



# Sensor devices & Quantified Self+

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Inmote provides sensors and data loggers for a variety of applications. Sensors can be applied to devices worn by humans or animals. A sensor is useful for detecting events and measuring data in the field.

Inmote mainly focuses on sensor applications for healthcare and logistics. By using our software engineering, computer vision and pattern recognition algorithms, we make sense out of big data.

Together with TNO, Inmote provides a cloud computing platform named 'ePartners that care', to monitor sensor input and provide feedback to the user on a smartwatch, smartphone or tablet via mobile internet.

Using the Situated Cognitive Engineering Tool (sCET), domain knowledge is collected from experts to fill the database with personas, use case scenarios and rule sets, to create a solution that provides smart responses to sensor data. The user's ePartner is interconnected with other ePartners within the social environment of the user. In this way, ePartners can exchange information about the user, to learn from and influence one another. The ePartner will try to motivate the user to live a healthier life, given the goals set in the database.

An example of a sensor for application in logistics is the AiroSensor. The Airosensor is an ultra-low power RFID sensor. It guarantees up to 10 years of uninterrupted autonomous operation on a single battery, while measuring humidity, temperature and motion with high precision. The data logger determines if goods are kept within temperature and humidity range, from first storage until final delivery at the end customer. It is a complete solution for cold chain delivery. The sensor ensures every moment in time, from production to delivery, is measured for later reports, through one single data source.

The AiroSensor communicates via an 868Mhz ISM band up to 300m with an access point. All events are collected in the cloud and can be queried and interfaced with applications via an HTTP(S) API.

In healthcare, applications include detection of ketosis for dairy cows by using gas sensors, classifying melanoma (skin cancer) and wounds, and recording ECGs. Also, we have a smartwatch demonstrator to remind ADHD patients to take their medication in time.

## Expertise

- *End-to-end solutions for healthcare and logistics*
- *Integration using SNOMED, HL7 and DICOM*
- *Artificial Intelligence (AI)*
- *Situated Cognitive Engineering Tool (sCET)*
- *Behaviour Change Techniques*
- *Quantified Self+*
- *Ultra-low power sensors*
- *NFC, Bluetooth (low energy), Dash7, Zigbee, Z-Wave, RFID, Wi-Fi*
- *eNose (nano)technology for acetone and other gases.*

**TNO** innovation  
for life

