



Actility Webinar

Building optimized working conditions and space management strategy through IoT

How IoT Enables Smart Office and Desk Utilization Smart Decisions

Tuesday June 14th 2022

17:00-18:00 CET Paris (11AM New York)



Introduction

Shmuel Solomon



Webinar Introduction

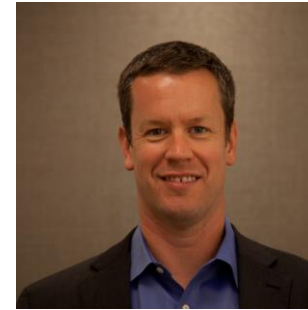
Today's speakers:



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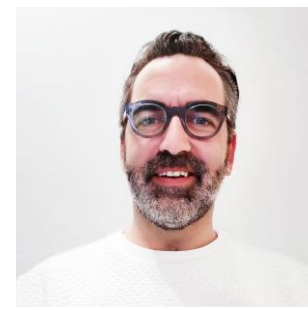
<https://www.cisco.com>



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Introduction

Workplaces have changed rapidly and become

- *Increasingly mobile.*
- *Shifted to an “anytime, anywhere” work mentality.*
- *No more conventional 8-hour workday.*
- *No more everyone seated at their desks.*
- *Employees comes merely or for a few days a week.*
- *On-site employees demand sufficient workspaces.*



“Thanks to this solution we now can see the bigger picture of our managed assets and gain real-time insights into how our offices and space are utilized. **Having more than € 7M of savings in just 36 months!**”

Omar S.
Real estate owner

Pain, frustration ...

Solution

Understanding how the office space is being used is key to optimizing office space and provide a great tenant experience

Webinar Meeting Agenda

- Introduction – **Shmuel**
- The Office Space Optimization Solution and Use Cases – **Fredrik**
- The Sensative presence device and device extensions – **Fredrik**
- Example use cases – **Michael & Fredrik**
- WMW Application - **Bert**
- Actility Connectivity – **Shmuel**
- The Office Space Optimization Solution Live Demo- **Bert**
- Extended Solution Live Demo - **Bert**
- Summary and Q&A



Office Space Optimization Solution and Use Cases

Fredrik Westman





Fredrik Westman



A BRIEF HISTORY OF TIME

In 2013, Sensative started the journey developing IoT sensors for smart & connected windows. Today, we have extended our portfolio with more functionality and higher quality and made IoT sensors easy to use and install.

Our vision has always been to make data accessible and actionable. For this purpose, we have developed a game-changing Digitalization infrastructure Management System (DiMS). By tearing down system silos, we make IoT easy to implement, scale, and use for businesses and society.

It all comes down to our distinguishing views on how to build a data-driven organization through the power of horizontal architecture that frees data and removes technology and vendor lock-ins.



SMART BUILDING



SMART CITY



SMART HOME



SMART UTILITIES



SMART AGRICULTURE



SMART SOCIETY

"MOST INNOVATIVE IOT COMPANY IN EUROPE 2021"



Top 50 most transformative smart city projects in the world



Top 50 Proptech companies in Europe 2021 + 2022



40-60% IoT value lost without interoperability (McKinsey)



2015 Sensors delivered globally since 2015

>200 Customers being digitalized

>50 Customers running open unified IoT

A smart desk – wherever there is a desk

10,000 \$ - average cost per year for providing a desk.

Understanding how the office space is being used is key to optimizing office space and provide a great tenant experience



	Desk sensors	Wi-Fi tracking	Manual Count
Accurate	✓	✓	✗
Granularity	High granularity	Low granularity	High granularity
Preserves privacy	✓	✗	✓
Scalability	Easy to scale	Easy to scale	Easy to implement, difficult to scale

Strips Presence features



Desk occupancy



Clean desk functionality



The choice of design

Non-intrusive design suitable for smart and modern offices



Remote Detection

Long Range with Low Power Consumption



People detection

Active IR sensor measuring objects and people up to 50 cm/19 in



Clean desk on demand

With +Switch clean desk as-a-service is easily added



No maintenance (10 years)

10 years Battery life cycle means no maintenance of sensors and changing batteries



Additional functionalities

Same sensor provides multiple use-cases for smart office and modern facility management, like asset management



Sensitive Strips Presence

with a manual trigger

Normal desk occupancy sensors only report occupied or not occupied.

Sensitive Strips Presence has a unique functionality with a **manual interaction** stage using +Switch.



The Strips Presence has a new reporting type "**pending cleaning**" which means when a person is at a desk, then leaves, the sensor will report the desk is "pending" cleaning, **not just "empty"**.

When the cleaner has disinfected the desk, they slide the +Switch on the sensor and the sensor will now report that the desk is **available and disinfected**.

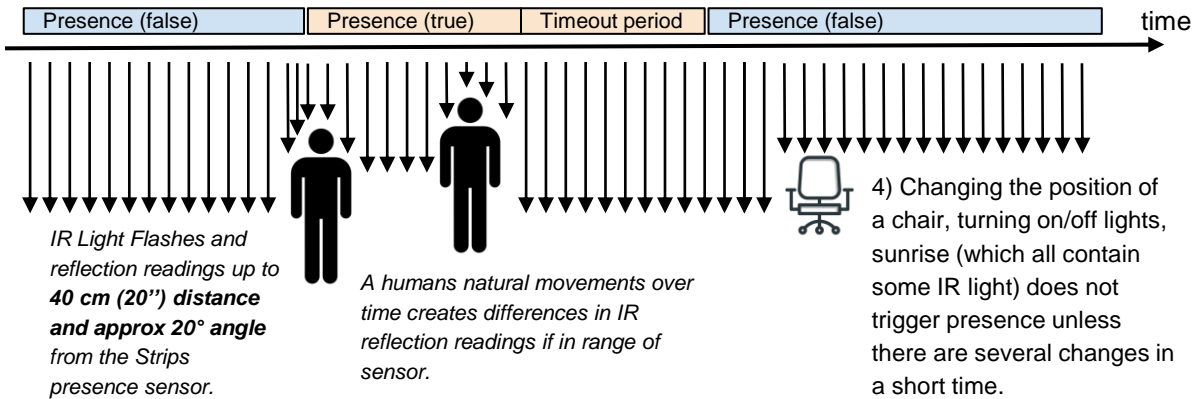
How does Strips presence work?

1) Every 1-2 minutes, the sensor checks if the IR reflection changes.

2) If several changes of reflection is detected the sensor halves the interval, and if more changes are seen it reports Presence(true) = **Desk is occupied.**

3) If no more change is detected within the *timeout* period, the sensor reports **Presence(false) = Desk is vacant.**

An application can adjust the timestamp if higher precision is wanted.



Adjust the presence threshold higher if you get false positives.

Active Infrared sensor



Operational Building Management Use Case

Customer

- US Federal Government buildings



End customer needs

- Presence Detection / Desk Mgt / Room Occupancy / Disinfection Mgt / Employee Health and Safety
- Multi use cases – leak detection, light, temperature & humidity monitoring, door open-close and more

The Solution and Results

- ThingPark Enterprise OCP + WMW OnPrem – Darkside :
 - The bigger picture: gain insight into how the building is utilized
 - 50 buildings around the globe and growing
 - 63 different devices used, and growing
 - 30 applications in use, and growing
 - Solution enrollment program launched



Building & office optimization

Customer

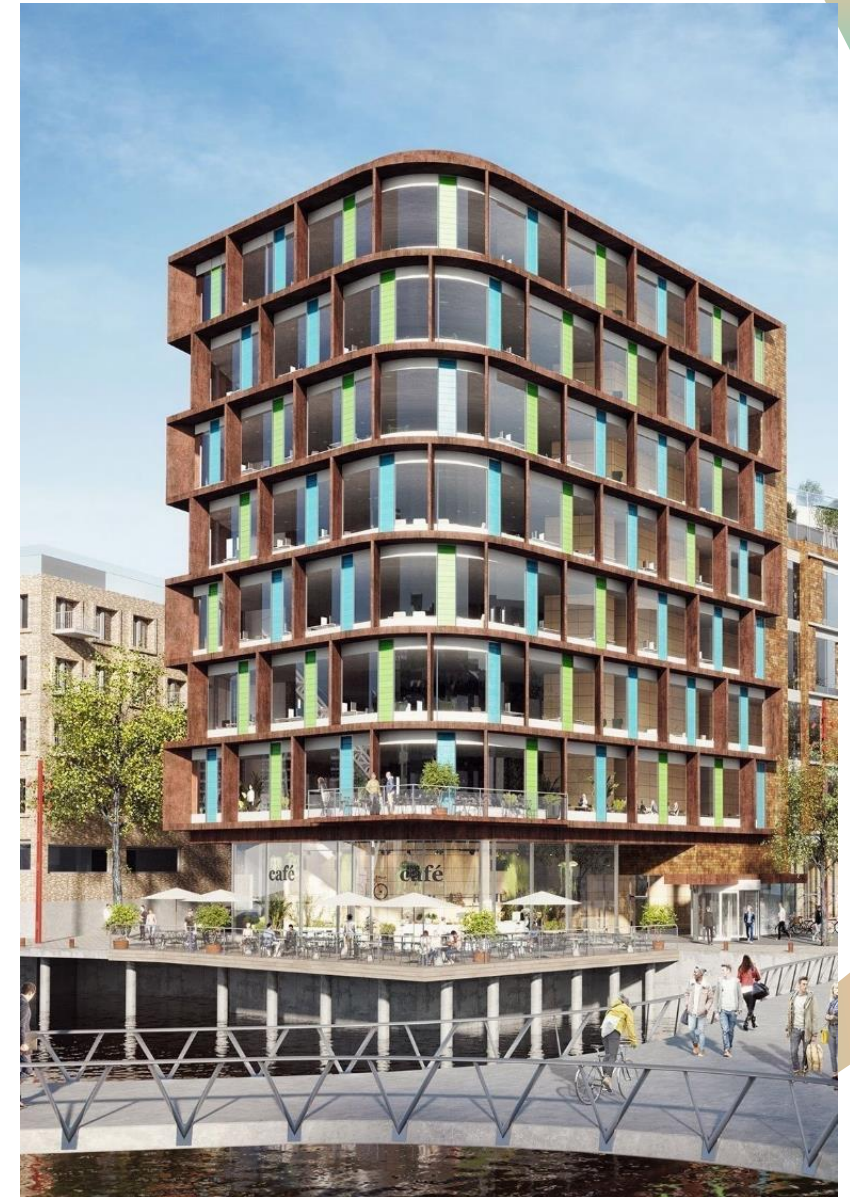
- Castellum – One of Sweden's largest real-estate owner.

End customer needs

- Knowing desk occupancy level & status in open spaces, hot-desking solutions and fixed desk solutions:
 - Quick and simple installations
 - Modern & discreet design to blend in office design
- Enable automation based on occupancy level

The Solution and Results

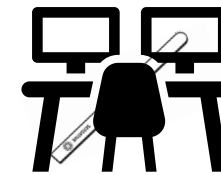
- Strips Presence installed in multiple buildings
- Insights and optimization of building and space usage
- Enabled advanced automation & AI/ML based on occupancy



Optimizing Office Space Solution - Overview

A solution to support office and facility managers to comply to the growing need for flexible and efficient office spaces and accelerates the demand for flexible short-term contracts and excellent tenant experience.

- Consists of four blocks: Sensors, Gateways, Network Server and a Management Application.
- Conducts presence monitoring, collects operational data via sensors, and transmits the data to the remote management team to monitor the office occupancy and cleanliness to take corrective actions.
- Alerts and triggers automatic mitigation actions based on preset KPIs.
- Is an intuitive, precise and plug-and-play solution.



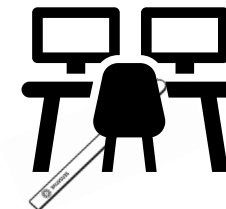
Collect



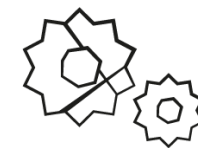
Detect



Increase office occupancy rate



Collect



Automate processes



Optimize office space ROI

IMPROVE OVERALL OFFICE OCCUPANCY AND PROTECT AGAINST COVID-19

STRIPS FOR LoRaWAN®

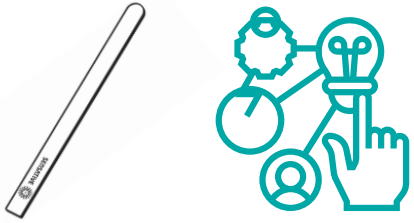
The discreet design and easy mounting make it the sensor of choice for architects and design conscious tenants.

	Multi-sensor	MS +Guard	MS +Drip	MS +Drip Oil	MS +Comfort	Presence
Door/window sensor	✓ ¹	✓	✓			
Water-leak sensor	✓ ²	✓ ²	✓	✓	✓ ²	
Air humidity sensor					✓	
Temperature sensor	✓	✓	✓	✓	✓	
LUX (Ambient light)					✓	
Occupancy sensor						✓
Oil leakage alarm				✓		
Asset management						✓
Support +Switch	✓	✓	✓	✓	✓	✓
10-year battery	✓	✓	✓	✓	✓	✓
Outdoor use	✓	✓	✓	✓		
End-to-End security (Link)	✓	✓	✓	✓	✓	✓
Adhesive mounting	✓	✓	✓	✓	✓	✓
Mechanical mounting (screws)			✓	✓	✓	
Range	Up to 10 km/6 miles	Up to 10 km/6 miles	Up to 10 km/6 miles	Up to 10 km/6 miles	Up to 10 km/6 miles	Up to 10 km/6 miles

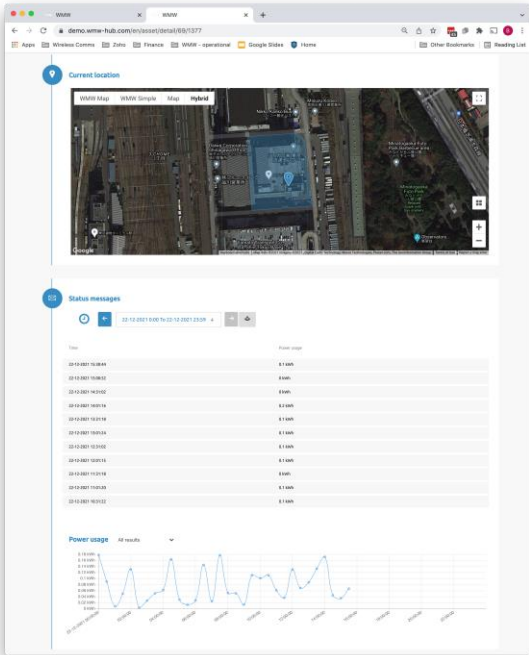
¹ door magnet not included

² water leak plate with pads not included

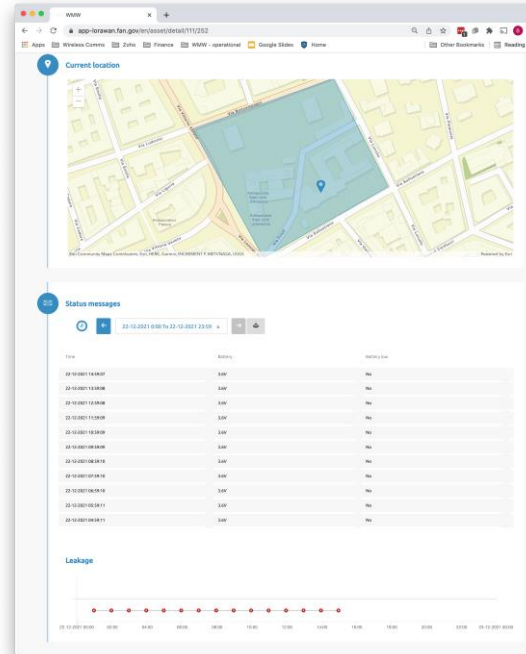
Office optimization - Go Beyond



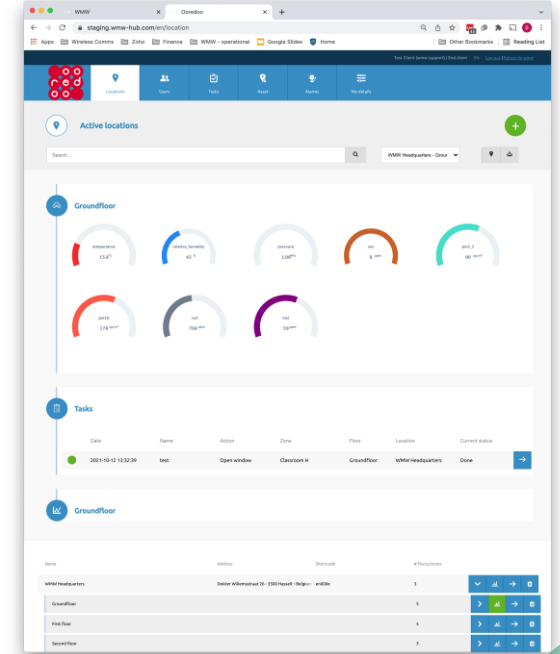
Energy optimization with small measures



Efficient risk-management with water-leak detection



A soft-security solution for the facility manager





IoT, solved

Bert Vanaken

What?

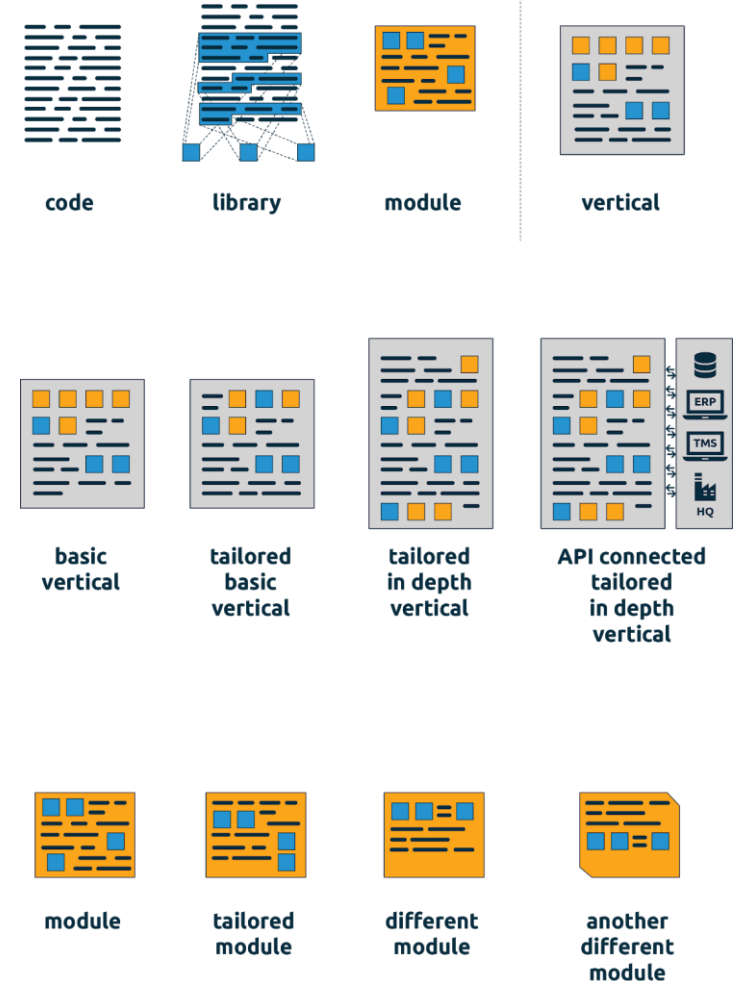
WMW is:

- ✓ A **technology** to build platforms and applications.
- ✓ Sold **worldwide** by System Integrators and Telco Operators
 - ✓ An IoT business **accelerator**
- ✓ **Agnostic** to devices, connectivity and even hosting
- ✓ In vertical markets like smart city, agriculture, healthcare, logistics, smart building, construction & mining, smart industry

Mission

An emerging IoT market is still defining itself and only X% of the IoT use cases have been properly identified. WMW does not want to sell a product but allow the market to ask for a solution.

With virtually the most flexible "framework" in the market we allow fast adoption of use cases and aim to grow to the most versatile asset management platform on a global scale.



Why & Where?

USPs:

- ✓ Extremely fast development
- ✓ Extremely flexible tailoring
- ✓ All IoT in 1 UI/UX/Logic



Lightning fast
Enterprise level



Transform
Shape
Tailor

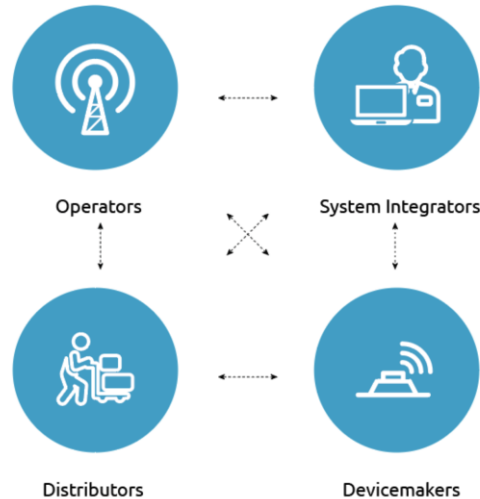


All intel under
• 1 hat
• 1 login
• 1 business logic

Customers:

With a full multi-tenant environment, including account creation, level 1 support systems, billing preparation, ... we support 4 groups of partners with:

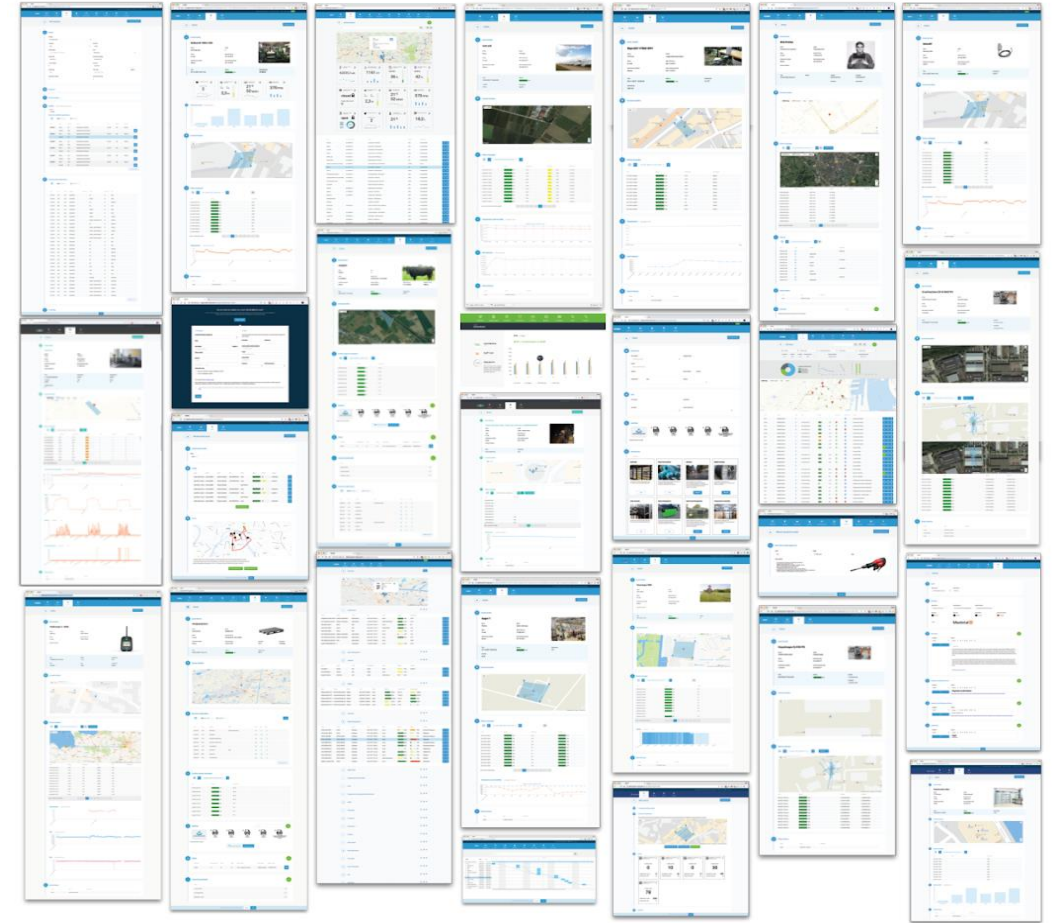
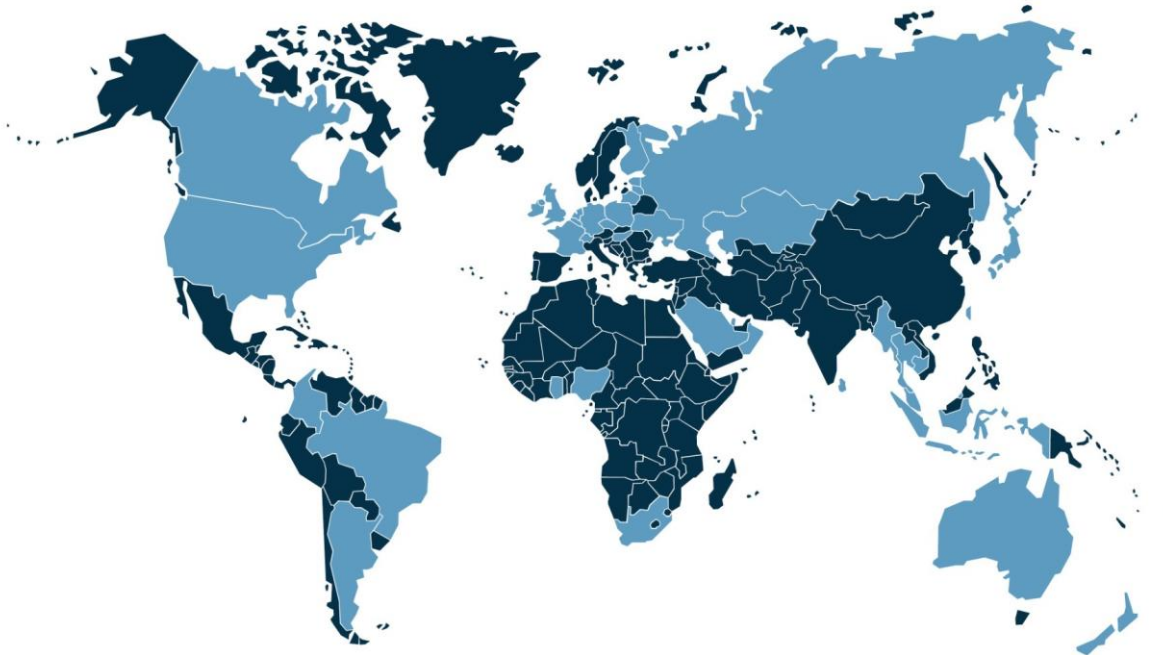
- ✓ Readymade applications
- ✓ Application suites
- ✓ Tailored dedicated single apps
- ✓ Full platforms
- ✓ Customized



Market?

Demographics

- ✓ +180 apps
- ✓ +290 devices
- ✓ 5 continents
- ... and growing



Actility

Shmuel Solomon



Actility

In Short

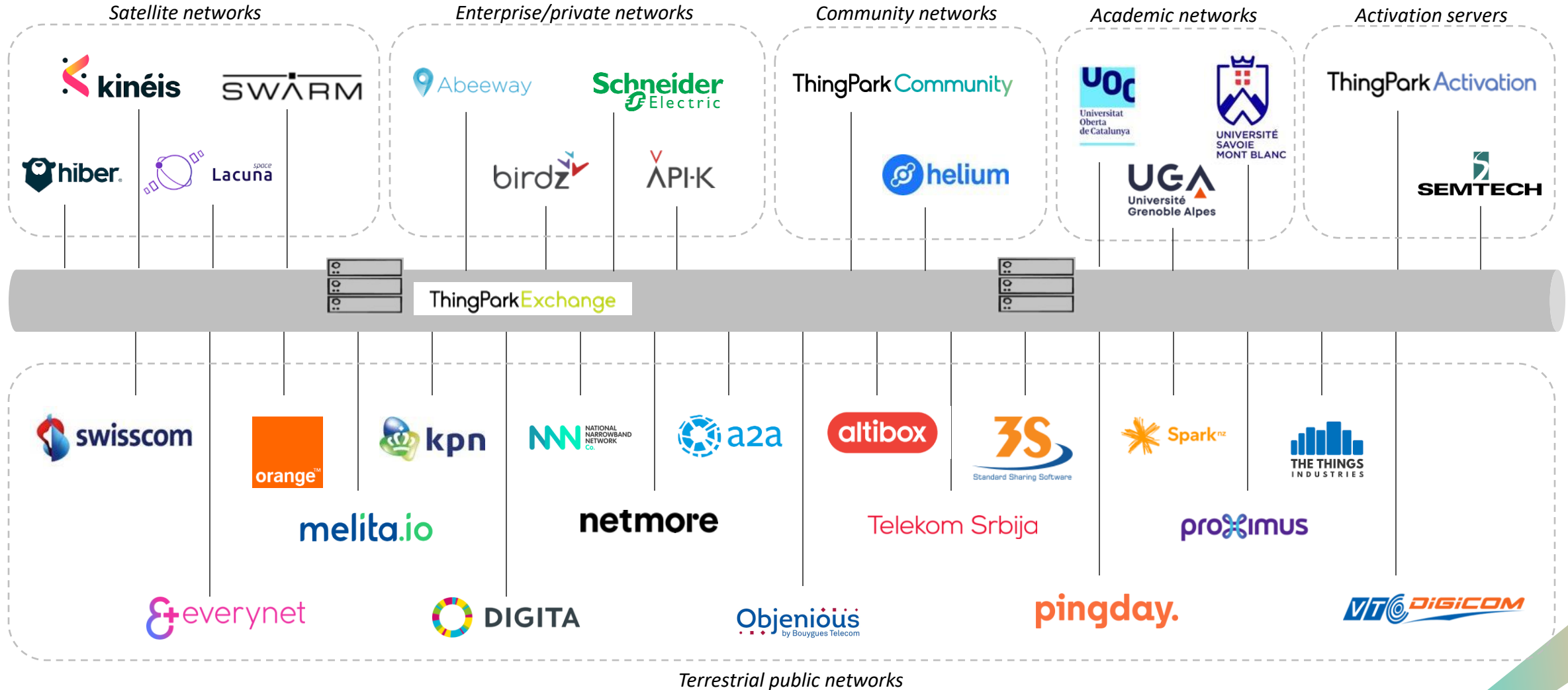
- ✓ Actility is a **world leader** in LPWAN industrial-grade **connectivity solutions** for the IoT.
- ✓ Also provides revolutionary **ultra-low TCO geolocation technologies** through its subsidiary **Abeeway**.
- ✓ Headquarters – **Paris, France / Worldwide regional offices**.
- ✓ Founded – **2010**, Employees – 130. **60% R&D and Product Managers**.

Mission

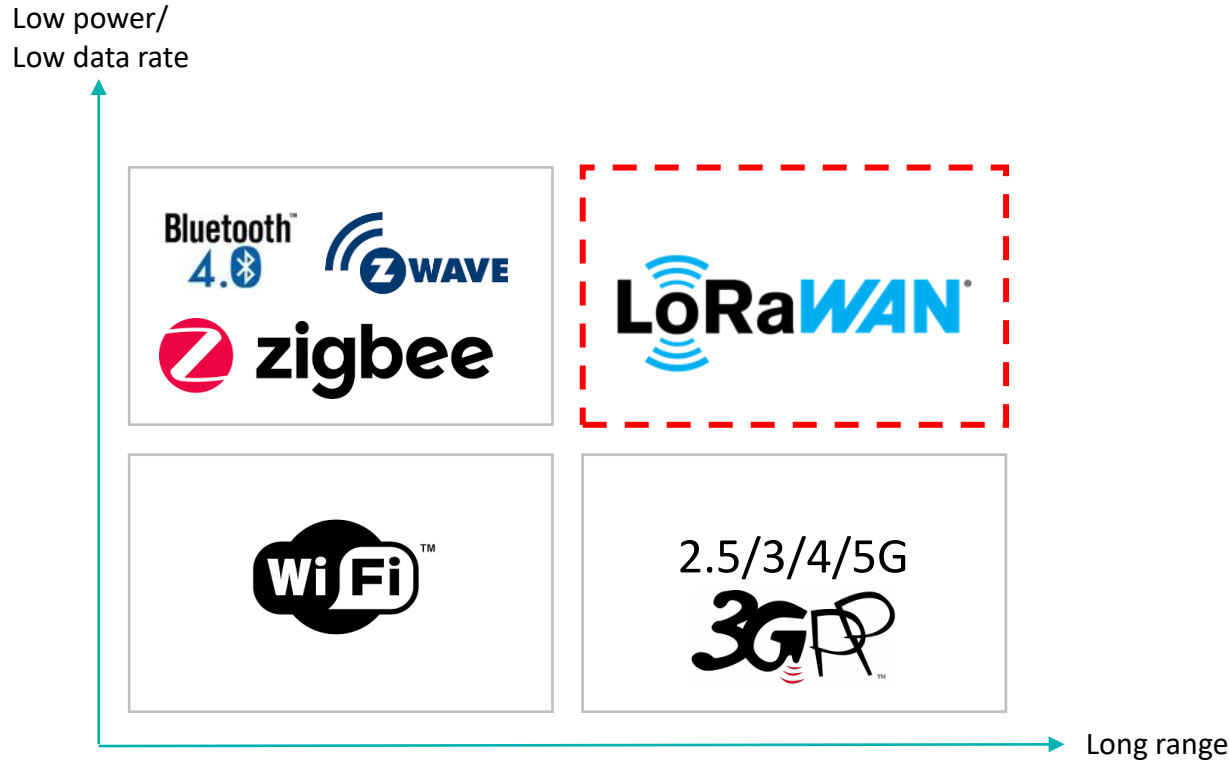
- ✓ Actility believes in a more efficient and sustainable world through **ubiquitous digital-twin technology**. We want to spark this transition and become the **leading global mediation** platform between cloud apps & physical world by 2023.
- ✓ Actility's ambition is to **put IoT at the service** of cities, citizens, industries, and communities, enabling them **to form a connected ecosystem**.



LPWAN Backbone – Towards Everywhere Massive IoT



Low-Power & Long-Range



LoRaWAN – A Leading Choice For Desk Occupancy

Conclusion: Monitoring presence, sending manual or automatic cleaning requests, requires installation of new sensors in facilities that usually do not have pre-existing wiring to deploy.

Such retrofit installations are greatly facilitated by **wireless, long range, battery-based sensors and secured infrastructure.**

Coverage

- ✓ 5-15 km range
- ✓ Deep indoor
- ✓ Star network
- ✓ Bidirectional communication



Activity

Cost

- ✓ Minimal infrastructure
- ✓ License-free spectrum (ISM band)
- ✓ Low power consumption
- ✓ 10+ years battery life



Eco-System

- ✓ Availability of end-products to ensure ROI of network deployment
- ✓ Strong ecosystem to ensure quality and longevity of the solution



Usage

- ✓ Any NW - Public & private, Satellite
- ✓ Network scalability
- ✓ Easy to install, simple to operate and do not rely on wires

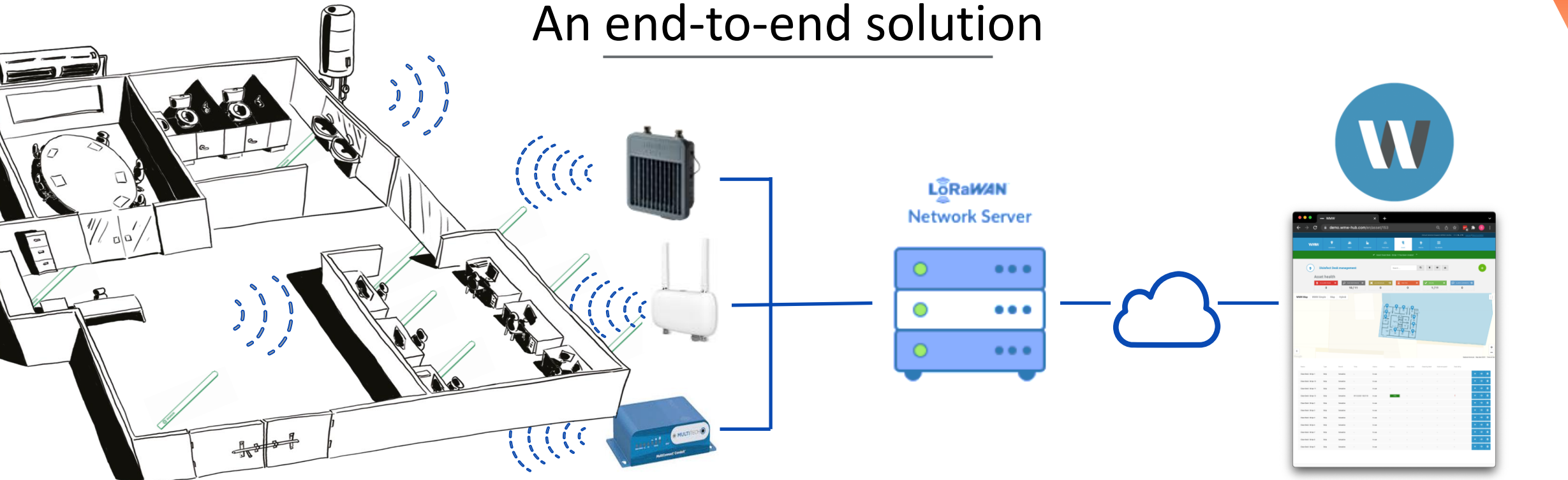


Security

- ✓ Secured communication protocol
- ✓ Two layers of security: one for the network and one for the application
- ✓ AES encryption is used with key exchanges



An end-to-end solution



← Sensitive Presence Sensors → ThingPark Private Gateways → ThingPark Network Server (Installed anywhere) → WMW Application for Insights and Management →

Low Power communication enabling 10 years battery life

Robust Radio technology Immune to interferences from Cellular, Wi-Fi...

Operation & Management of a highly scalable Network via a simple user interface

Data Mediation Layer for seamless integration of the LoRaWAN Network to the Application

Native End-to-End encryption and authentication of communications

Live Demo

Bert Vanaken



Summary

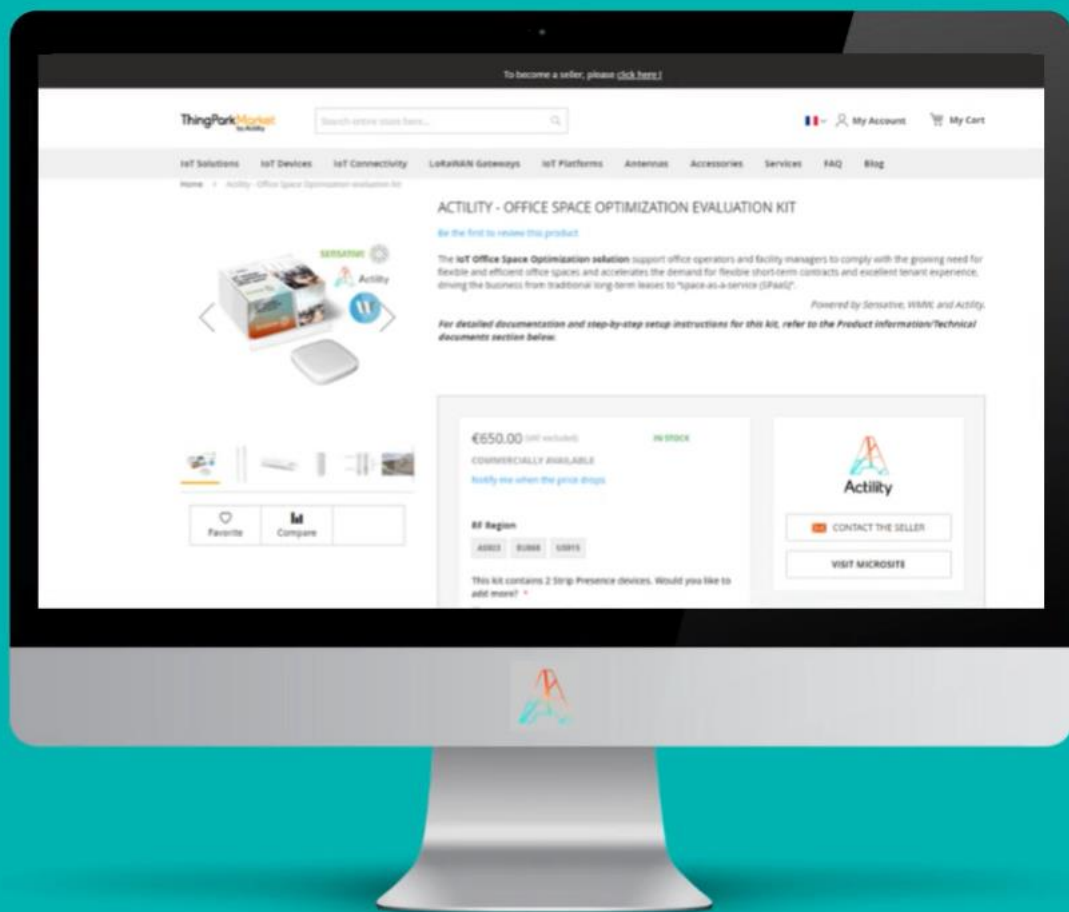
Fredrik Westman

Bert Vanaken

Shmuel Solomon



Buy this IoT solution on ThingPark Market!



Scan & buy!



Sensitive Strips Presence

Desk occupancy sensor

Sensor

- Active IR

Features

- Max range 50 cm / 19 in
- Sensor memory
- Presence based reporting
- Movement based reporting
- Supports +Switch
- Suitable for indoor usage



LoRaWAN[®]
Strips Presence

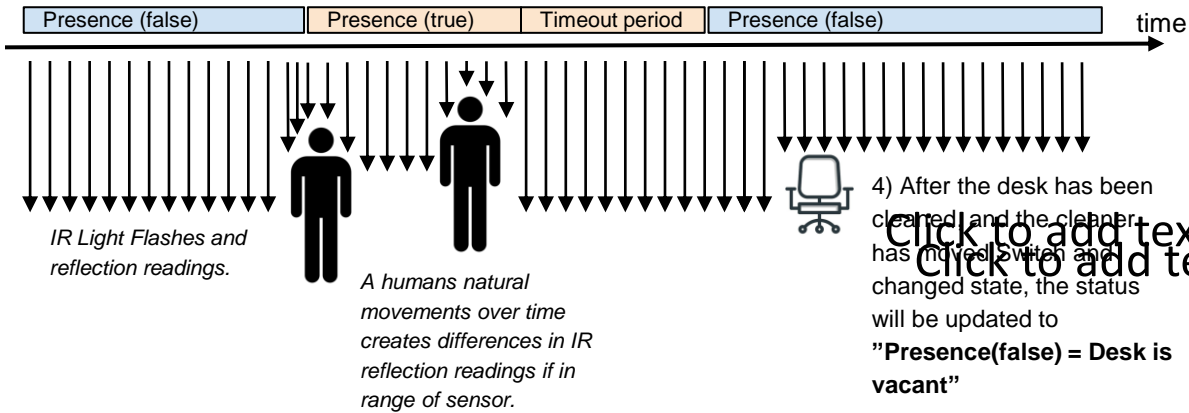
How do you know the desk has be cleaned?

1) Every 1-2 minutes, the sensor checks if the IR reflection changes.

2) If several changes of reflection is detected the sensor halves the interval, and if more changes are seen it reports Presence(true) and goes back to the set interval.

3) If no more change is detected within the *timeout* period, the sensor reports **Presence(false) = Desk is waiting for cleaning/disinfection.**

An application can adjust the timestamp if higher precision is wanted.



Cleaning State

Once a cleaner has reached the desk, and observe the red LED that indicates it is dirty.....



Cleaner engages the slider to the right....



Then back to the left....



This will trigger "Cleaning" mode, where the LED begins blinking orange, and sends the report "Cleaning", indicating the desk is being cleaned, this mode is active for 2 minutes, allowing ample time for the desk to be sanitized.



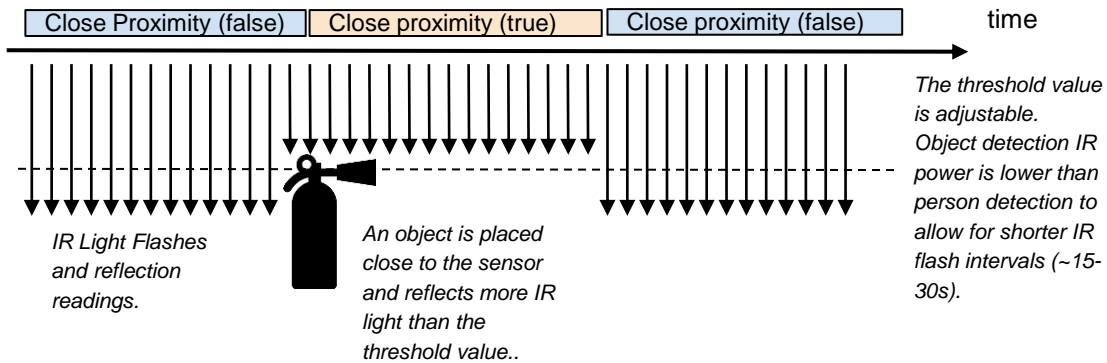
After the 2 minutes are over, Strips will send a report "Clean" and the clean state with green LED begin again.

How to use object detection?

1) Every poll interval, the sensor checks the amount of IR reflection.

2) If reflection exceeds the threshold value, the sensor reports close proximity as true.

3) If reflection again changes to lower than the threshold the unit reports close proximity as false.



Note: Strips Presence +Switch standard use-case is the "desk-occupancy" and/or "clean-desk" for office optimization. Strips Presence can be configured for near-field object detection and asset management of office equipment or theft alarm for valuable items. To use the Strips Presence for object detection it needs to be integrated to a separate application before it can be put in use.

When you configure the device to "object detection" the active IR sensor detection area is smaller (approximately 10cm (4"), 20° angle) compared with the normal desk occupancy mode.





STRIPS MULTI-SENSOR +GUARD

Open/close monitoring

+GUARD PROFILE

- Magnetic contact sensor
- Tamper alert

FEATURES

- Sensor memory
- Time based reporting
- Deviation based reporting
- Alarms
- Supports +Switch
- Suitable for in- & outdoor usage



Explore the multiple dimensions
of innovation, design, and IoT
with Sensative sensors



STRIPS MULTI-SENSOR +DRIP

Water leak detection

+DRIP PROFILE

- Water leak (capacitance)
- Temperature

FEATURES

- Sensor memory
- Time based reporting
- Deviation based reporting
- Alarms
- Supports +Switch
- Weather protected
- Suitable for in- & outdoor usage



LoRaWAN[®]
Strips MS +Drip

Explore the multiple dimensions
of innovation, design, and IoT
with Sensative sensors



STRIPS MULTI-SENSOR +COMFORT

Indoor climate sensor

+COMFORT PROFILE

- Temperature ($\pm 0.4^{\circ}\text{C}/0.72^{\circ}\text{F}$)
- Light (LUX)
- Humidity

ALSO INCLUDES

- Capacitance sensor
- Magnetic contact sensor

FEATURES

- Sensor memory
- Time based reporting
- Deviation based reporting
- Alarms
- Supports +Switch
- Suitable for indoor usage



Strips MS + Comfort

Explore the multiple dimensions
of innovation, design, and IoT
with Sensative sensors



STRIPS MS +DRIP OIL

Water leak detection

+DRIP PROFILE

- Oil leakage alarm
- Water leakage alarm (capacitance)
- Temperature sensor (+/- 2 °C)

FEATURES

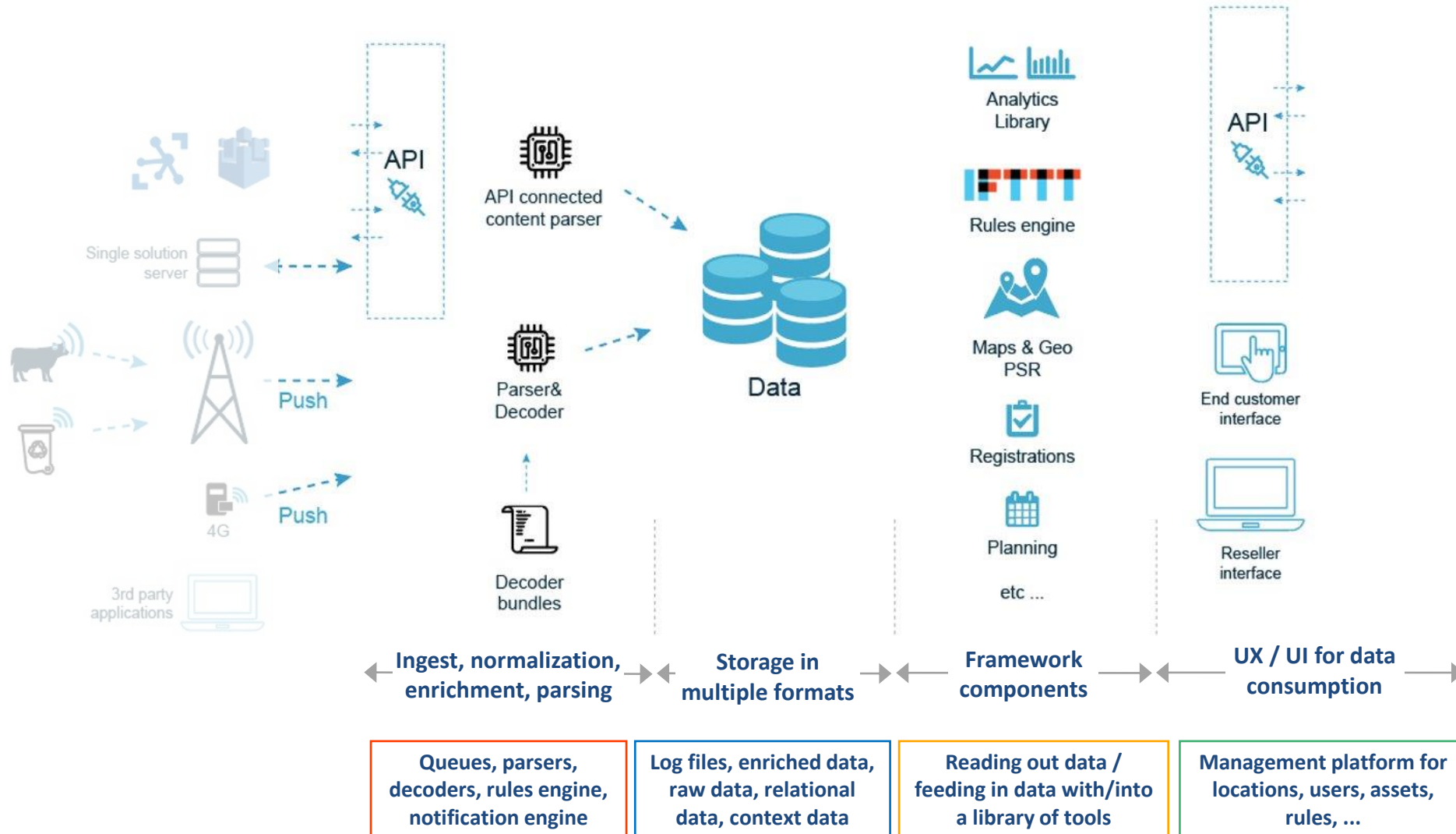
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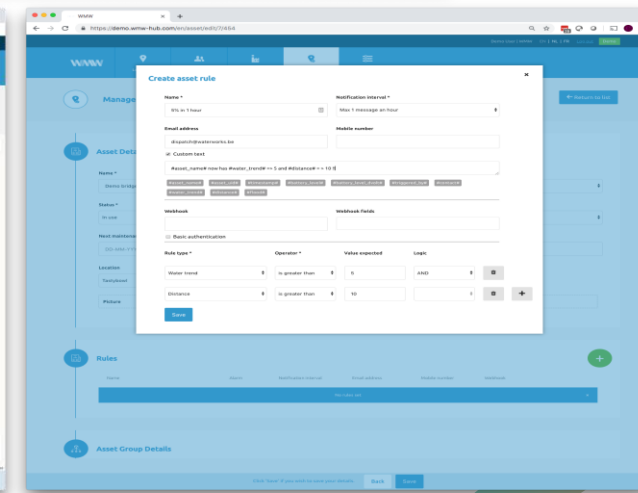
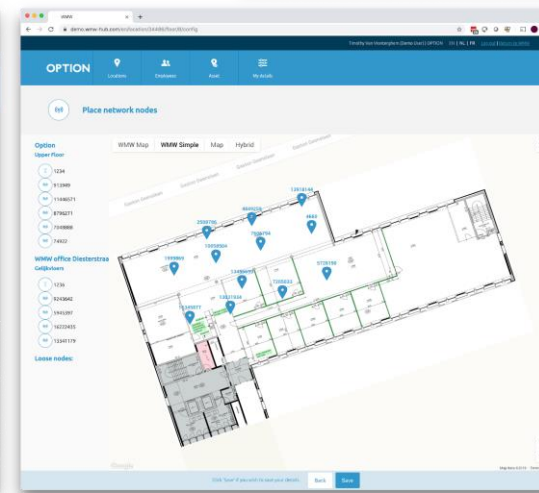
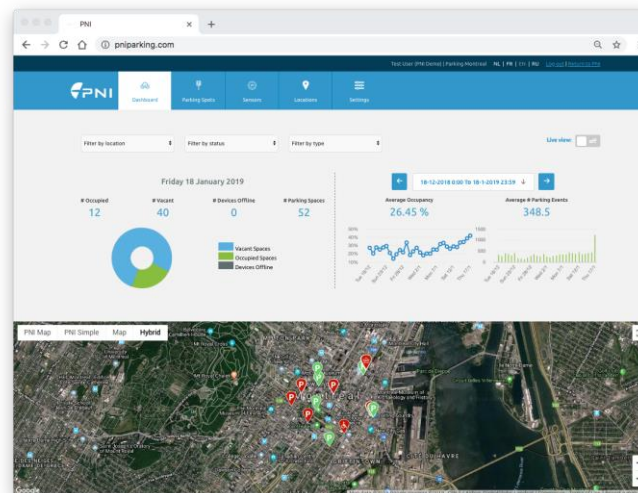
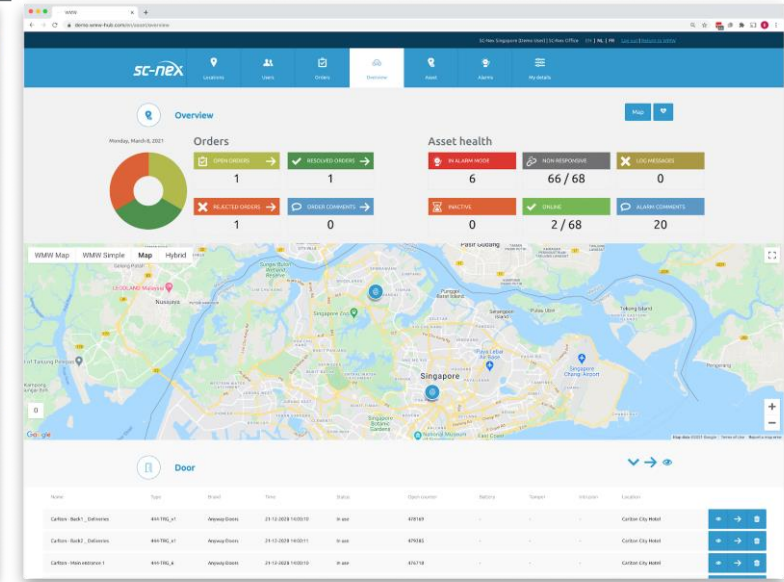
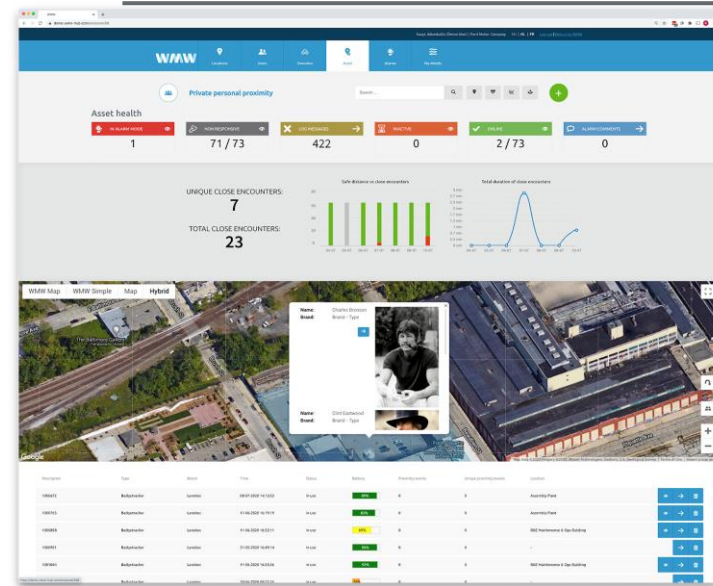
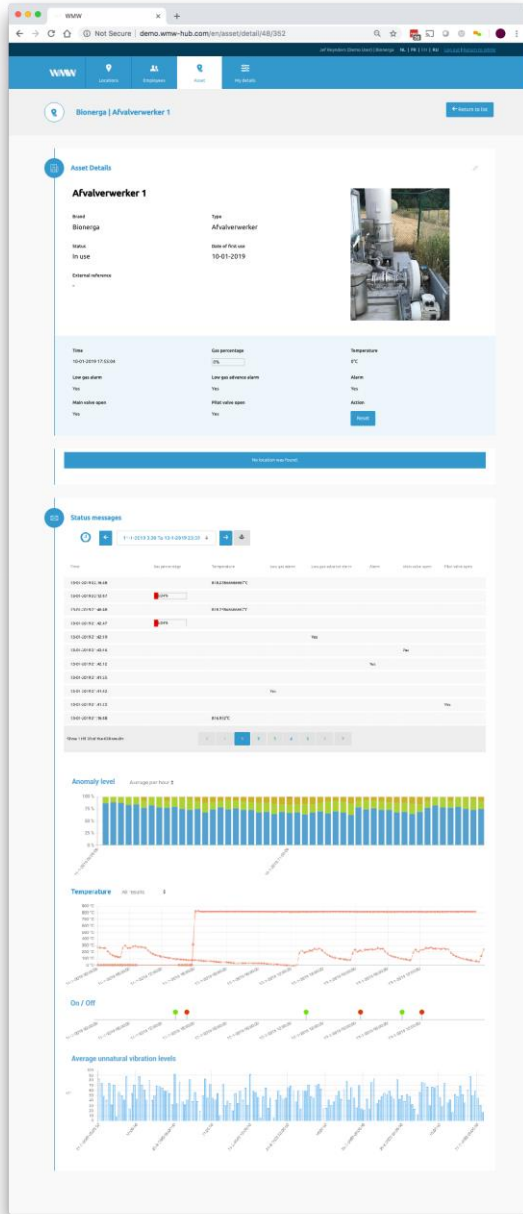
Strips MS +Drip OIL

Explore the multiple dimensions
of innovation, design, and IoT
with Sensative sensors

WMW, part of an end2end solution



WMW, part of an end2end solution





Thank You!

Continue the discussion and contact WMW, Sensative and Actility

Technical and commercial experts directly at:

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Bert Vanaken - bert@wmw-hub.com

Shmuel Solomon - shmuel.solomon@actility.com