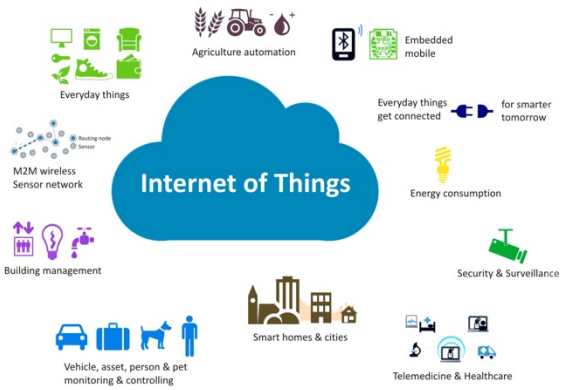
The ThingsWay Industrial is a gateway combined with sensors and actuators that can directly communicate with the cloud via the mobile network. Existing equipment and products can easily be connected to the internet. In many cases additional hardware is not necessary. The ThingsWay is a flexible platform, adaptable to many of your needs.

Key features:

- *Direct connection with the cloud*
- *Positioning/GPS*
- *Measuring acceleration*
- *Measuring vibration*
- *Temperature*
- *Wireless interface*
- *USB connection*
- *Digital inputs (10x)*
- *Digital outputs (6x)*
- *Analogue Digital input (2x)*
- *RS232/RS485*
- *Extreme low power consumption*

Applications:

- *Tracking & tracing*
- *Predictive maintenance*
  - *Measuring lifespan*
  - *Usage*
  - *Number of dosages*
  - *Guarding*
- *Monitoring*



With the ThingsWay Industrial, developed by **Salland**Electronics, it is possible to connect directly to the internet via the mobile network. It is suitable for connecting existing equipment, or other electronic products to a cloud. It is also a platform made up of hard- and software, which can be adapted to many of your needs. The ThingsWay Industrial is much more than a regular gateway. Sensors, in- and outputs, wireless interface etc are added for a wide range of applications and markets. Another unique characteristic is the extreme low power energy consumption. The ThingsWay Industrial can be powered by an adapter, a (rechargeable) battery, or solar panel. In the near future, optional modules will be developed as well. **Salland**Electronics has created an embedded software CASE tool called Atomic Embedded Design (AD5). A lot of embedded software, like drivers and protocols are available. The benefits of the ThingsWay Industrial platform are:

- Standards protocols available
- Fast demonstrators, Proof of Concepts
- Lower investment
- Faster from idea towards production
- No certification costs
- Very easy integration
- Flexible and adjustable to your needs, in comparison to a standard product

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Cellular interface	
SIM card	Internally 1.8V/3.3V 2FF
Frequencies	GPRS/EDGE 900/1800MHz FDD-LTE B3/8/20/28
Data transfer U/D (up to .. Kbps)	LTE Cat.M1 (eMTC) - 375/300 NB-IoT/Cat.NB1 - 66/34 EDGE - 236.8/236.8 GPRS - 85.6/85.6

Navigation/positioning	
GNSS positioning	GPS, GLONASS, BeiDou, Galileo, QZSS
Performance	
Tracking sensitivity	-162dBm (GPS) -157dBm (GLONASS)
Cold start sensitivity	-148dBm
Accuracy (open sky)	2.5m (CEP50)
TTFF (open sky)	Hot start <1 sec. Cold start <35 sec.

Sensors	
Acceleration	2/4/8/16G, 3 axis
Temperature	-40 to +85°C, 2% +/- 0.5°C

Storage/Logging	
Storage size	32MB (128Mbit)
Durability	>10 year
Logging time	Up to 2 year.

Wireless interface	
Frequency	2.4GHz ISM Band
Standards	BLE 5.0 Zigbee (802.11.5) Thread ANT

USB Interface	
Connector	1 x USB
Speed	2.0 high speed up to 480Mbit/s
Power requirements (optional)	> 800mA – only LTE Cat.M1 & NB-IoT.NB1

Digital Input / Output	
Inputs	6 x
Outputs	10 x open collector
ESD Protection	+/- 8Kv Air, +/-5Kv contact
Absolute maximum	Input: 10V DC Output: 25V DC

Analog interfaces	
Input	2 x
Rating	10V, 15k Ohm
Resolution	4096 counts
Accuracy	+/- 2LSB

Other interfaces	
Indicators	3 x LED, configurable via software
Built in	Battery backed RTC (25ppm)
Internal	Arduino interface MicroBUS
External	RS232/485

Power supply	
Connector	Connector wit screw terminals USB (5V only)
Input range	9 to 36V DC
Power consumption	Low power: <10µA Idle: 1mA Tracking GNSS: 30mA Communicating: GPRS/EDGE – 400mA LTE Cat.M1 – 200mA Cat.NB1 – 150mA Peak current: 500mA

Physical	
Ingress protection	IP44
Housing, weight	170 x 170 x 55 mm 725 gr
Installation	Desktop, DIN rail
Operating temperature	-20 to +80 °C

EMC	
EMI	EN 55032
EMS	IEC 61000-4

Certifications
WEEE, RoHS, CE

Software	
Network protocols	TCP, UDP, IP, ICMP
Application protocols	DNS, NTP, MQTT(S), HTTP(S)
API	HTTPS REST, MQTTS
Cloud interfaces	Microsoft Azure, Amazon, Google
Management	CLI, backend, SMS

Future options:

- Battery backup for extended activity without power supply.
- Solar powered and battery backup
- Non-rechargeable Lithium Battery power, 1 C-cell can power the system up to 10 years.
- Increased IP rating up to IP68K
- Extended temperature range (-40 to +105 °C)
- External GSM and/or GPS antenna
- Interface buses – CAN/RS485/RS422/Modbus/MDB
- Automotive load dump for voltages >40V DC
- eSIM MFF2

CE

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