



CargoMon Systems

Intelligent transport monitoring solutions



That's why we are the ideal partner for you



Because we

- can look back on more than 15 years of experience and maintain long-standing customer relationships
- have equipped tens of thousands of railway wagons, containers and trailers
- constantly research new solutions and develop new-to-the-market equipment
- are always personally available for your concerns and reacting flexibly and quickly to your requirements

Message from the CEO and founder, Stefan Mahlknecht

As an owner-managed company, we are personally available to our customers at all times and will find a tailored solution even for demanding tasks.

We are proud that these customers rely on us:



Why CargoMon`s Telematic Solutions?



Unique selling propositions

- 100% in house developments, we are quick to adapt to customer specific requirements
- Complete sensor system (Temperature/Humidity, Door, Shock, Condition of Axles, Weight)
- Energy self-sufficient power supply for the full life cycle
- Very flexible remote parametrization possible

Customer Benefit

- Improved asset management due to customized customer relevant reports
- Reduced cycle and down times
- Competitive edge

CargoObserver stands for high quality
multi-sensor based transport monitoring solutions

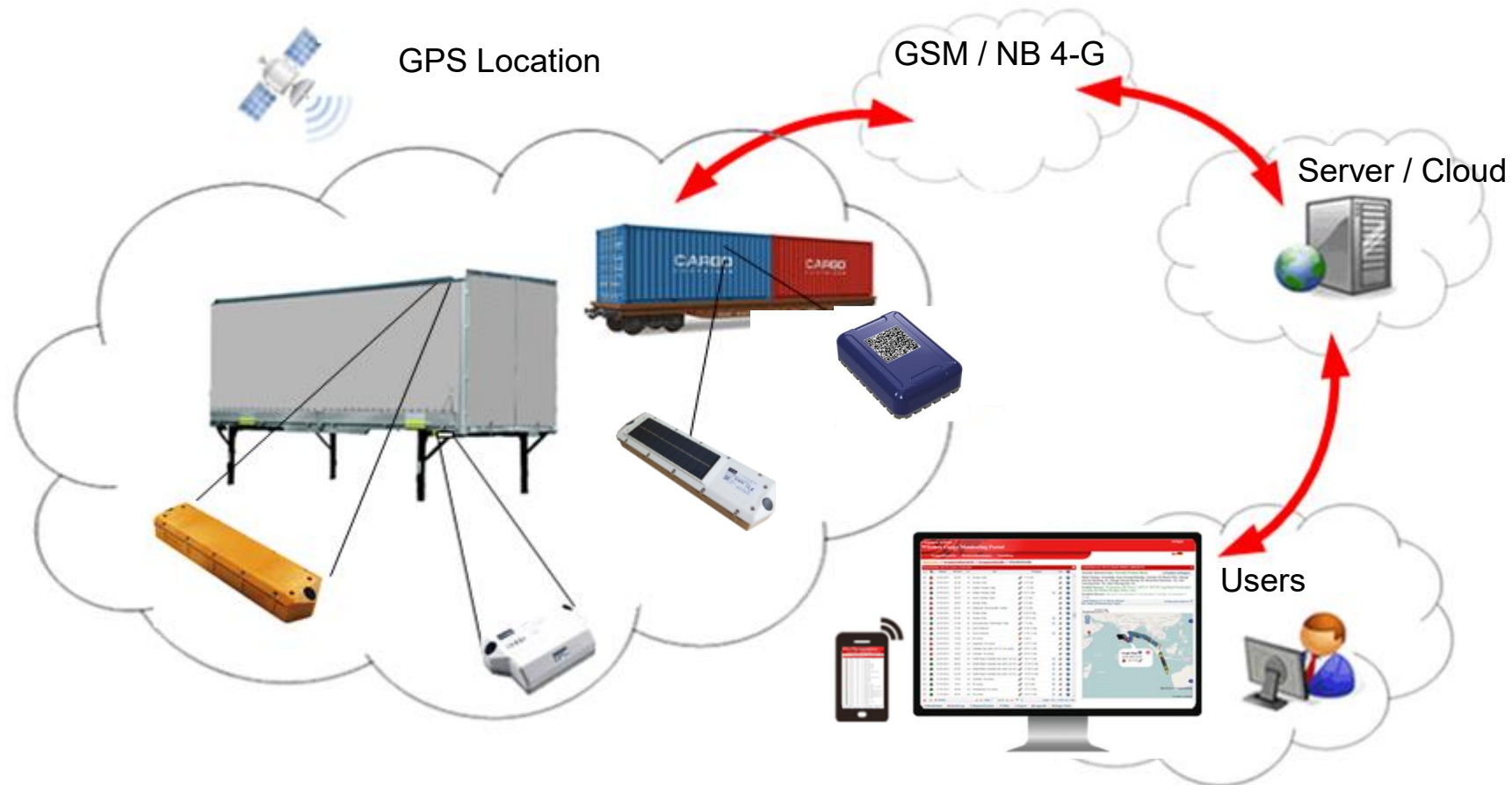


Capabilities

- GNSS based location information and 4G/2G cellular Network
- Multi-sensor based transport monitoring with wireless Sensors
- Device based geofencing alarm capabilities
- Intelligent data processing within device prevents high data + energy costs
- ***6+ years battery lifetime for primary batteries and 10+ years for solar cell devices proven in field for 15 years.***
- Intuitive Web platform and application specific Reports

Complete overview of **WHAT** happens to your transport, **WHERE** and **WHEN**,
can enable timely intervention and prevent damage or losses

Overview of CargoObserver system solution



A tailored hardware and software architecture for a cost-effective monitoring solution for containers, swap bodies, trailers, rail wagons, pallets and more...

The complete sensor monitoring solution



Basic Tracking:

- GNSS based positioning (GPS, Glonass, Galileo, Beidu)
- 4G/GSM based worldwide transmission
- Move/Stop reporting
- Geofencing Enter/Exit
- Mileage control (for Railway)



Sensor Extension:

- Temperature / Humidity inside
- Dew Point (i.e. for corrosion monitoring)
- 3-D acceleration measurement
- Container door open/closed
- Loading state or exact weight measurement



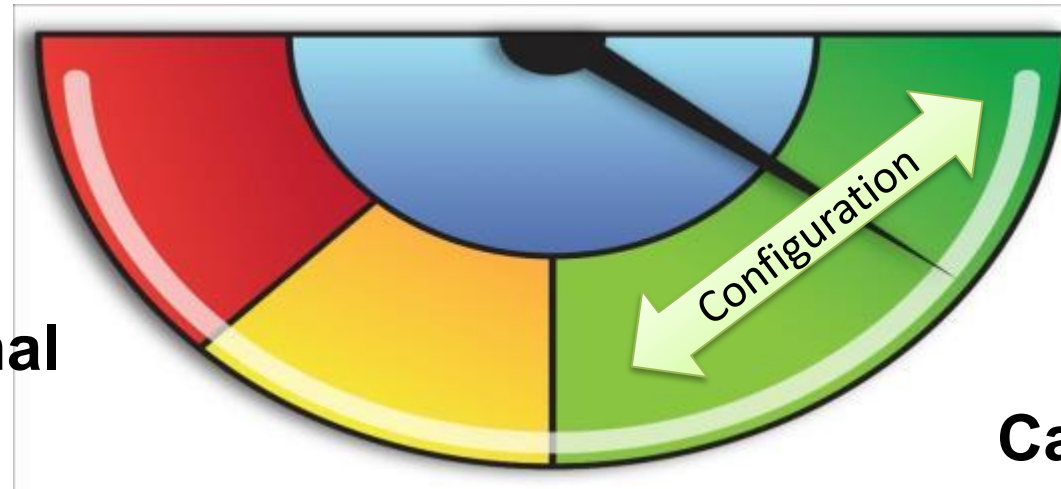
High Energy Efficiency with Smart Devices



Energy Efficiency

Conventional Devices

Basic Functionality
High Update Rate
Server Based Solutions
Short Battery Lifetime



CargoObserver

Smart Devices
Report when required
Device Based Solutions
Very Long Battery Lifetime



CargoObserver Product Variants



Product Groups	CargoObserver-Track & Sense	CargoObserver-Track	CargoObserver-Ex	Easytracker
Main Application Fields	Standard ISO Container, Reefer Container, Freight Wagons	Trailer, Swap Body, Containers, Freight Wagons	Tank Wagons or Tank Trailer & Trucks	Container, Pallets, Parcels
Special Features	Smart GPS Tracking, Geofencing and complete Sensor Monitoring 4G IoT / GSM	Smart GPS Tracking, Geofencing, Acceleration Sensor, Rail Mileage 4G IoT / GSM	ATEX and/or IECex compliant Fuel Level Sensor 4G IoT / GSM	Rechargeable, 4G Global Frequencies
Sensors				
Multi- Satellite Positioning	✓	✓	✓	✓
Advanced Movement Detection	✓	✓	✓	✓
Geofencing	✓	✓	✓	✓
3-Axis Acceleration	✓	✓	✓	✓
NFC Interface	✓	✓	✓	-
Temperature	✓	✓	✓	-
Compass	o	-	-	-
Bluetooth Low Energy & ITSS2 Ready Sensor Interface	✓	-	✓ ⁴	o
4-20mA / HART Sensor Interface	-	-	✓ ³	
ATEX / IECEx Certified	-	-	✓	
Solar Rechargeable Supply	✓ ⁵	✓ ⁵	✓ ⁵	✓ ⁵
Typical Battery Lifetime	6-8 Years	5-8 Years	1-3 Years	1-3 Years

Product Variants

-Track&Sense-XXL

-Track&Sense-Solar-XL⁵



-Track-L

-Track-XXL

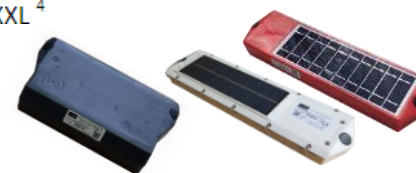
-Track-Solar-XL⁵



-Ex-Solar-Sensor^{3,5}

-Ex-Solar-XL^{4,5}

-Ex-XXL⁴



Easytracker-Basic



Example Container: CargoObserver-Track-L

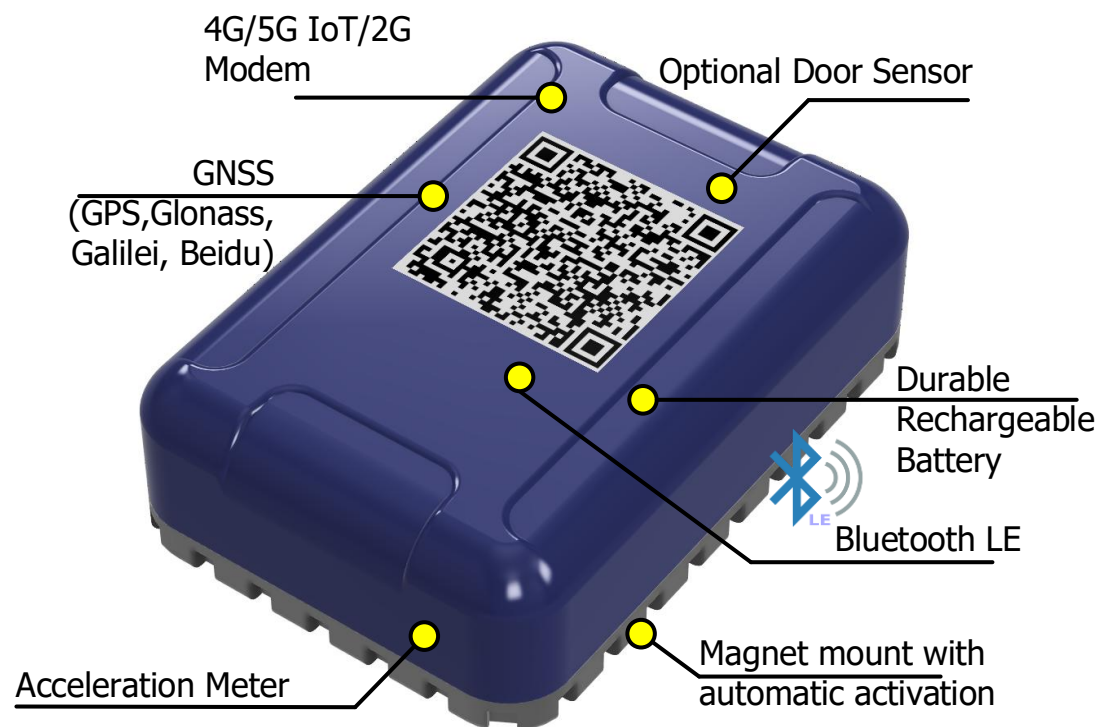
Mounted on ISO-Container
for intermodal application

Magnet , Screw or adhesive mounting

Battery Lifetime of 6-8 Years

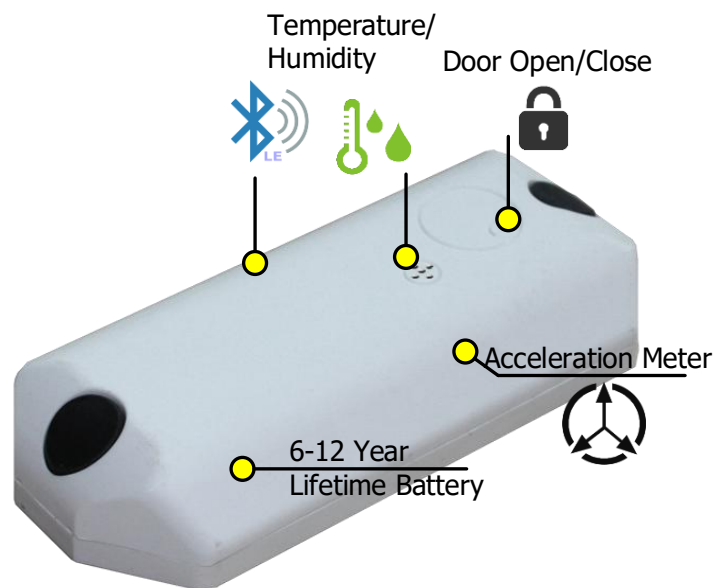


Easytracker: for mobile use on containers, pallets and in packages

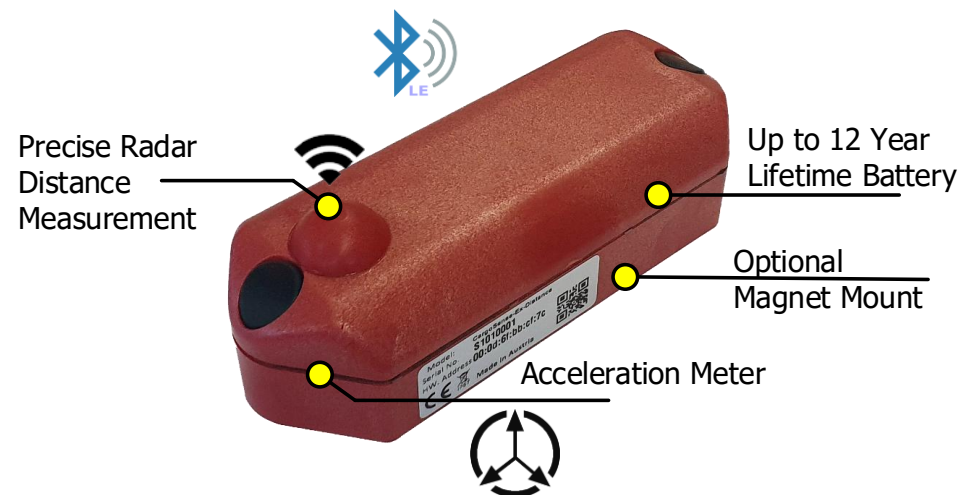


Easytracker is based on CargoObserver Platform,
new Modem (Global 4G CAT-1), Power Supply and housing

Wireless Sensors allow for new opportunities



CargoSense-Multisense

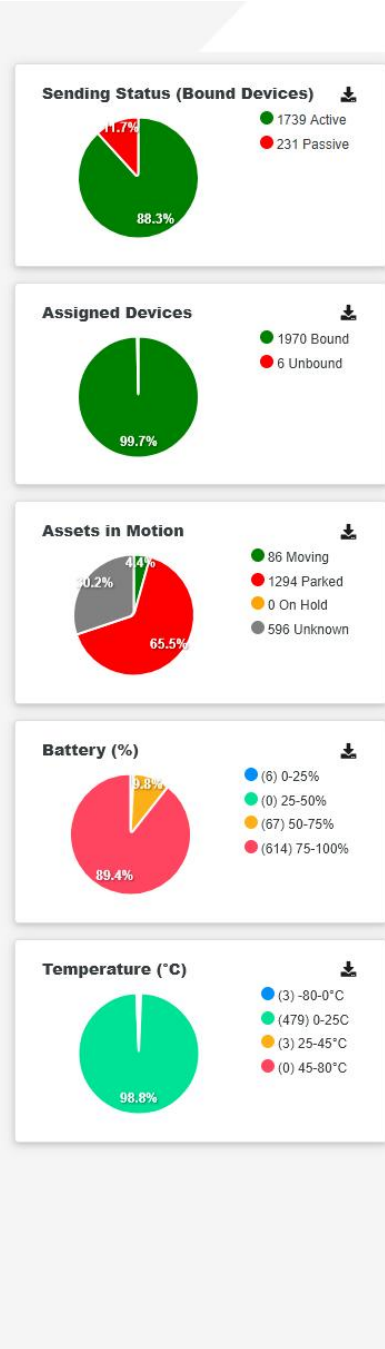
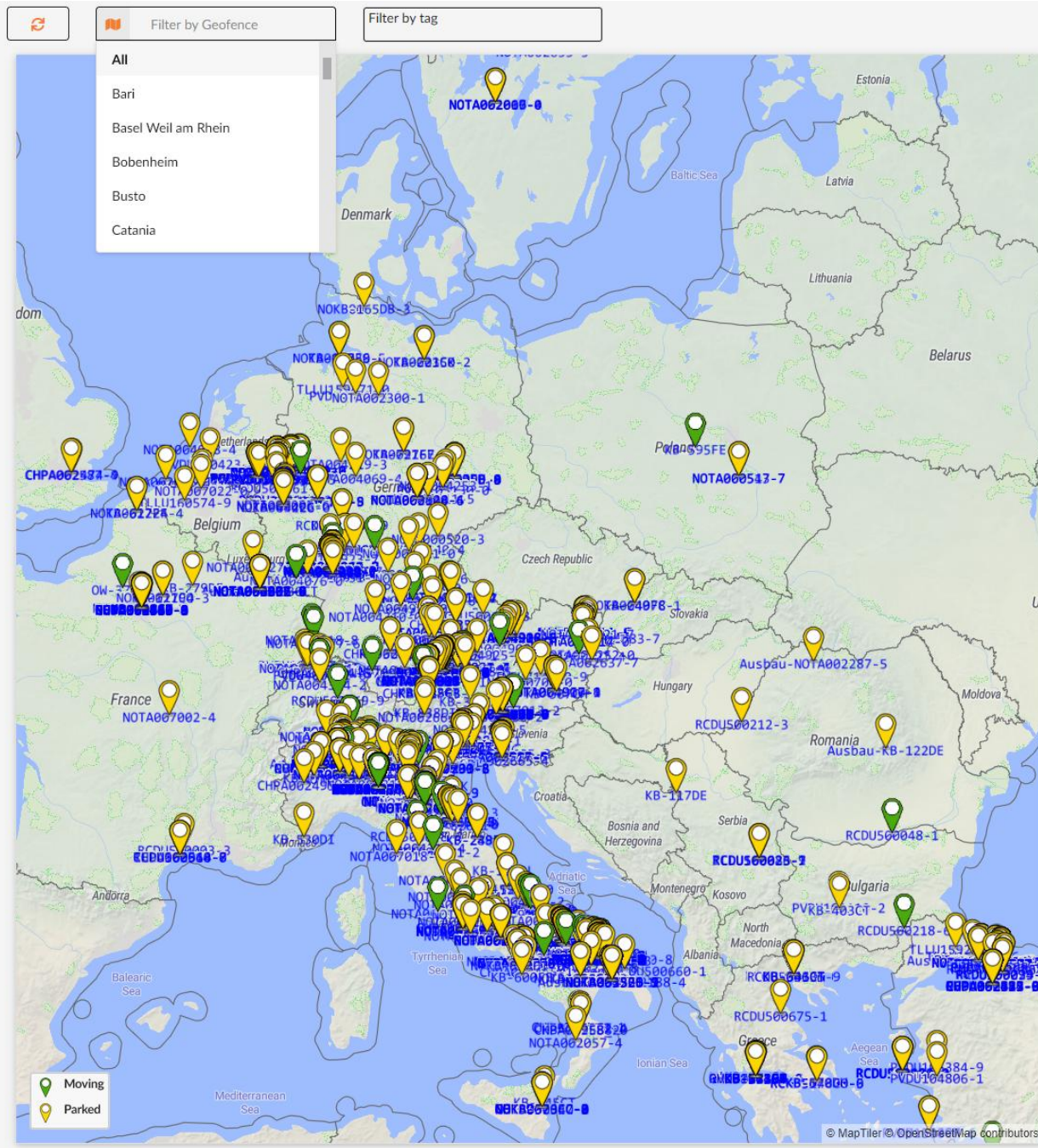


CargoSense-Distance

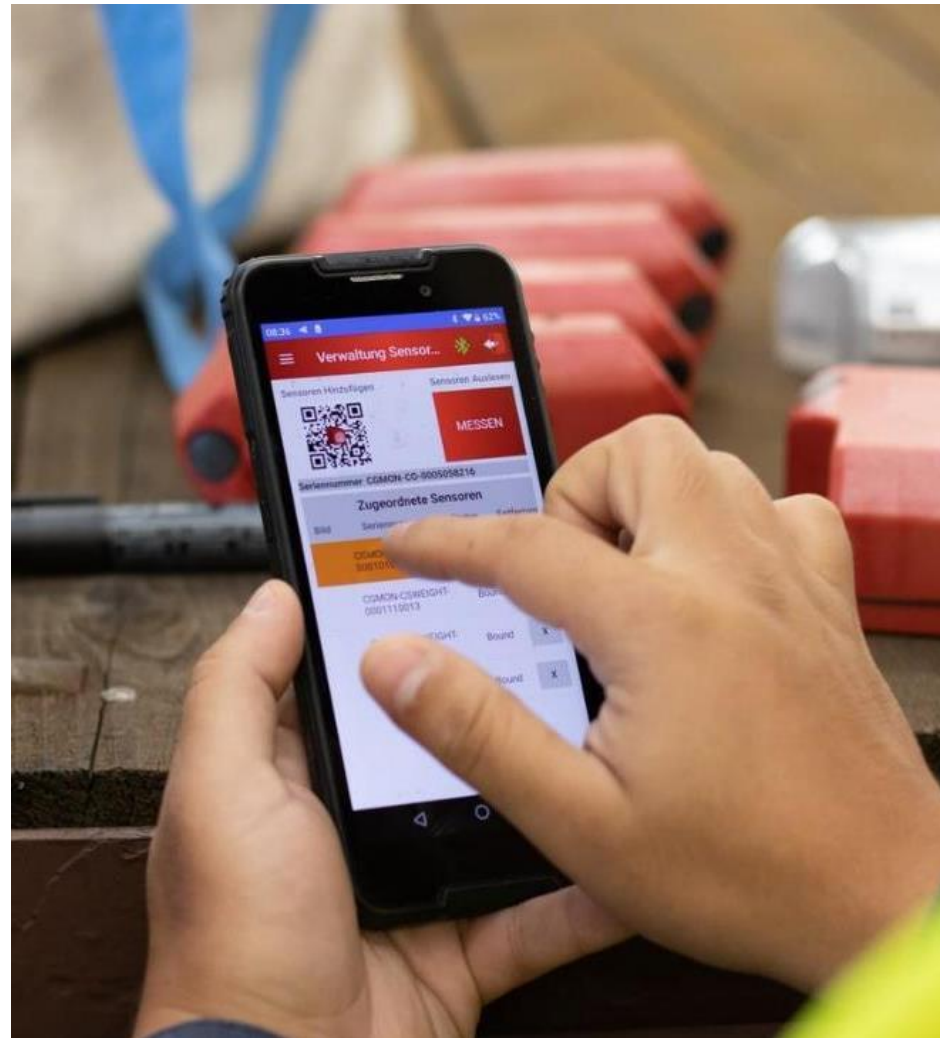
Applications:

- Loading state
- Weight Information
- Door Status
- Status Handbreak ...



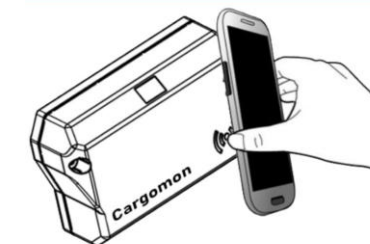
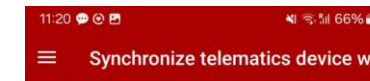


IoT Management APP

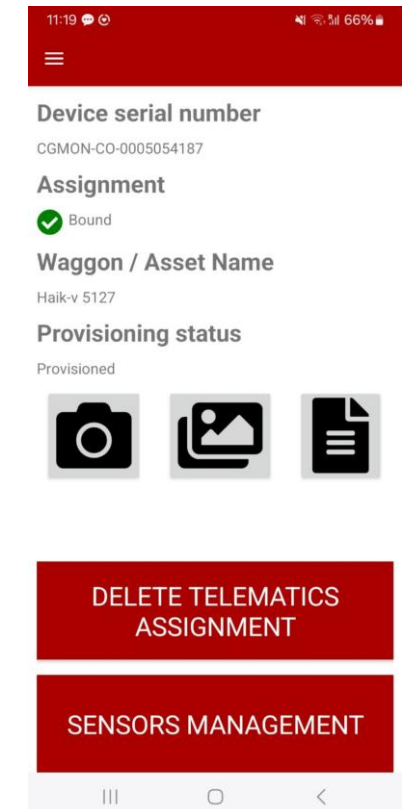


App Advantages

- Quick commissioning
- direct BLE connection to Telematics Unit and all of its sensor locally
- Installation mode with real time connection for:
 - link quality check
 - sensor reading
 - sensor calibration



Synchronization with server



Advantages and Facts



Benefits

- Improved security
- Better transparency for customers
- Alarming and data collection for whole transport chain
- Precise damage allocation
- Fast downtime detection – improved response time
- Cost efficiency – transport chain optimization



Approved system

- 10 years in-field operation experience
- Unique 6+ years life cycle
- Tuned for reliability and efficiency
- Simple mounting variants
- Perfectly customizable
- Continuous research for novel sensors

