MAKE THINGS WIRELESS

TELID®X6 solution

passive RFID force sensors TELID®260 to measure preload in screw connections

APP TELIDx6

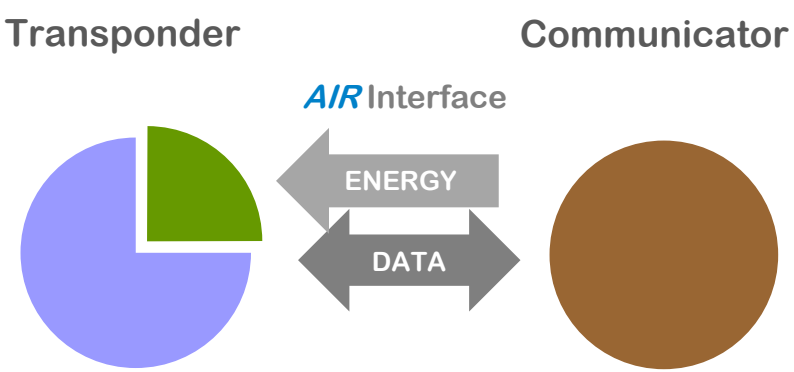
2024 review 007E

Editors: R.Jurisch

***microsensys* ... your partner**
for wireless object identification and intelligent sensors

MAKE THINGS WIRELESS

passive RFID force sensors
TELID®261 nut M16



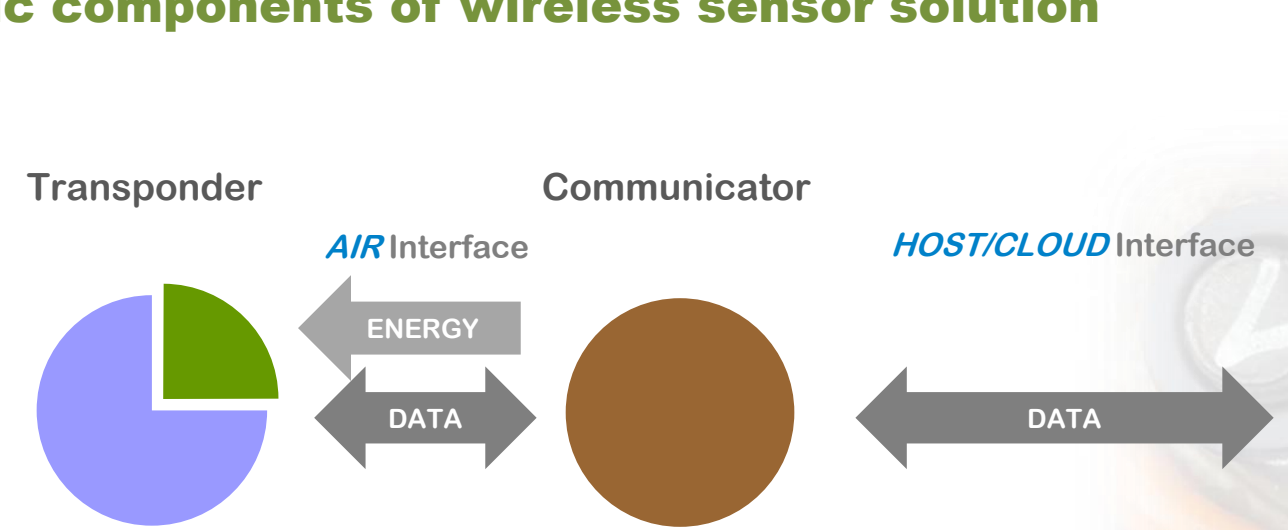
RFID communication device
iID®POCKETwork

A flexible wireless sensor solution for real time monitoring and maintenance processes

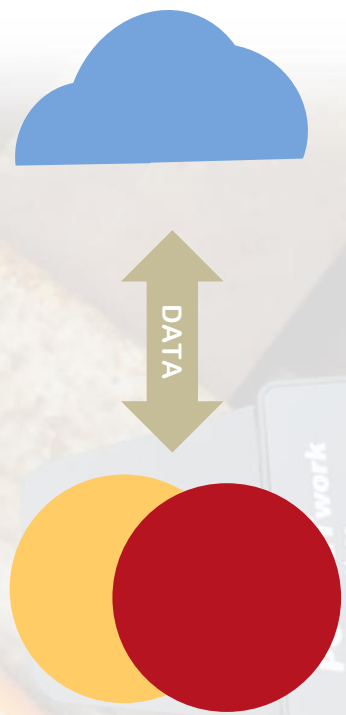
TELID® combines wireless RFID identification with sensors measurement
iID® contactless interfaces communicating sensor data to your screen

TELID® solution

basic components of wireless sensor solution



Computer / Database



ilD® transponder
TELID® sensors

permanent mounted on objects for unique identification and reproducible measurements

ilD® contactless reader
ilD® / TELID® transducer
ilD® gateway

ilD® cloud
ilD® / TELID® software and tools

Advantages of TELID®sensors

different steps in maintenance processes are united

Identification

Registration

Measurement

Evaluation

- Sensor remains permanently on the object
- Worldwide unique identification
- Absolutely reproducible repeating measurements under identical conditions
- No Battery enables long-term applications with the identical intelligent sensor

all processes in one

- Temperature
- Humidity
- Pressure
- Vibration
- Inclination
- Force
- Switch

Application Fields
of preload measurement sensors

Pit stop checking of wheel nuts

Condition monitoring

Checking of screw connections

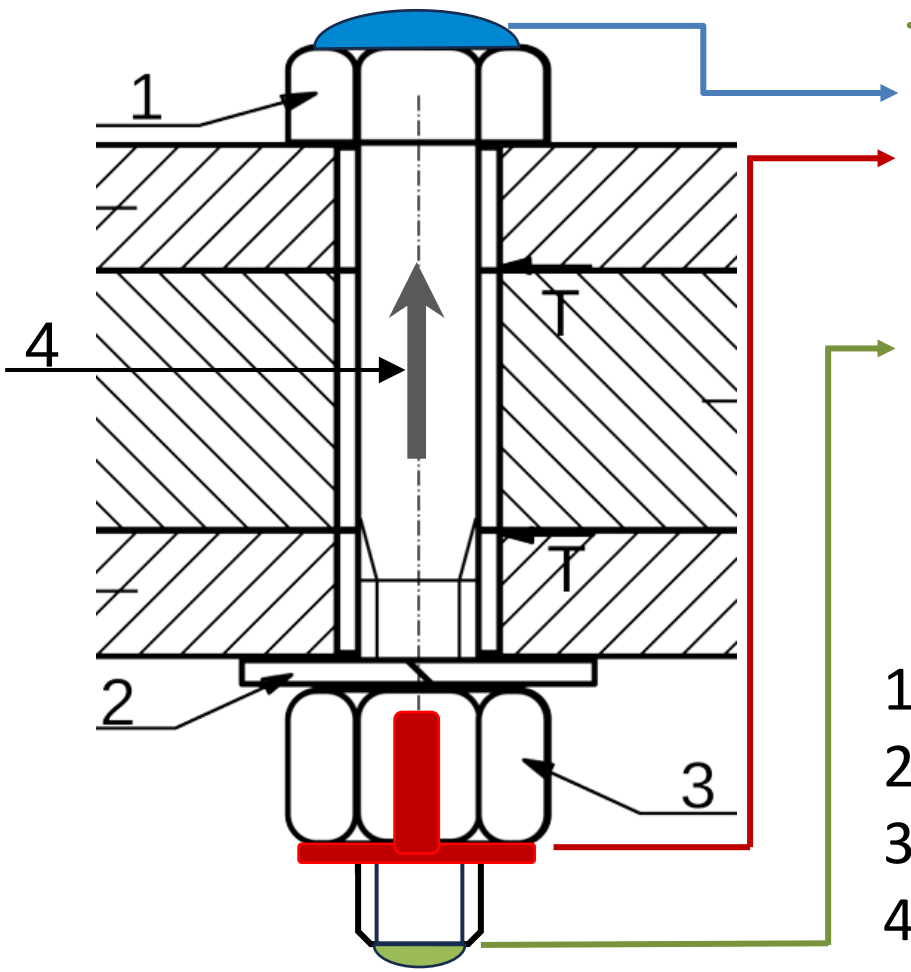
TELID®X6

Analysis of extreme bridge loads

Supervision at piping screw connections

Predictive maintenance for railway tracks and sound barriers

Principle of different TELID®260 sensors



for force measurement in screw connections

- ***TELID®264.screw*** *(intelligent bolt 4.0)*
- ***TELID®261.nut**** *(e-Bolt)*
- ***TELID®262.label****
- ***TELID®263.washer****
- ***TELID®265.bolt***

in *TELID®X6* solutions

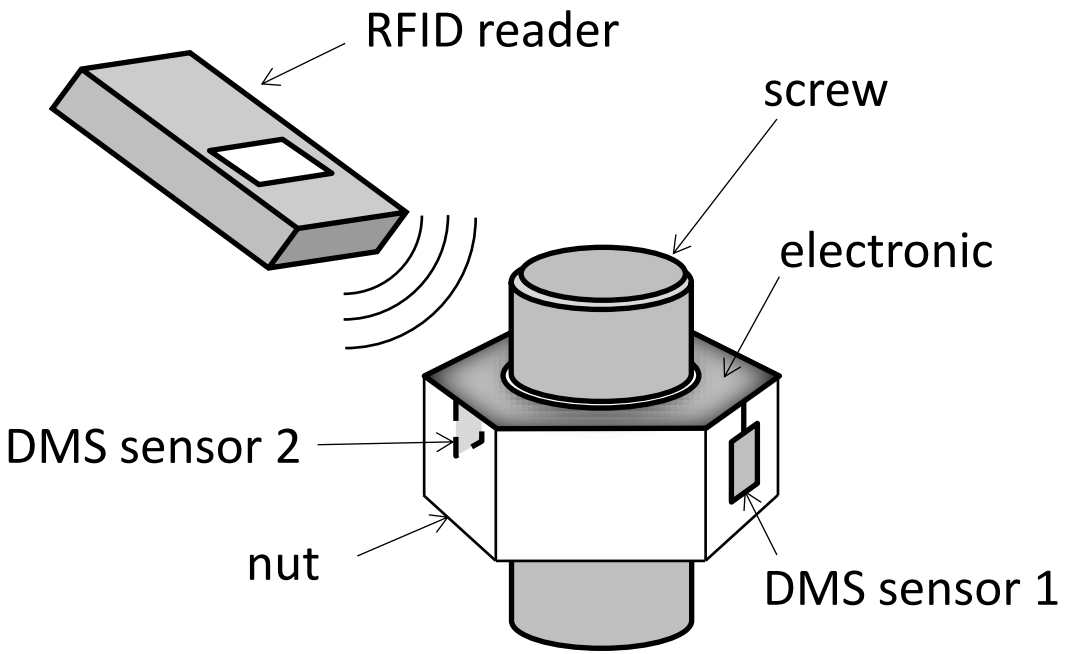
1 SCREW HEAD
2 WASHER
3 NUT
4 preload force

TELID260 products are in generally for customizing solutions.
The TELID transponders based on RFID system iID-3000 and TELID200 firmware. They are operating wireless, passive, without any batteries over a communication distance from 2 to 20mm depending on reader design.

*) Please note TELID262 and 263 are in development or restricted in application **) patent pending

Preload forces measurement by RFID sensors

Principle:



Realisation:

- Strain gauge sensors attached at side surfaces compression proportional to the preload force
- 2 DMS sensors on opposite side surfaces
- Electronics and antenna on the ring surface of the nut
- ADD-ON technology, no changes at basic nut
- Enhanced calibration support
- Unlimited lifetime - no battery on site

TELID®261.nut

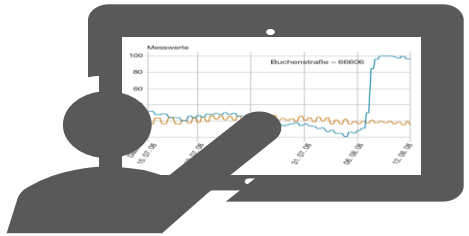
Technical Data TELID261.nut:

Material:	stainless steel or steel
Thread Sizes :	M16 bis M36
Sensor Element:	DMS sensor
Force Range:	0…500kN
Temperature Range:	-25°C…+85°C
Interface:	contactless RFID, TELID protocol based on ISO 15693 standards
Data Memory:	EEPROM for ID number, serial number, calibration data, secure procedure and more

customizing on inquiry

TELID® - Simple Mobile Data Capture

HF wireless near field data capture, device data storage and download



ENERGY

DATA

AIR Interface

DATA

HOST Interface

USB

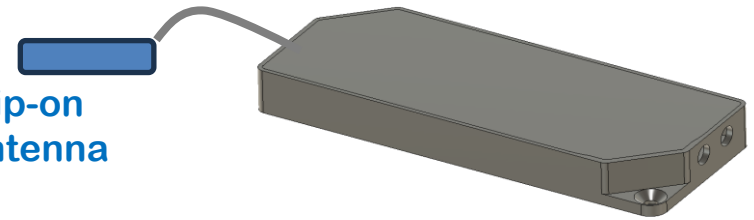
Bluetooth

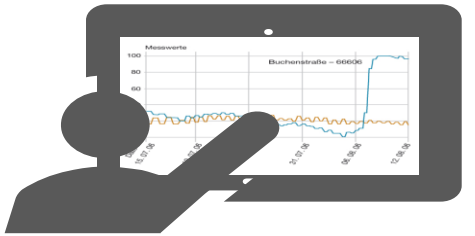
Sensor TAG | **Mobile Handheld** | **Analyzing**

stand alone data capturing

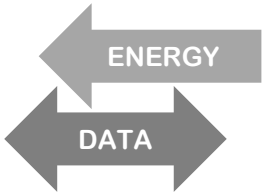
TELID® - Mobile Data Logging

HF wireless near field data capture with capture rates up to 1Hz





- Special Program-Script necessary for measuring and storing of 50,000 samples
- Charging and reading out over USB in CSV format



AIR Interface

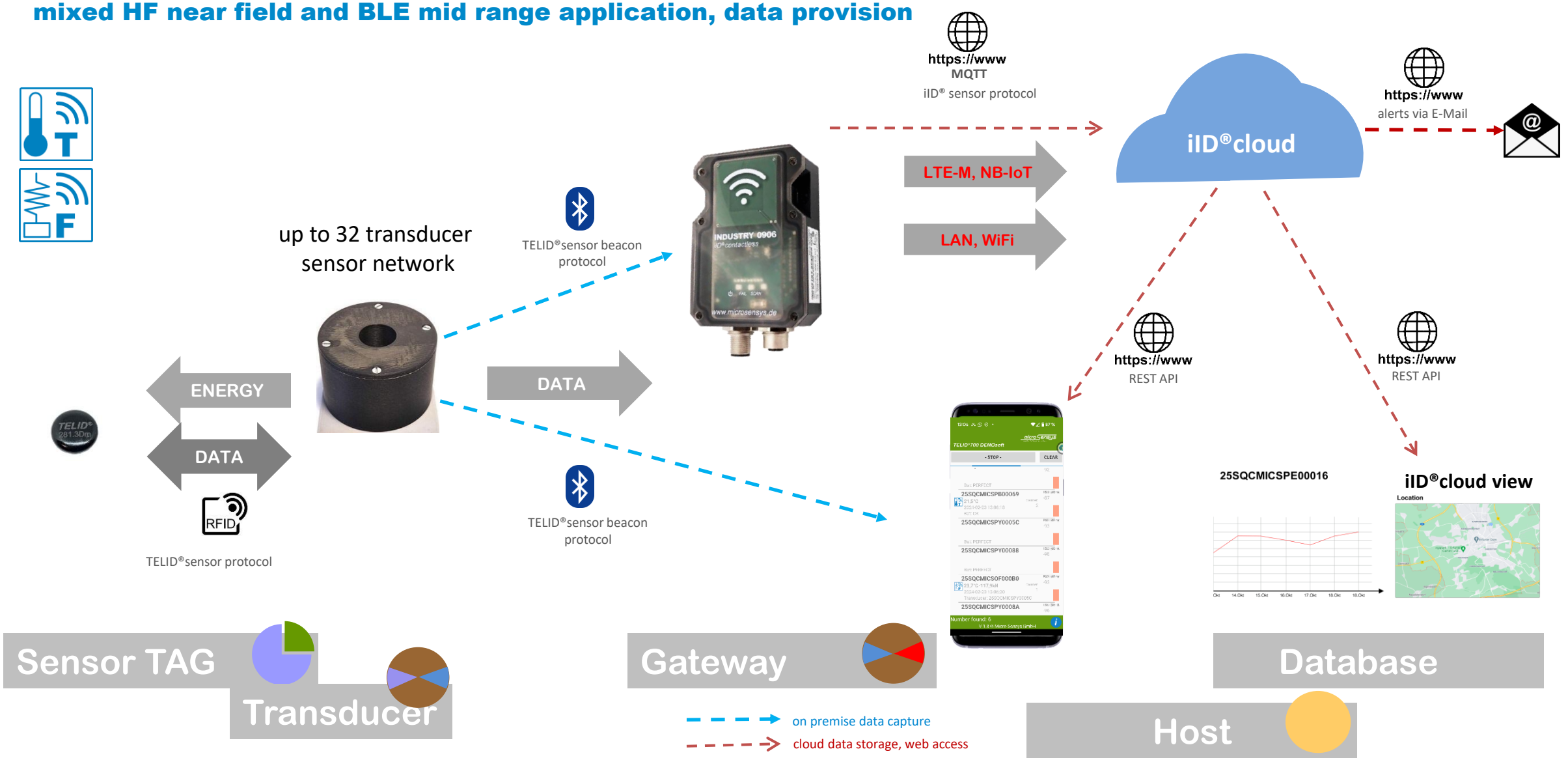
HOST Interface
USB

Sensor TAG | Data Logging | Analyzing

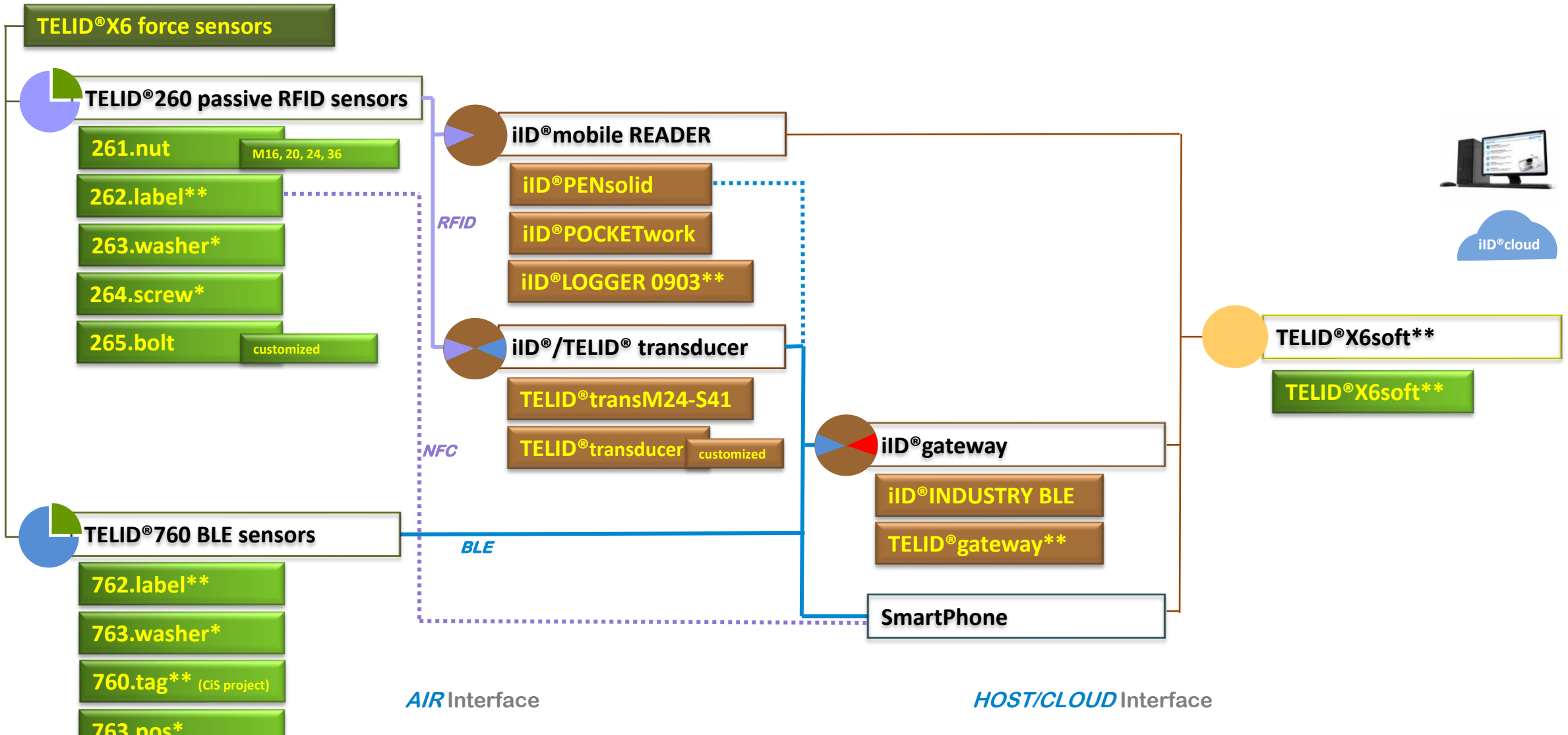
stand alone data logging

TELID® - Network Solutions

mixed HF near field and BLE mid range application, data provision



Product portfolio TELID®X6 force sensors



please note: *) not for new projects or restricted application **) in development

TELID®X6 – at a glance

Contactless measurement

Passive sensor

Fast data capturing

Future technology

Predictive maintenance

TELID®
sensor solutions

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