

Talking Stones is a complete solution for sensors, alarms and equipment used in houses for management and awareness of what is going on inside the building. The network is unique as it needs no cables and operates with internal battery or self-generation power systems. It is just to hang up the sensor front end and it works with no cables and lowest installation costs. Network and cloud based operation makes all simple.

### Features: Talking Stones awareness and management and control system

- \* Multitude of different sensors in a network for collection all type of information and knowledge
- \* Capability to control a multitude of equipment based on data from sensors and adaptive control
- \* Alarm sensors that tell when there is a problem like water leaks, fires or other disturbances
- \* Sensors needs no cables or power supply and can operate for years with no service
- \* Lowest possible installation and maintenance costs for many years. Simple to move / exchange
- \* Building control of energy and ventilation by sensors and adaptive control over the "cloud"
- \* Security sensors, alarms and door lock management can be done by the network
- \* CCTV and camera systems can use same network

**Talking stones** a new thinking and a new concept for the future for intelligent buildings control. Simple smart and price attractive with potential for huge savings in operational costs.

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## Permanent installation in houses under full control all time



Readers read info from sensors all over the area and are fully available all time. They talk to sensors by a special RFID protocol and circuits that needs very low power and is very efficient. Each reader is a hub or node that is in a normal WI-FI or cable based network. This is possible to handle by a web browser + special software. If preferred we use cloud for data storage and can process data anywhere on globe. This is standard parts except reader.

## Network by foot a unique feature for special areas.



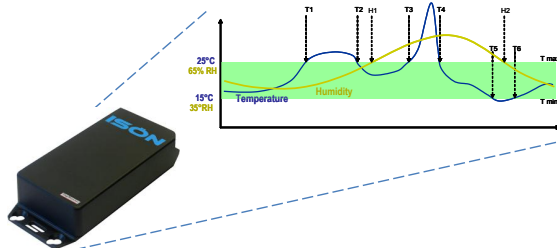
In many cases the sensors have no demands for continuous updating or are in very large areas far larger than range of transmitters. In these cases we have a special version where the receiver is moved around by a person that moves in the area or a car or other platforms that moves.

When reader is close to the sensor ( stone ) it read and collect data here and dump into a mobile phone. When carrier is in the range of the network the phone dump data into network and it is distributed to anyone that need data.

This solution accepts very large areas of sensors and equipment and when on line demands are not so important this

opens door for many new applications. Put sensor at any of staff as a guard or service man or why not on a car and when area is covered the information is collected. Sensors can log data and send log files over time in some cases or just collect digital info. In large estate organisations maintenance crew make patrols to check situation. Then they can read all sensors where some are hard to reach locations and collect data

## Temperature and humidity sensor tag



This is a sensor that gives data perfect to control ventilation and temperature in houses in better detail than earlier. Every room can have a sensor and the detailed data combined with knowledge about persons in area gives a far better way to save energy and give better comfort in apartments and offices. With detailed knowledge all rooms can have an individual control and savings in power can be huge. Often rooms are too warm or cooled too much when none is there and this is a lot of money today to know better and control automatically. Data can be log files or just a temperature and humidity value. Energy and

cooling is costly today and demands are getting more and more green.

## Object protection heavy duty tag.



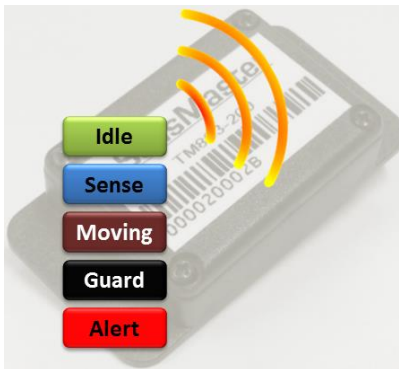
This can be put on any equipment and readers can see where this is just now. This covers all from cars in parking lot to valuable equipment that needs to be watched. If something is moving it can give alarms. It keeps control over car in garages. Why not use it for billing costs for members cars. If car moves we can alert car owner in apartment or just use it for statistics and billing functions for house owner. All is in the network automatically and can be used in new ways.

## Personal ID tag



In many cases it is important to know where staff is just now. How to find them easily and how to log them if there is a reason to log positions. If staff OK and moves or is something wrong as they are not moving. We can see, protect and help staff here to take smaller risks and at same time assist management over works and production. This can be used on guards so you can log where they was at certain times. Did they rond the area as planned or what really happened. Is electrician in a room for very long time and do not move this can tell it is a problem here.

## Smart tag with computer and calculation capability



This is a tag with a very efficient micro controller inside that can be set to measure and calculate and work as a small PLC system stand alone. The integrated battery is OK for 10-15 years if communication is not to large. Here we can interface almost anything and calculate and analyse in tag and then send formation if needed.

We can sense alarm sensors of any type and make combinations in calculations so when someone is in area temperature adapts itself and lamps are shut of or tuned down when area is empty.

We can connect to any digital output and CCTV alarm functions.

We can read sensor data from solar panels and solar hot water systems and transmit statistics to the central.

## Network by foot functions and capabilities



This may appear odd but is very smart in many cases and open doors for new applications where demands differs and today there is no solution except manual control. The RFID protocol and battery operation and a small simple reader can change ways to think. Some ideas and applications can be. Sensors have 20-80 meters range and can be hidden. Carrier is not aware where sensors are and how all works so this can be used to check own staff and send alarms when something is wrong

- \* Maintenance staff have one system when he walks around and then reader checks all sensors for information that normally is not measured at all.
- \* Check for water leaks in roofs and areas that are sensitive. If one sensor sense variations and see an increase like a leak in roof it send a message when man is there about a problem. Very simple and can save lots of costs.
- \* Check for ventilation disturbances like clogged filters and stopped motors. Sensor see a problem and say to reader what it is and service can solve the issue
- \* Road service and water plant and farmers have plenty of chemicals and materials in silos and on pile. A sensor see when it is getting low and when man pass he have the information. Put sensor on a bus or truck that drive a path and then the bus collect data and transmit at end stop.
- \* Guards make a patrol over an area and they carry an ID tag. When close to a sensor the network send data and central know when and where guards are just now. This is a quality stamp the guard company do their obligations and that all is OK. Auto alarms can be used here as well as door lock operation.