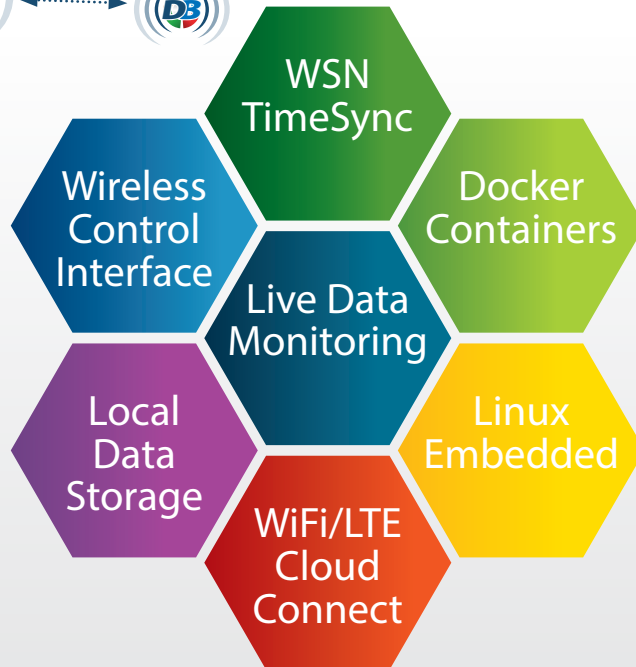


## ...setting **New Standards** in **Measurement**



### **Compact:**

Modular design and (optional) battery powered

### **Adaptive:**

Easily create modules with new functionality

### **Multifunctional:**

Measure, process, store and transfer data Swarm

### **Capable:**

Synchronous wireless sensor acquisition



High-Performance CPU  
Live Data Processing  
Custom Hard- / Software

**dcp** Distributed  
Co-Simulation  
Protocol

### **Use-Cases for Single DAQ-Unit:**

- Vehicle fleet analysis
- Long-term measurements
- Automated measurements
- Edge-computing / data processing on device
- V2X communication experiments
- Direct cloud upload via LTE connection
- Combine multiple data sources in single measurement

### **Use-Cases for Synchronous Wireless Sensor Network:**

- Synchronous measurement on distant/moving locations
- Distributed high-speed / -precision measurement

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## Technical Data Brief

DATA.BEAM	
Size	160 x 105 x 55 mm
CPU	6 cores, 4 GB RAM
Extensions	USB 3.0, internal Modules
Power Supply	multiple battery options USB-C PD PoE
Storage Capacity	removable M.2 SSD
Sample-Rate	up to 50 kHz
Software Interface	webinterface Python API
Communication Interface	USB 3.0 GB-Ethernet, WiFi CAN-bus cellular data (LTE)

ADC	
Number of Channels	up to 32 (stock)
Input Range	$\pm 5$ V or $\pm 10$ V differential bipolar inputs
Pre-Amplifiers	gain 1 to 1000(+)
Resolution	18 bit

Variable Reference Supplies	
Number of Channels	up to 16 configurable voltage or current source
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	$\pm 1$ $\mu$ s per hop (all nodes)
Initiation Time	15 s
Sample-Rate in WSN	up to 20 kHz
Live-Data	via WiFi
Measurement Result	combined file of synchronous channels

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

Open DataBeam architecture enables customized extensions