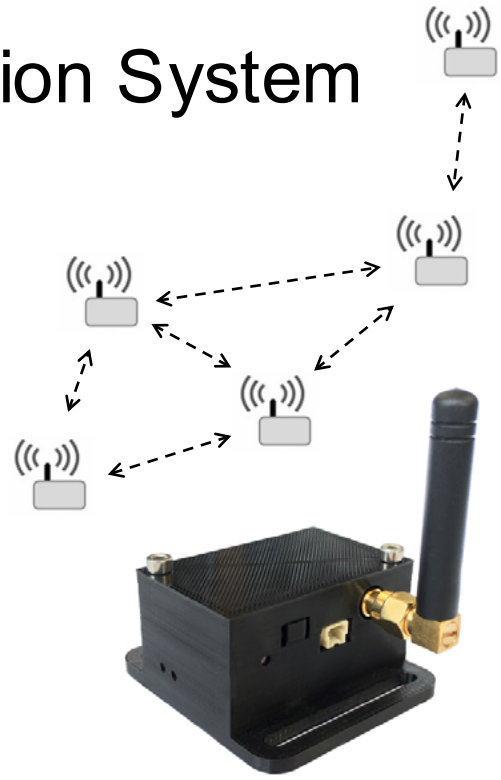
ViFDAQ
Stand-Alone Data Aquisition System

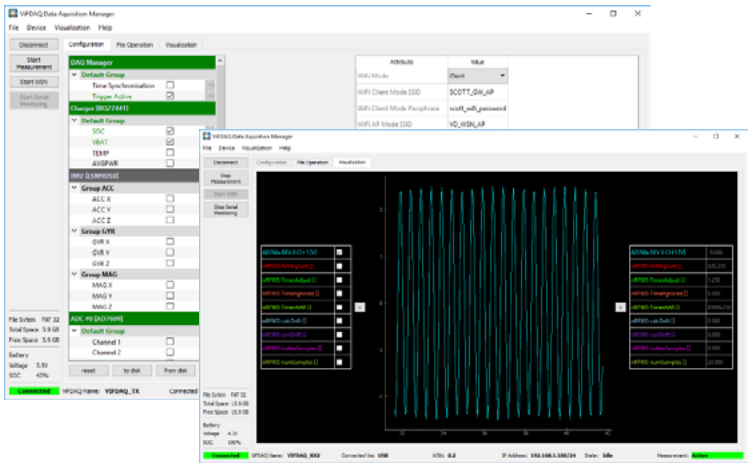
virtual vehicle

ViFDAQ Data Acquisition System



Features:

- very compact, modular design
- battery powered
- synchronous wireless sensor acquisition
- multi-hop capable WSN technology
- multifunctional
  (measure, process, store and transfer data)
- autonomous operation
- multiple adapters readily available
- adaptive: easily create adapters with new functionality
- scalable software framework (GUI / API)

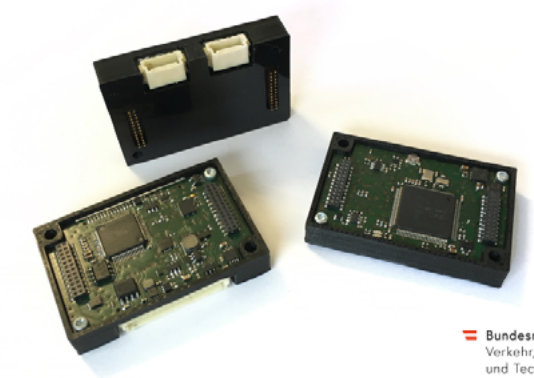


Use-Cases for Single DAQ-Unit:

- measurement in constrained locations
- data sampling on rotating objects
- vehicle fleet analysis
- long-term measurements
- autonomous/automated measurements

Use-Cases for Synchronous Wireless Sensor Network:

- synchronous measurement on distant locations
- distributed high-speed / -precision measurement
- parallel data sampling on static and moving objects



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Technical Data Brief

ViFDAQ	
Size	50 x 33 mm base
Extensions	stackable construction
Power Supply	multiple battery options integrated Li-Po charger
Storage Capacity	up to 32 GB micro-SD card
Sample-Rate	up to 10 kHz
Software Interface	DAQ-Manager GUI Custom GUIs
Communication Interface	USB WiFi, Bluetooth CAN-bus cellular data (opt.)

ADC	
Number of Channels	up to 16
Input Range	±5 V or ±10 V
Pre-Amplifiers	gain 1 to 1000(+)
Resolution	18 bit

Variable Reference Supplies	
Number of Channels	up to 16 configurable voltage or
Voltage Source	0 - 10 V
Current Source	0 - 25 mA
Resolution	16 bit

Synchronous Wireless Sensor Network	
Network Topology	multi-hop / mesh easy configuration
Range	max. 100 m per hop
Max. Number of Nodes	100
Max. Sample-Time-Error	±1 µs per hop (all nodes)
Initiation Time	15 s
Sample-Rate in WSN	up to 10 kHz
Live-Data	via WiFi
Measurement Result	combined file of

other	
GNSS	high-precision RTK receiver with external antenna
Digital Sensors	air-mass-flow sensor array temperature, etc.
Thermocouples	14 bit, resolution: 0.25 °C
Pressure Transducers	absolute / differential
Inertial Measurement	3D accelerometer 3D gyroscope 3D compass
Strain-Gauges	up to 16 via ADC incl. 1 A reference supply

Additional extensions are easy to develop!