215 4-Channel, 100 kS/s/ch, 16-bit, ±10 V Analog Input Module
- NI 9472 8-Channel 24 V Logic, 100 µs, Sourcing Digital Output Module
- NI 9401 8 Ch, 5 V/TTL High-Speed Bidirectional Digital I/O Module
- NI 9233 4-Channel, ±5 V, 50 kS/s per Channel, 24-Bit IEPE (vibration measurement)
- NI 9172 Legacy NI CompactDAQ Chassis
- NI 9235 8-Channel Quarter-Bridge Strain Gage Modules
- NI 9901 Desktop Mounting Kit for CompactRIO Chassis
- NI 9219 4-Channel Universal Analog Input Module
- NI 9211 Legacy device...upgrade to USB-9211A for higher performance
- NI PXI modular system (with data collecting-, analogue oscilloscope-, and counting cards)



Faculty of Engineering, Research Centre of Vehicle Industry -Laboratory of Automotive Mechatronics and Intelligent Vehicles