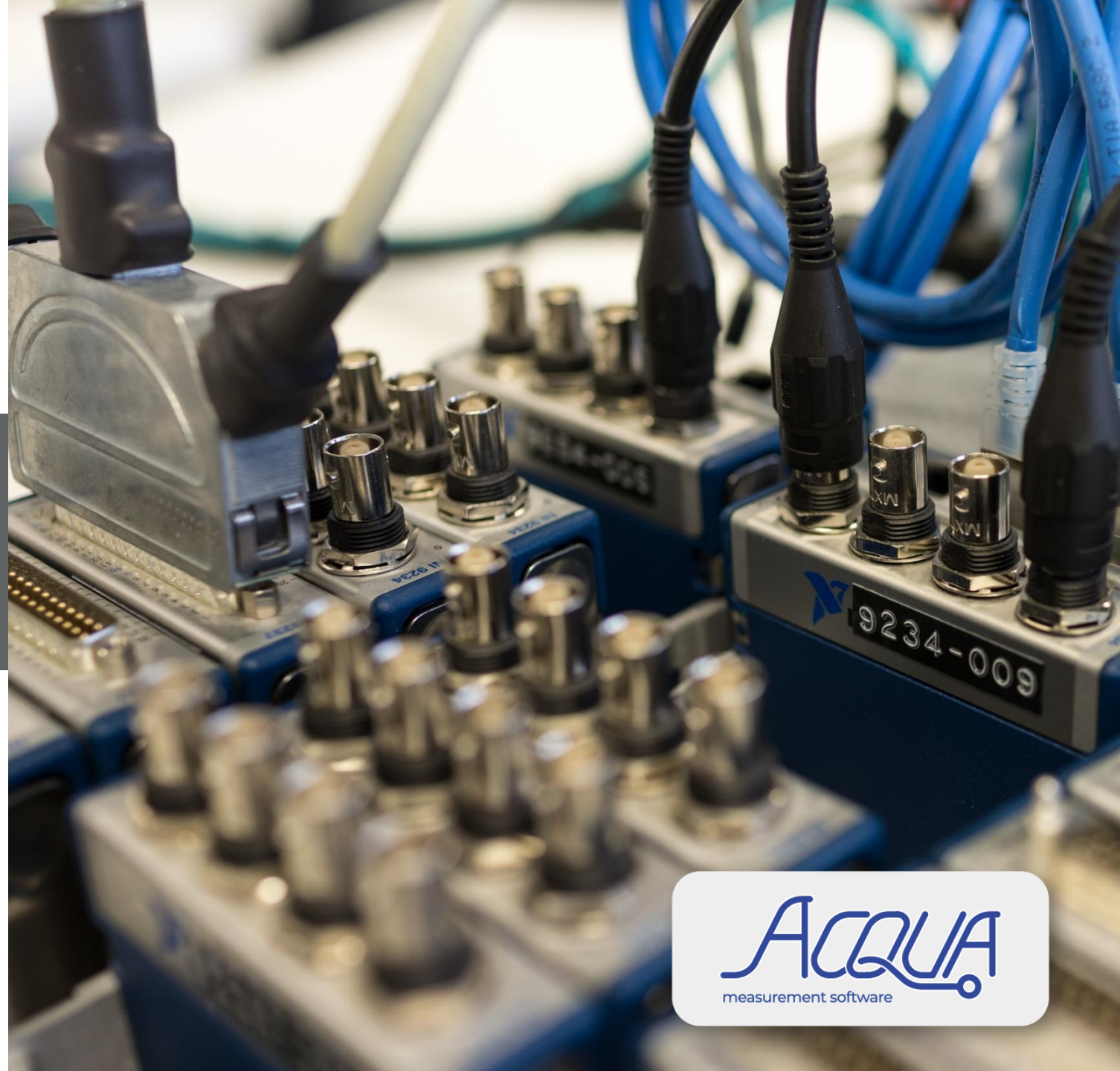
YOUR PARTNER
FOR CHALLENGES
IN MEASUREMENT



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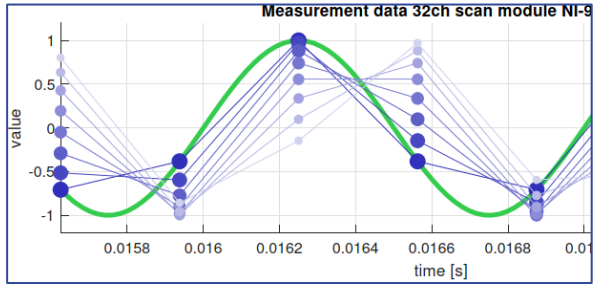
Data Acquisition Software ACQUA for NI cDAQ-Systems

Advantages of our in-house developed software

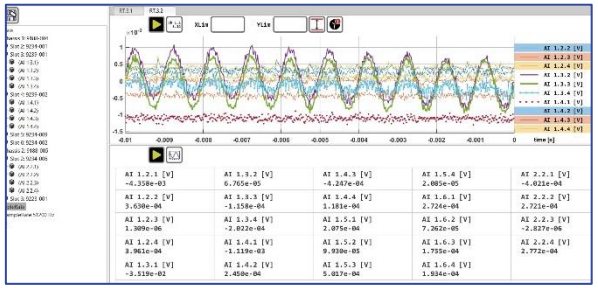
High number of measuring channels (> 500)

- Scalable multi-channel software for
- Different measuring channels with distributed measuring set-up
- Sampling rates up to 800,000 Hz



High time synchronisation

- Automatic signal-based synchronisation of data in the sub-microsecond range
- **F**inite **I**mpulse **R**esponse (FIR) – filter technology
- Synchronous recording of different sampling rates



Real-time evaluation

- Data evaluation can be carried out in real time
- Any online filter for real-time visualization
- Any evaluation according to normative or other specifications

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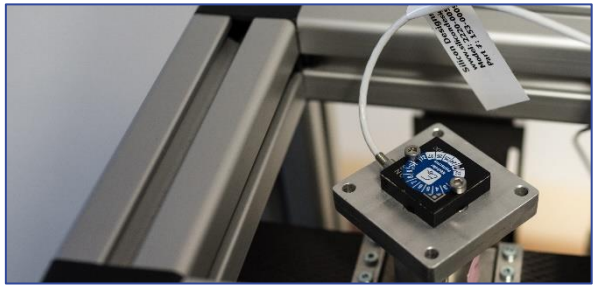
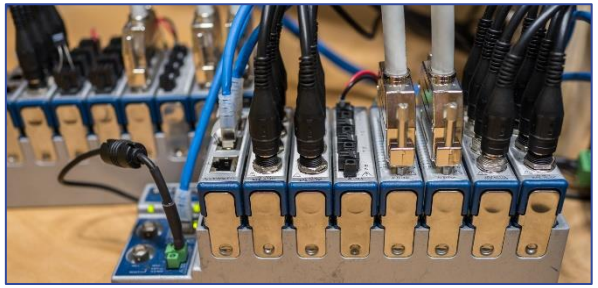
Data Acquisition Software ACQUA for NI cDAQ-Systems

Advantages of our in-house developed software



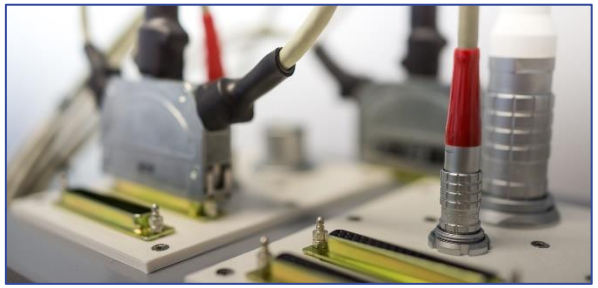
Sensor Calibration

- Automated calibration algorithms
- Automated generation of calibration certificates
- Metrological traceability given



Calibration of measurement modules

- Automated calibration of static and dynamic behaviour
- Automated generation of calibration certificates
- Metrological traceability given



Testing of measuring lines

- Testing of plug connections and cables (leakage current measurement, pin assignment, recording of cable resistances...)
- Automated testing of up to 40-pole cables incl. creation of test certificates

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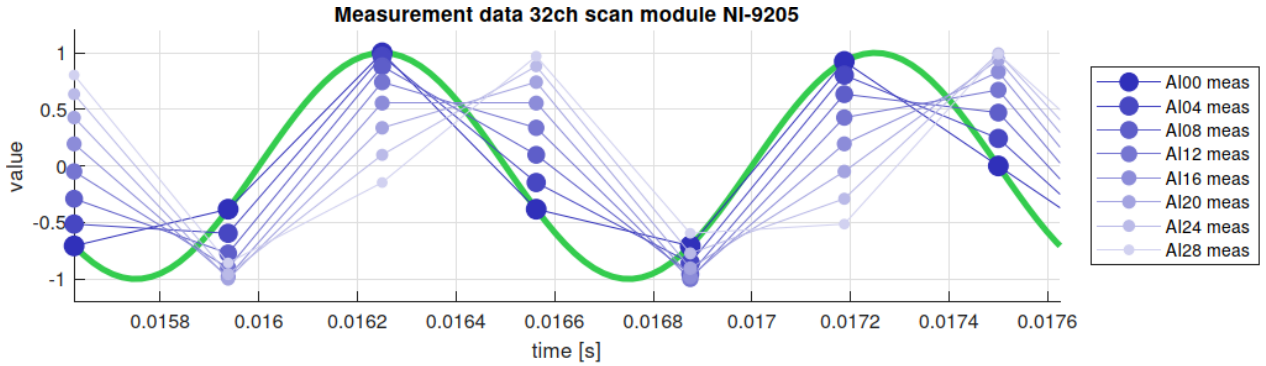
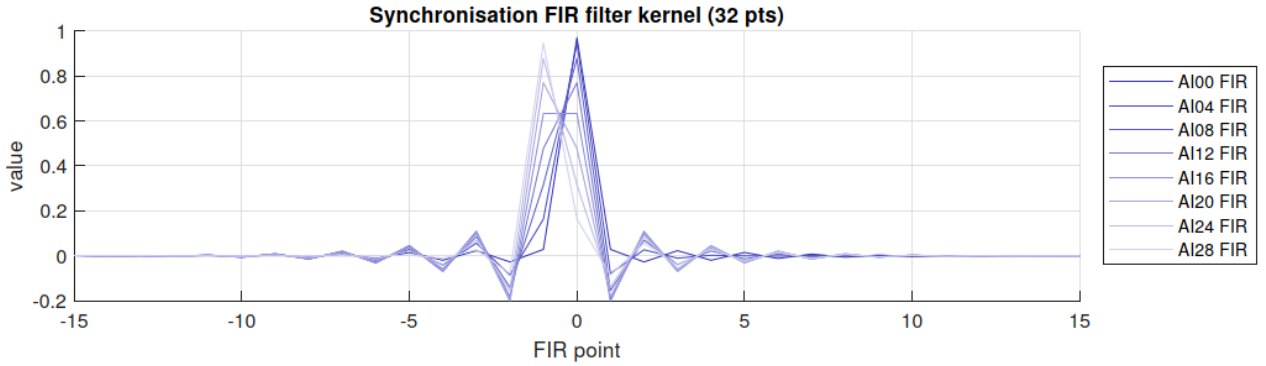
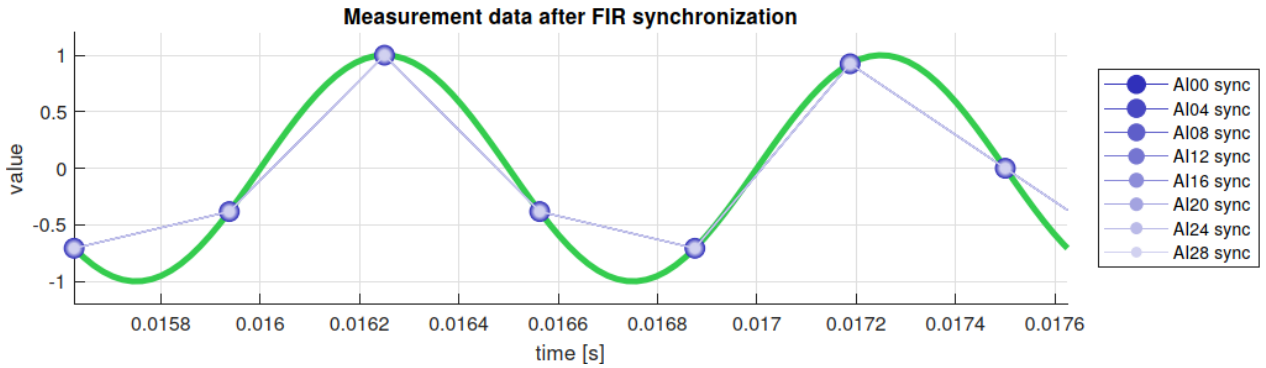
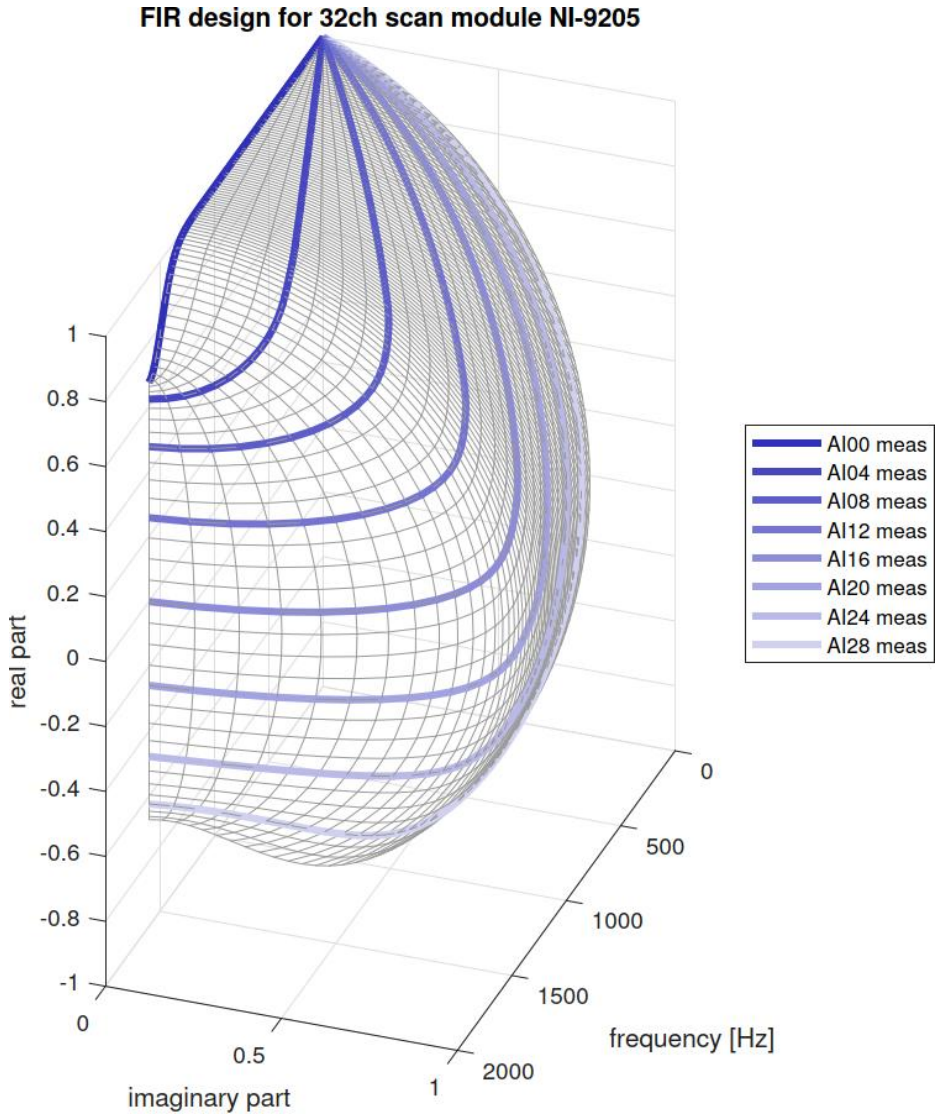
Finite Impulse Response (FIR)

Filter technology to maintain maximum bandwidth



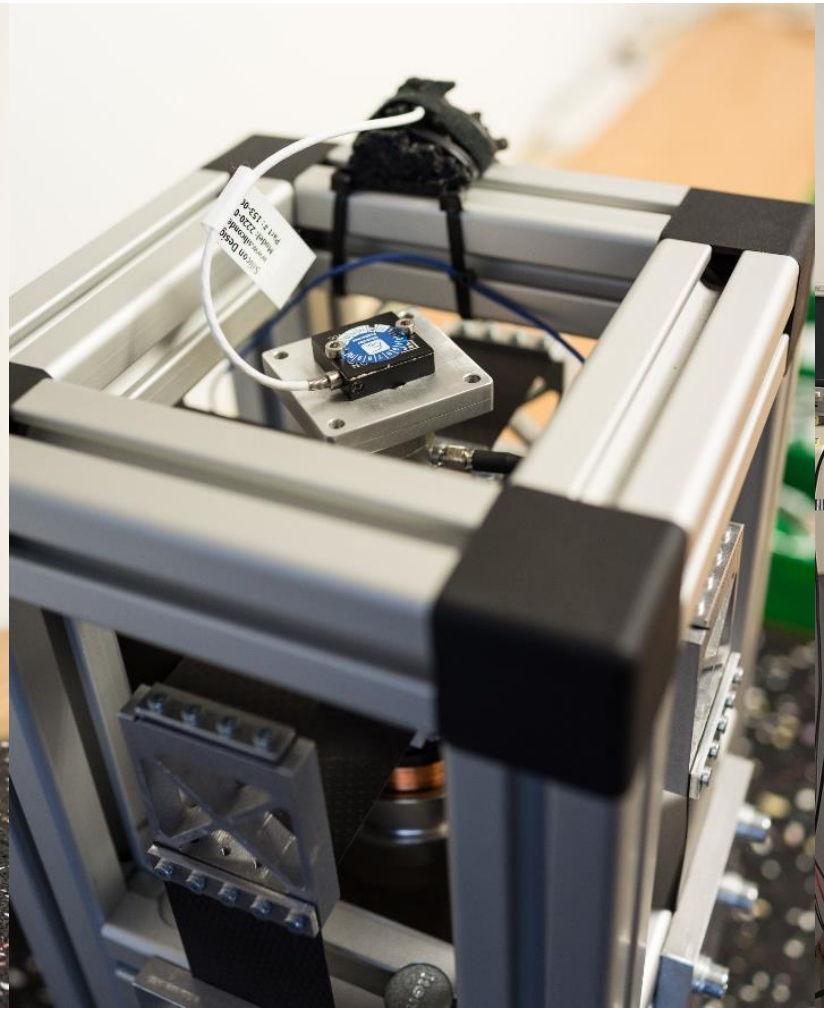


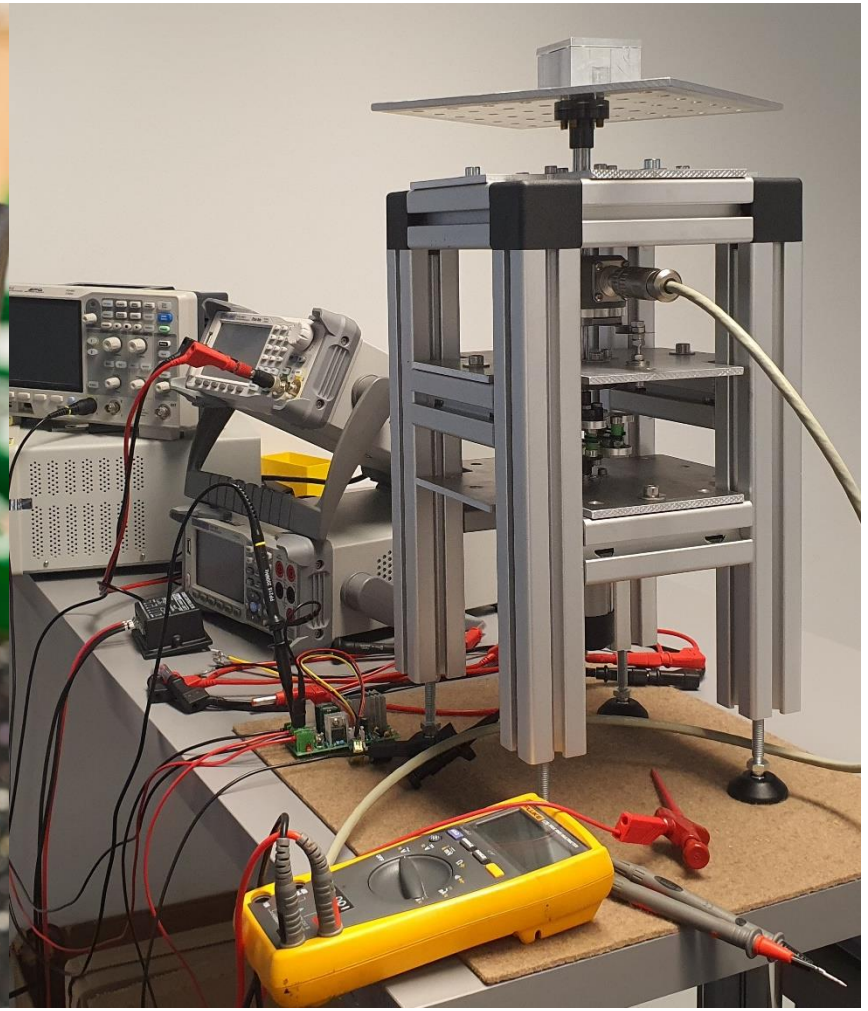




Sensor Calibration and Cable Testing

In-house developed test benches (acceleration, displacement, rotation rate, force...)





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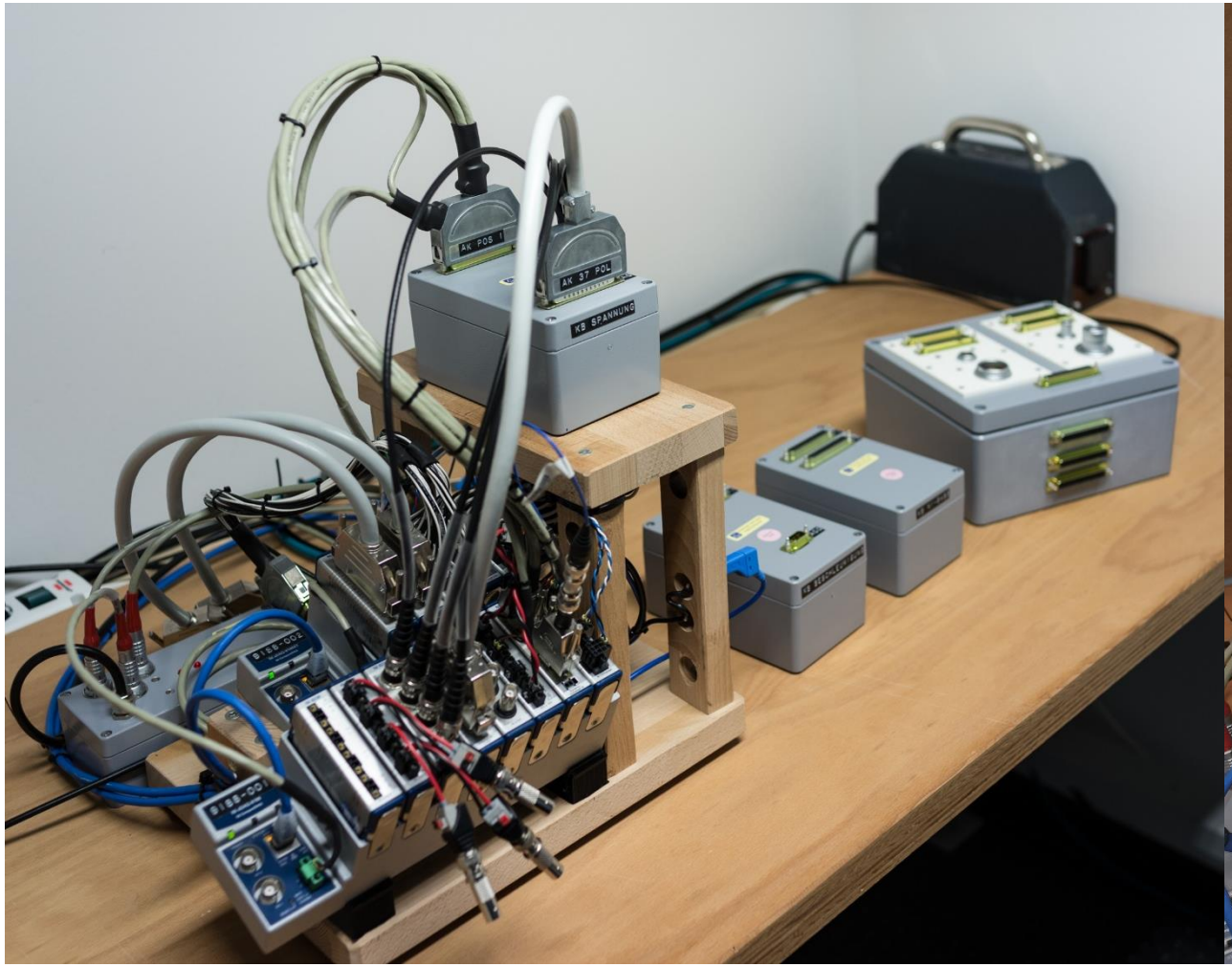
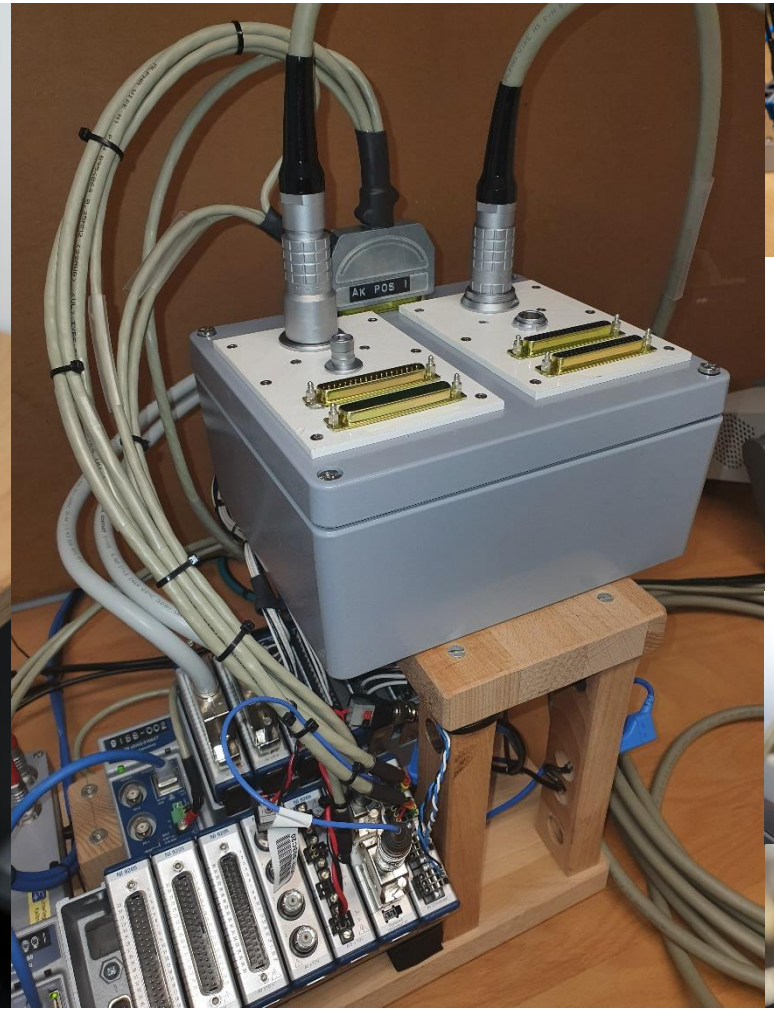
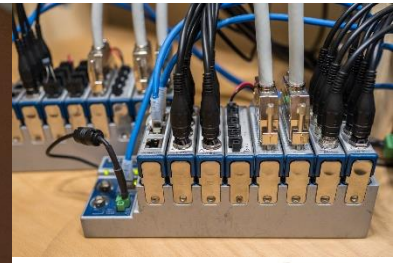
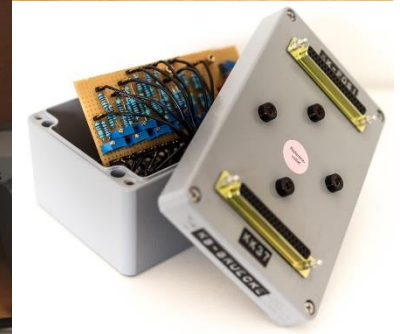
Sensor Calibration and Cable Testing

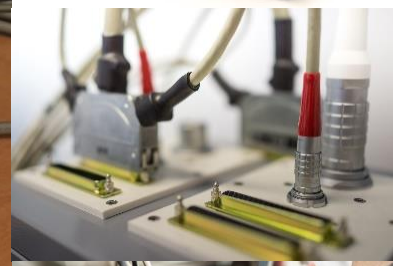
Calibration DAQ system (NI modules), as well as cable and adapter testing











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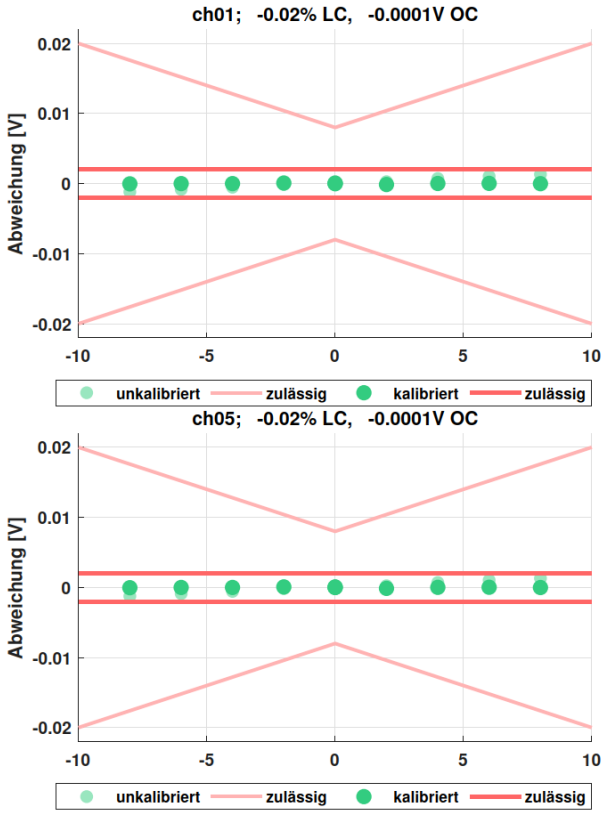
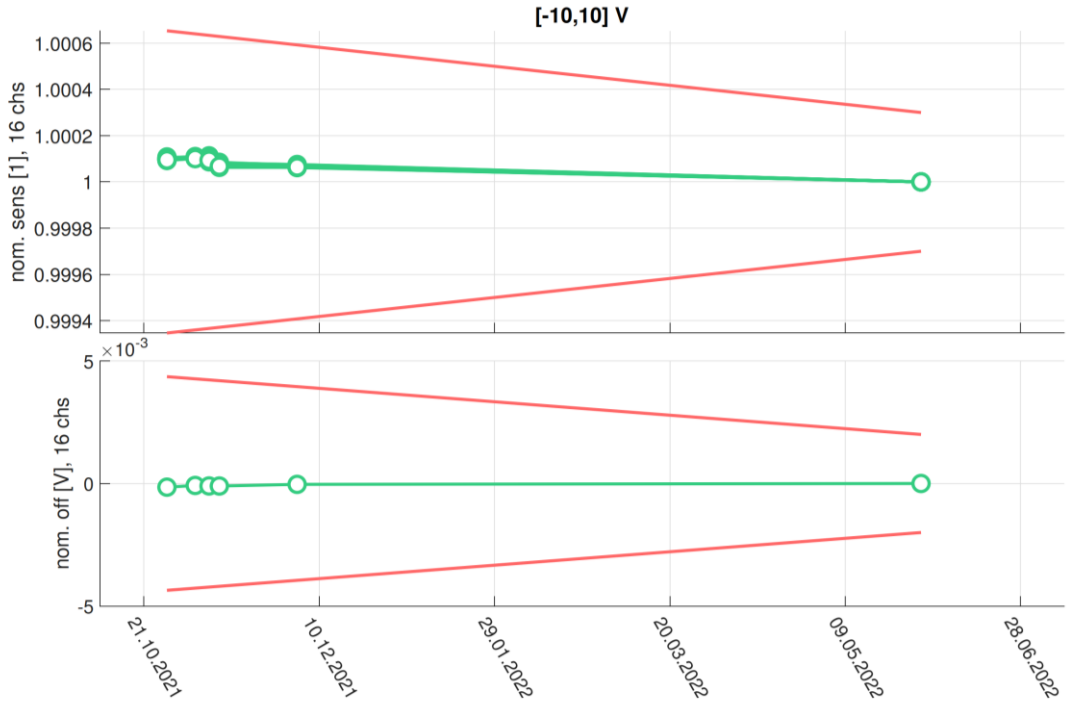
Sensor Calibration and Cable Testing

autom. evaluation and presentation of results -> integration in ACQUA sensor database



- Deviation before and after calibration



- Trend analysis offsets for all channels

SN# int.	SN# ext.	KS/PRS
A002-001	34349	2021-11-05
A002-002	34348	2021-11-10
A002-003	34350	2021-11-16
A002-004	34351	2021-11-10
A002-005	34352	2021-11-10
A005-001	34374	2021-11-05
A005-002	34373	2021-11-05
A005-003	34375	2022-06-09
A005-004	34376	2021-11-10
A005-005	34377	2021-11-10
A010-001	33625	2021-11-08
A010-002	33624	2021-11-08
A010-003	33628	2021-11-05
A010-004	33623	2021-11-05
A010-005	33622	2021-11-05
A010-006	33626	2021-11-05
A010-007	33621	2021-11-10
A010-008	33620	2021-11-10
A010-009	33627	2021-11-10
A050-001	35489	2021-11-08
A050-002	35486	2022-02-21
A050-003	35487	2021-11-04
A050-004	35491	2022-02-21
A050-005	35490	2021-11-08
A050-006	35488	2022-02-21
A050-007	3628	2021-05-26
A050-801	678350	2022-06-07
A050-802	678351	
A050-803	678348	
A100-001	33458	2021-11-05

- Easy monitoring of the calibration status

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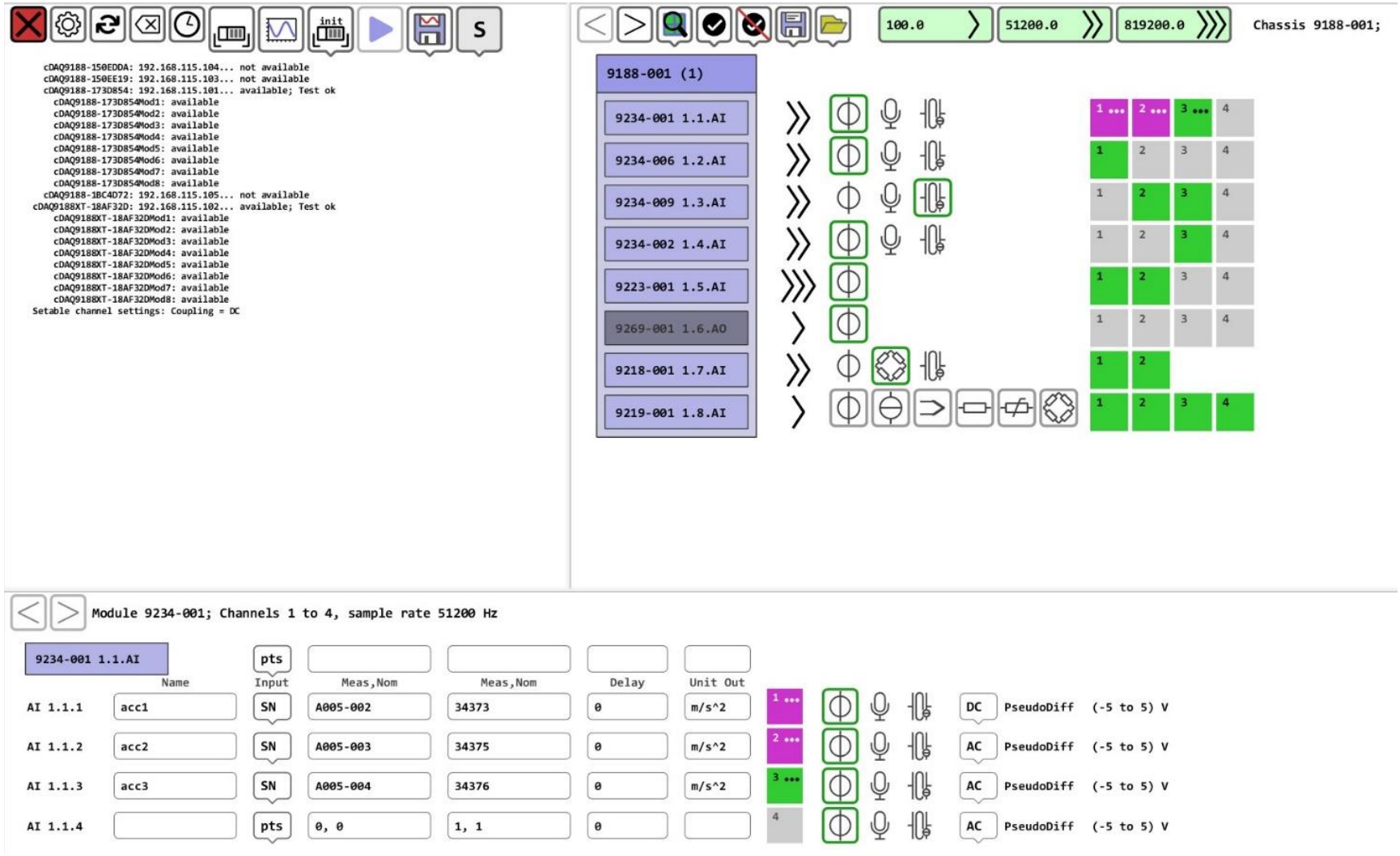
Hardware Configuration

simple, slim, user-friendly...



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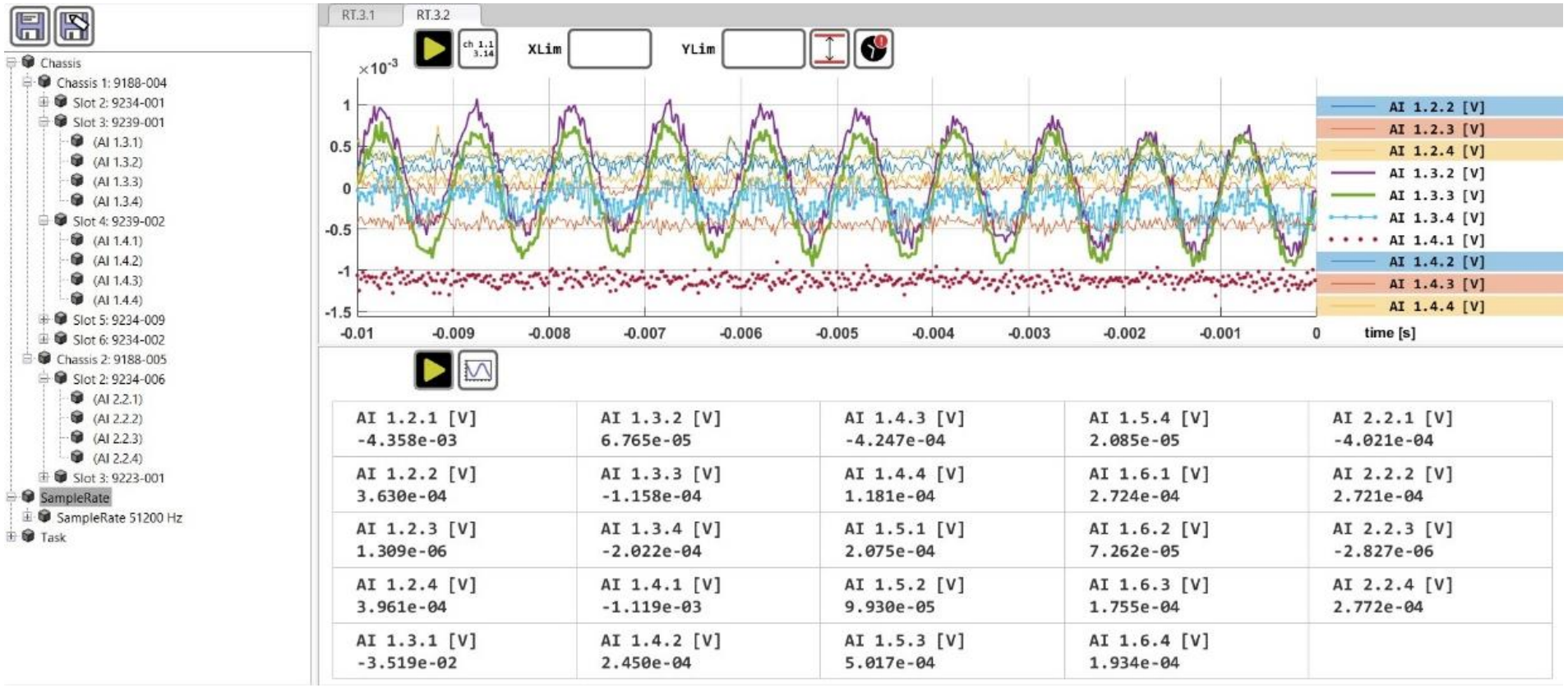
Complex Multi-Channel Measurement

Interactive signal display - graphical and tabular



AI 1.2.1 [V] -4.358e-03	AI 1.3.2 [V] 6.765e-05	AI 1.4.3 [V] -4.247e-04	AI 1.5.4 [V] 2.085e-05	AI 2.2.1 [V] -4.021e-04
AI 1.2.2 [V] 3.630e-04	AI 1.3.3 [V] -1.158e-04	AI 1.4.4 [V] 1.181e-04	AI 1.6.1 [V] 2.724e-04	AI 2.2.2 [V] 2.721e-04
AI 1.2.3 [V] 1.309e-06	AI 1.3.4 [V] -2.022e-04	AI 1.5.1 [V] 2.075e-04	AI 1.6.2 [V] 7.262e-05	AI 2.2.3 [V] -2.827e-06
AI 1.2.4 [V] 3.961e-04	AI 1.4.1 [V] -1.119e-03	AI 1.5.2 [V] 9.930e-05	AI 1.6.3 [V] 1.755e-04	AI 2.2.4 [V] 2.772e-04
AI 1.3.1 [V] -3.519e-02	AI 1.4.2 [V] 2.450e-04	AI 1.5.3 [V] 5.017e-04	AI 1.6.4 [V] 1.934e-04	

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Data Acquisition Software ACQUA for NI cDAQ-Systems

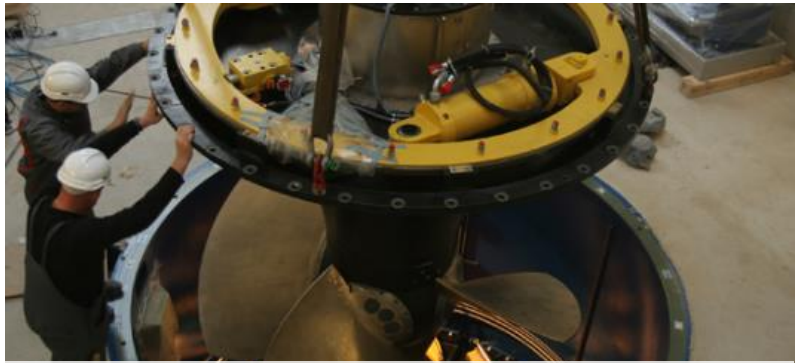
Versatile application possibilities

Railway – Rolling Stock

Mechanical Engineering

Wind Energy

Railway - Infrastructur



Large-scale facilities

Vibration Analysis

Load Spectrum Determination

Monitoring

Strength Assessment

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Contact Information

Follow us!

Engenium GmbH

TEST CENTER
Bahnhofgürtel 59
8020 Graz
+43 676 6845023

ENGINEERING OFFICE
Packerstraße 156
8501 Lieboch
+43 699 19080699

Engenium.at

linkedin.com/company/engenium-gmbh

office@engenium.at