Smart Buildings: From hype to value

MCS AND ZOODIKERS - FACILITIES SHOW, JUNE 22

Introductions

Katie King

- Managing Director Zoodikers
- Co-Founder AlinFM
- 25 years at top level in marketing, PR & social: ISS, PHS Group etc
- TEDx speaker - Chairperson of PRCA's South East/E. Anglia Group
- Frequent speaker for BBC (social media) and high profile industry events

Steven Lambert

- COO MCS
- CAFM and Smart Building technology provider across Real Estate, Workplace and FM
- Frequent speaker on Real Estate and FM :
  - European FM conference
  - MIPIM, France
  - Inserv FM, Germany

Adapting to a changing world

Robots set to replace workforce as AI to ‘eliminate’ all human work by 2040

Robots and artificial intelligence will have almost entirely replaced human workers within just 20 years, a world-leading expert on the subject has claimed.

Rwanda to start using drones to supply vaccines, blood in August

FACEBOOK TWITTER GOOGLE+ LINKEDIN

AI in the FM industry

#AIinFM

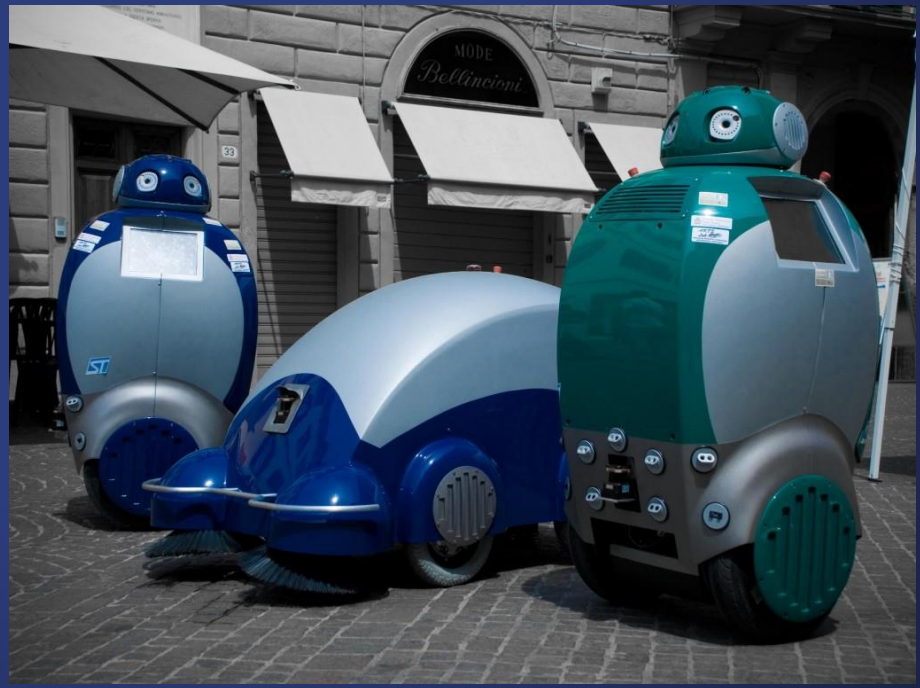
The drones are coming

Front of house actroids

Floor cleaners

Catering

Cleaning and waste disposal



The impact

- **Employment/unemployment –** large-scale lay-offs in manufacturing from more advanced automation and robots.
- **Health, safety and security –** increased protection from harm for workers, pedestrians and vehicle drivers.
- **Healthcare –** more and more routine surgical procedures performed by robots, reducing waiting lists.
- **Education –** reduced need for university teachers and **administrators.**
- **Transportation –** more driverless cars, trucks, buses and trains.

How can you respond today?

*my*MCS software solutions

MCS Insight. Impact.

Integrated Software and Advisory *for* Real Estate, Facility & Workplace Management

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Zoodikers

*my*MCS Smart Buildings

Some references

New and afforable technologies for Smart Buildings

Wireless sensors
- Affordable
- Easy to deploy
- Low implementation cost

Indoor positioning
- Accurate
- Multi-purpose
- Easy to set up

Big Data Analytics
- Descriptive – Predictive – Prescriptive
- Machine learning
- Connecting to existing data

Examples of sensor types

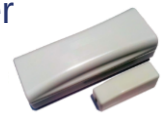
Temperature

CO_2

Humidity

Presence
Occupancy

Door counter



Traffic flow*

Positioning**

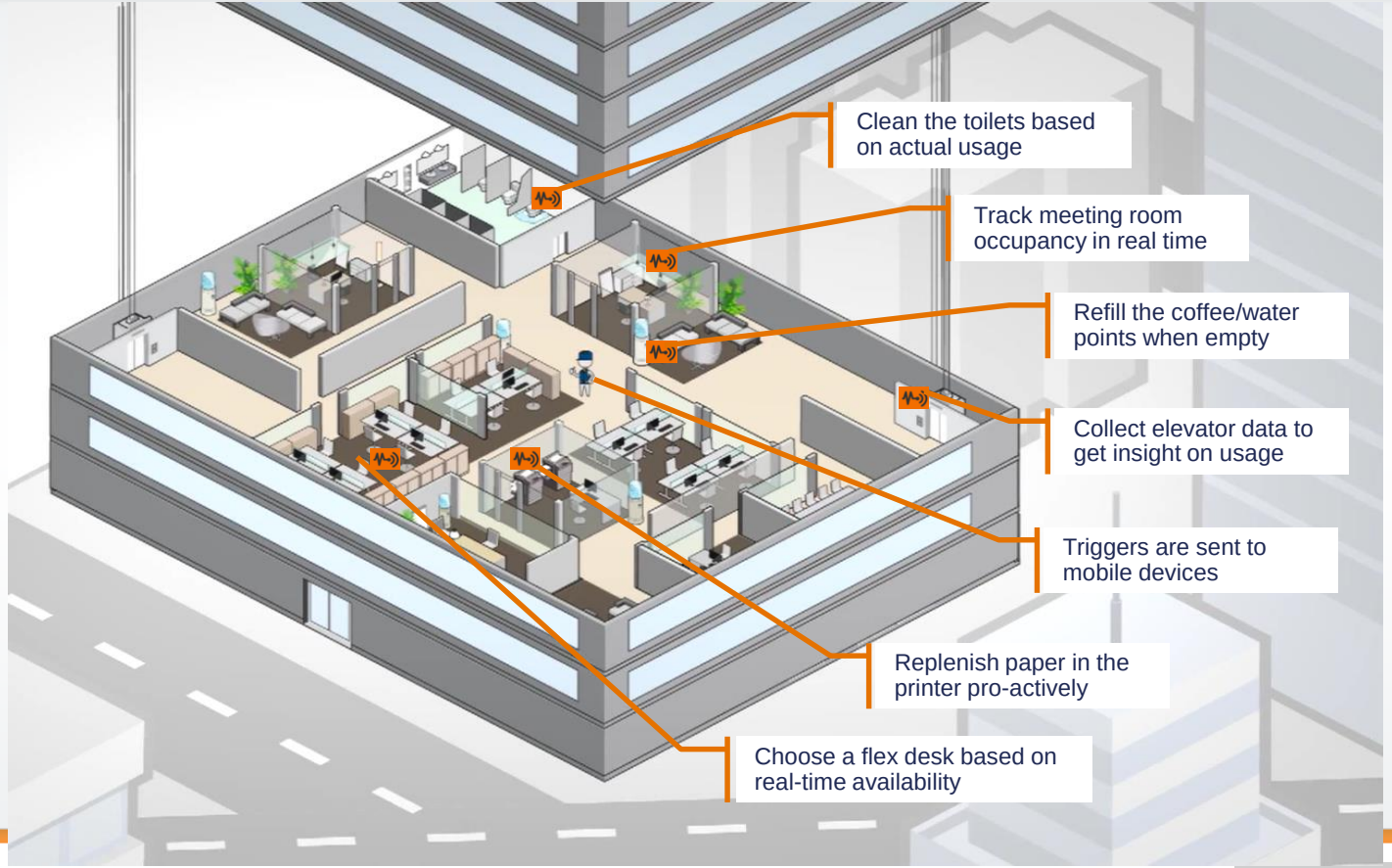
Electricity
Consumption

Parking

Smoke

Mostly based on LoRa wireless
* Camera powered by ethernet
** Beacons w. tags or smartphones

Start with the end in mind : Top scenarios



Smart Building

Sensor Network

USER SATISFACTION
- FEEDBACK POLLING

OCCUPANCY
- PRESENCE / OCCUPANCY
- TRAFFIC FLOW
- DOOR COUNTER
- PARKING

ENERGY METERING
- ELECTRICITY
- GAS
- WATER
- WASTE

POSITIONING
- POSITIONING

WELL-BEING
- TEMPERATURE
- CO_2
- HUMIDITY
- SMOKE

USER OUTPUT
- IMPROVEMENT INITIATIVES
- END USER APPS
- KIOSKS

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Sensor network

OCCUPANCY

- PRESENCE/OCCUPANCY
- TRAFFIC FLOW
- DOOR COUNTER
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USER SATISFACTION

- FEEDBACK POLLING

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WELL-BEING

- TEMPERATURE
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- SMOKE

Big data platform

OTHER INPUTS

- CAFM/IWMS
- PERFORMANCE BENCHMARKS
- 3RD PARTY DATA
- ACCOUNTING
- BMS
- CAD/BIM

ADVANCED ANALYTICS

- DATA VISUALIZATION

USER OUTPUT

- IMPROVEMENT INITIATIVES
- END USER APPS
- KIOSKS

Case 1 : Cleaning

BASED ON OCCUPANCY AND TRAFFIC

Transforming the most labor intensive FM service :

- **INPUT :** Cleaning hours
- **OUTPUT :** Follow the fixed program with expected quality
- **OUTCOME :** Satisfied end user

Case 1 : Cleaning

Direct the daily cleaning capacity where needed

Traffic camera
Occupancy
Mobile app

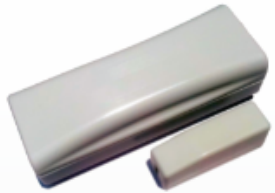
Detect poor quality from user feedback

User polling

Ad hoc requests from users

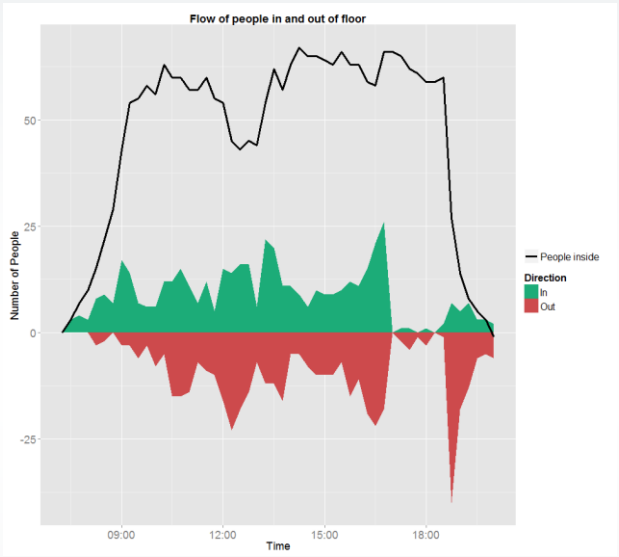
Clean-me-now button

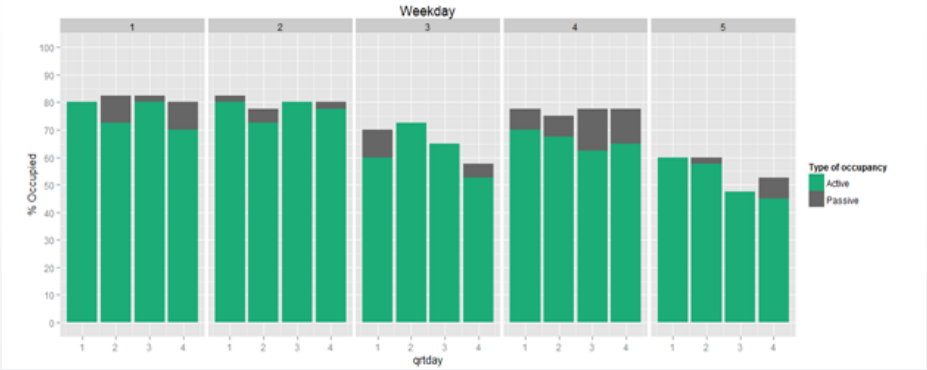
Trigger intervention based on usage frequency



Door counters

Case 1 : Trigger cleaning based on floor and room occupancy





Assign cleaning tasks through mobile devices using sensor data

Case 1 : Trigger cleaning based on floor and room occupancy

Benefits

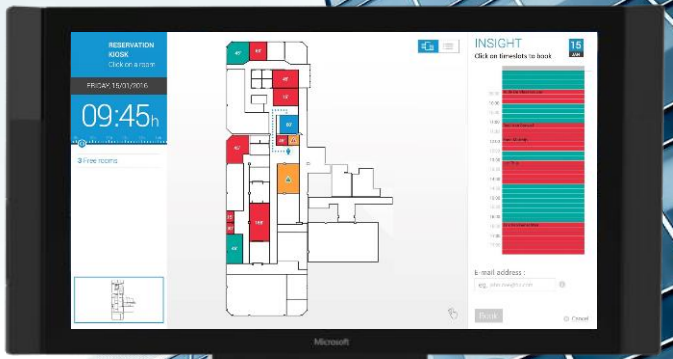
Users	• See impact where most needed • See responsiveness to specific demands
Cleaning personnel	• Feel connected to the business • Less repetitive
Facility Manager	• More value for cleaning budget

Case 2 :
Workplace reservations

OCCUPANCY DRIVEN

Case 2: Reservation Kiosk

- Meeting rooms and workplaces
- Real time occupancy
- Integrated with reservations
- Touchscreen interaction



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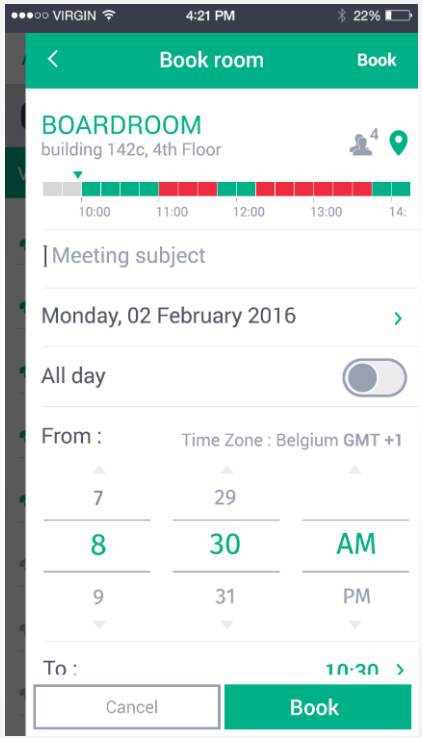

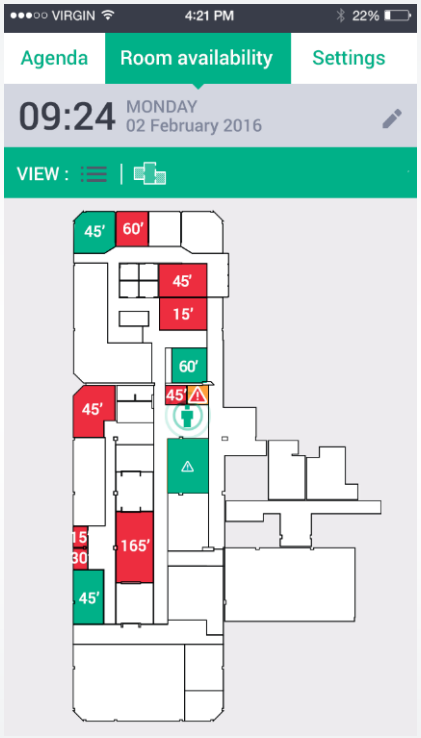

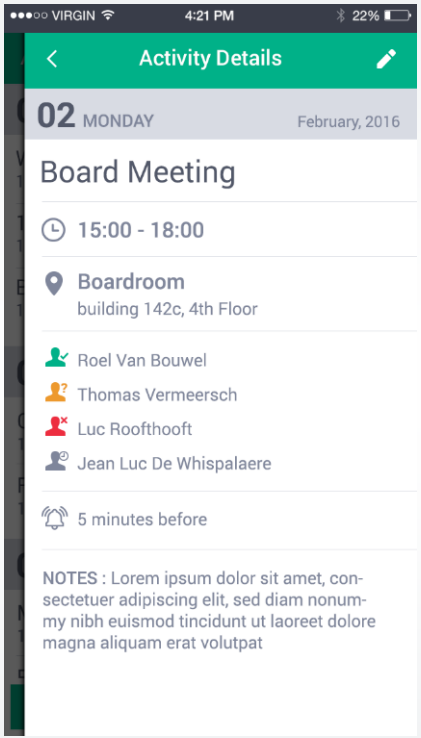

Benefits

Users

- Avoid walking to find room
- Activity based working – find the room that fits

Workplace Manager

- Optimize occupancy
- Avoid booked rooms that remain empty

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