



## Smart & Connected Buildings

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From the connected building to the  
« Building as a Service »

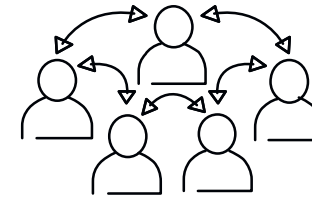
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2018

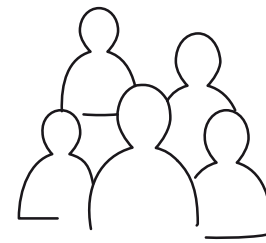
# The challenges of corporate real estates



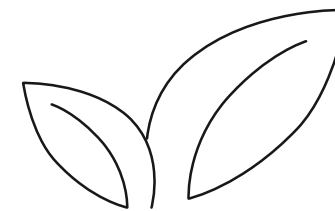
**Lower costs**



**Increase team performance**



**Attract and retain talents**



**Reduce the environmental footprint**



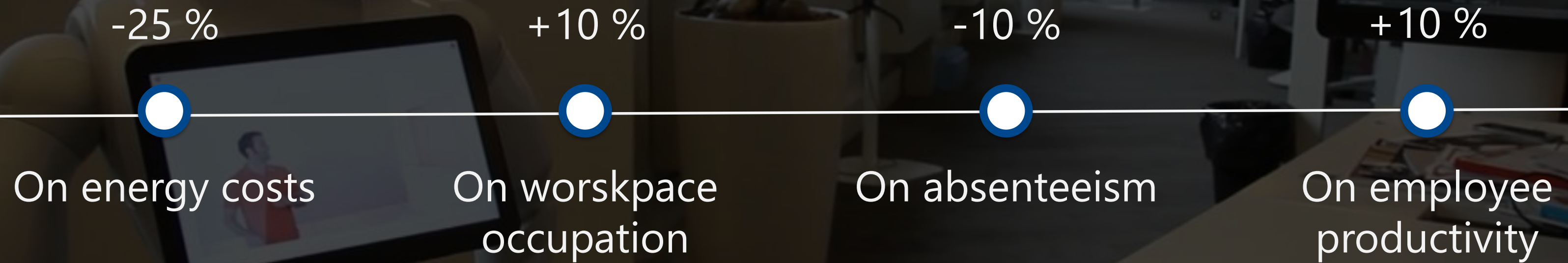
**Improve brand image**

# A global approach for the real estate programme



By addressing the issue in its entirety, the company creates the conditions to enable its employees to contribute to the creation of value

Adopting this approach helps to contribute to the performance of the company



# "Building as a Service" contributes to the reduction of the energy footprint



Juliette  
Employee



My need : easily access to all kind of services and information

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Locate myself and be guided

Get building information and news

Find or book a workspace

Meet other people

Report dysfunctions

Share events

Access to services : catering, concierge,  
carpooling, public transports,  
sport, ...

Marion  
Real Estate Manager



My need : space planning, comfort, and safety

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- Optimize space occupation
- Analyse occupants requirements
- Fluidify people flows
- Optimise facilities
- Check confort conditions
- Reduce energy costs
- Ensure the safety of the building and the occupants

# Martin

Facility Manager



My need : management of building services and facilities

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Provide new services to occupants

Ensure occupants satisfaction

Manage dysfunctions

Reduce maintenance costs

Control energy

Manage waste and cleanliness



## Juliette

Would like to ease her daylight activity at work



Juliette uses her mobile app every day in the company for her preferred services:

- Indoor location
- Concierge services
- Room finder & booking
- Restaurant info



Juliette rides her bicycle to work. She gets a tire break upon arrival. Through the app, she orders repair service thanks to the **concierge services**.



At the lobby Juliette checks in the app the live news : a maintenance operation is happening at her usual floor : she checks for availability on 5th floor and she books a room in the app



She uses the app to check-in the office seat and she then walk to it thanks to the indoor alternative way finding service.



## Martin



She gets a call from **Martin** who is still in transports and hopes to prepare the meeting for the afternoon.

**On the go**, on the app, Juliette finds a **huddle room available for 6 people on her floor** and goes to it.

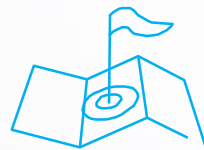


Entering the room, the apps **automatically reserves the room**.

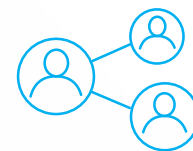
Juliette has bluetooth enabled and allowed for her position sharing and automatic room reservation as she enters and confirms.



Juliette now needs to refill her restaurant account as she wants to invite Martin for lunch. Martin will meet her on her way to go to cafeteria together.



Juliette sends the demand to him for meeting, which he accepts sending back his position in the building. Juliette follows the itinerary to meet Vincent



As she looks at the app, she realizes that her colleague **Marion**, although not known to her, offers carpool services on his way back home, closeby her place.



## Marion



At the end of the day, Juliette considers a carpool transport. She can select and find someone through her mobile app.



As Juliette suffers from knees, she prefers to take the lift through an alternative way that her mobile app proposes when switching her profile settings accordingly.



We have designed a global service platform and applications for the stakeholders of the building

Occupants

Real estate

Facility  
managers



# A comprehensive Mobile App for occupants



Floormaps, indoor location, points of interests, routes



Find and book a free meeting room



Find a free bubble



Raise a problem



Timetables for public transport



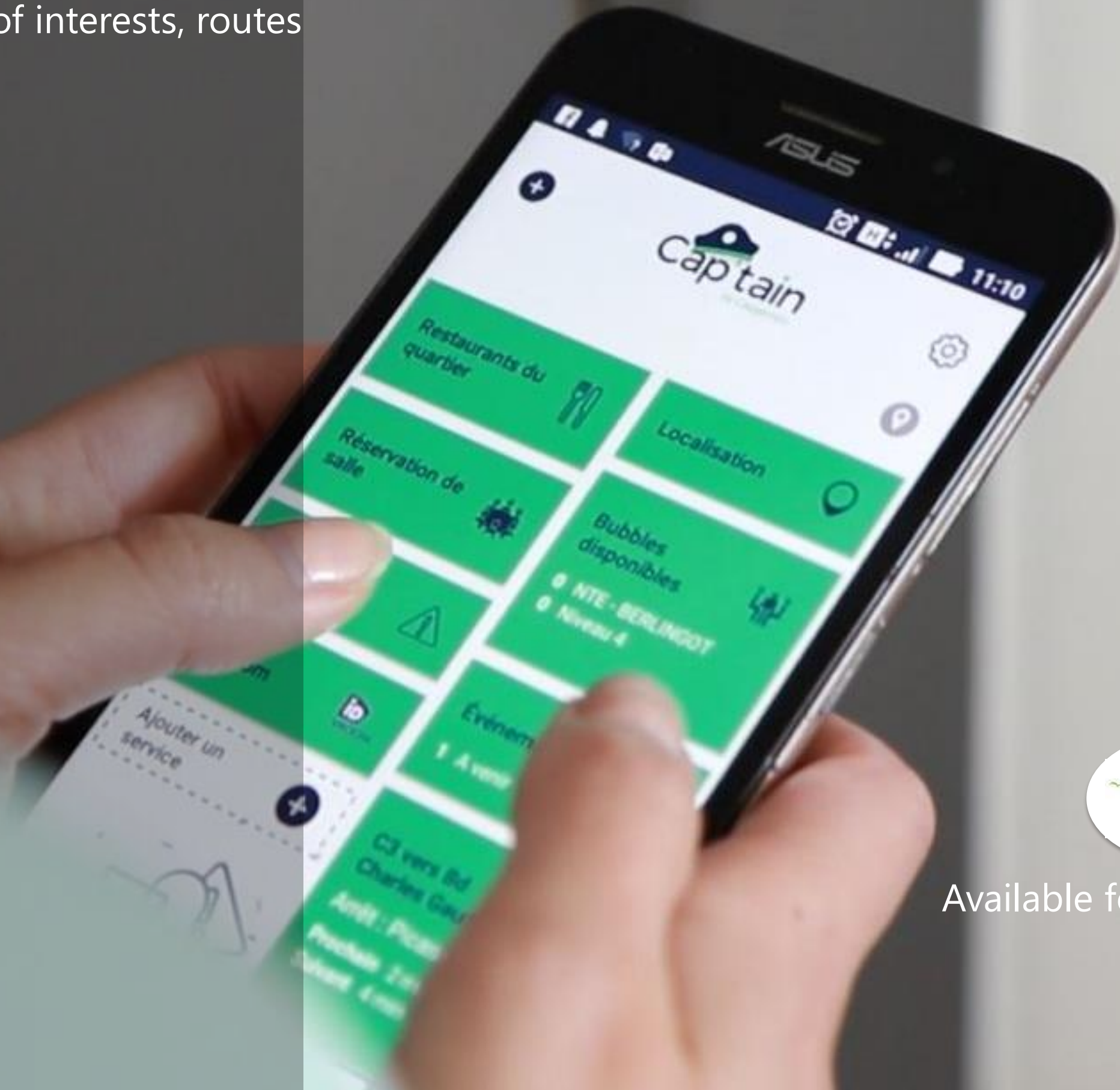
Carpooling



Event sharing



Information about restaurants

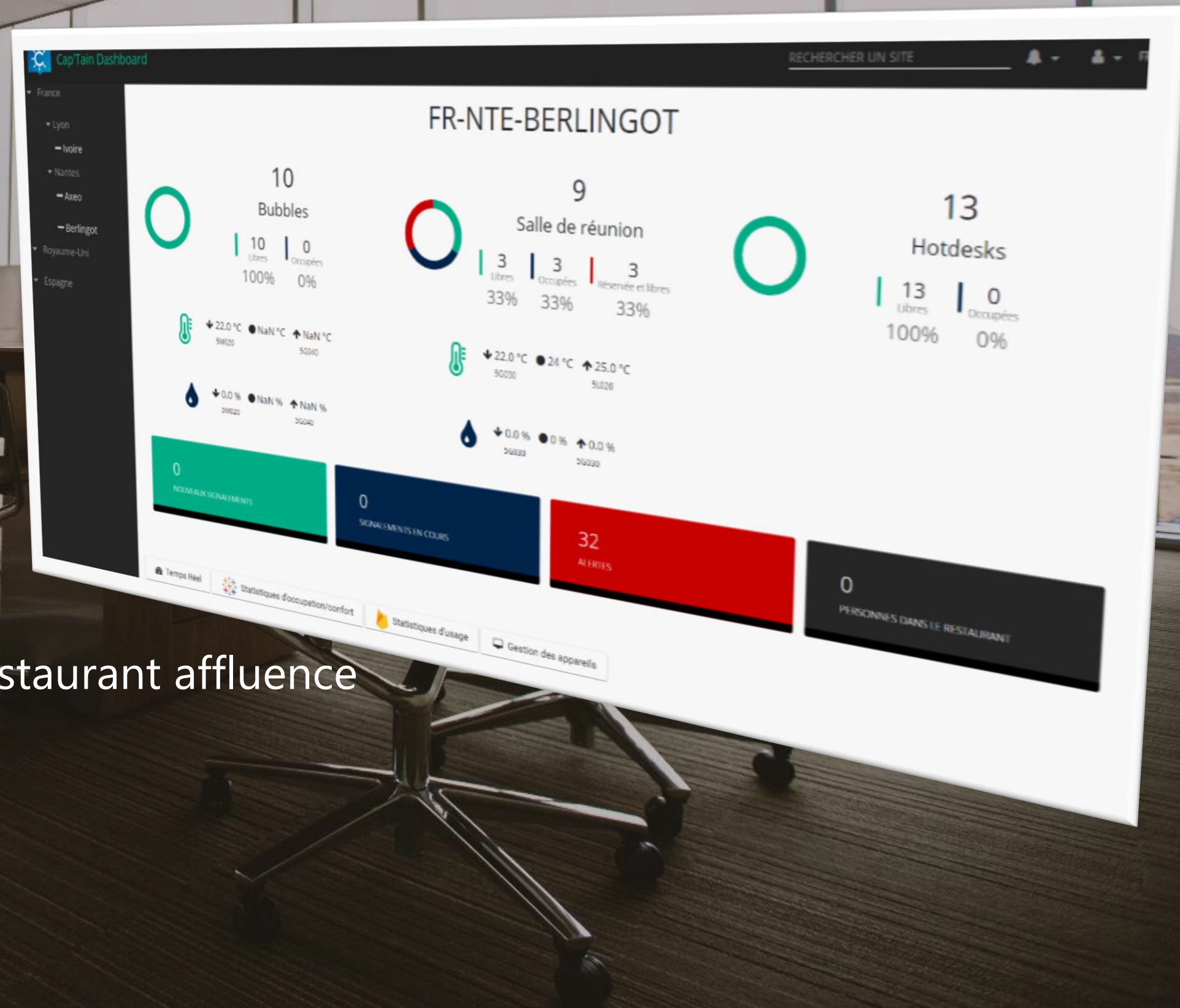


Available for iOS and Android

# Web access for Dashboards and analytics for real estates and FM



- Web application
- Real-time dashboard and analytics for workspaces occupancy and comfort data
- Manages meeting rooms, bubbles, hotdesks, restaurant affluence
- Problem management
- Customizable notifications and alerts
- Device management





# A Smart Building connected framework, ready for customization

Use

Services to occupants



Dashboard and analytics



Manage

Common Connected Framework

API Management & Enterprise Service Bus

User Access Manager

Event Manager

Data Processing

Aggregated Data Repository

Device Manager

Process Engine

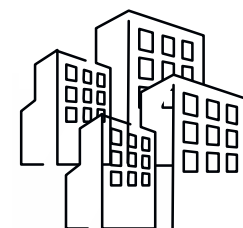
Datalake

IoT Service bus

Generic interface

Other Connectors

Lora Connector



Presence, Temperature, Humidity, Light, Noise sensors.

BLE beacon

Camera for people counting

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Service providers

Catering

Concierge

Fitness

Transports

...

# Capgemini Smart Building Platform – Functional aspects



**Plans, indoor location**



**Room finder, people availability, room booking**



**Live news and communication**



**Incident notification**



**Timetables for transports**



**Carpooling**



**Event management**



**Restaurants around**



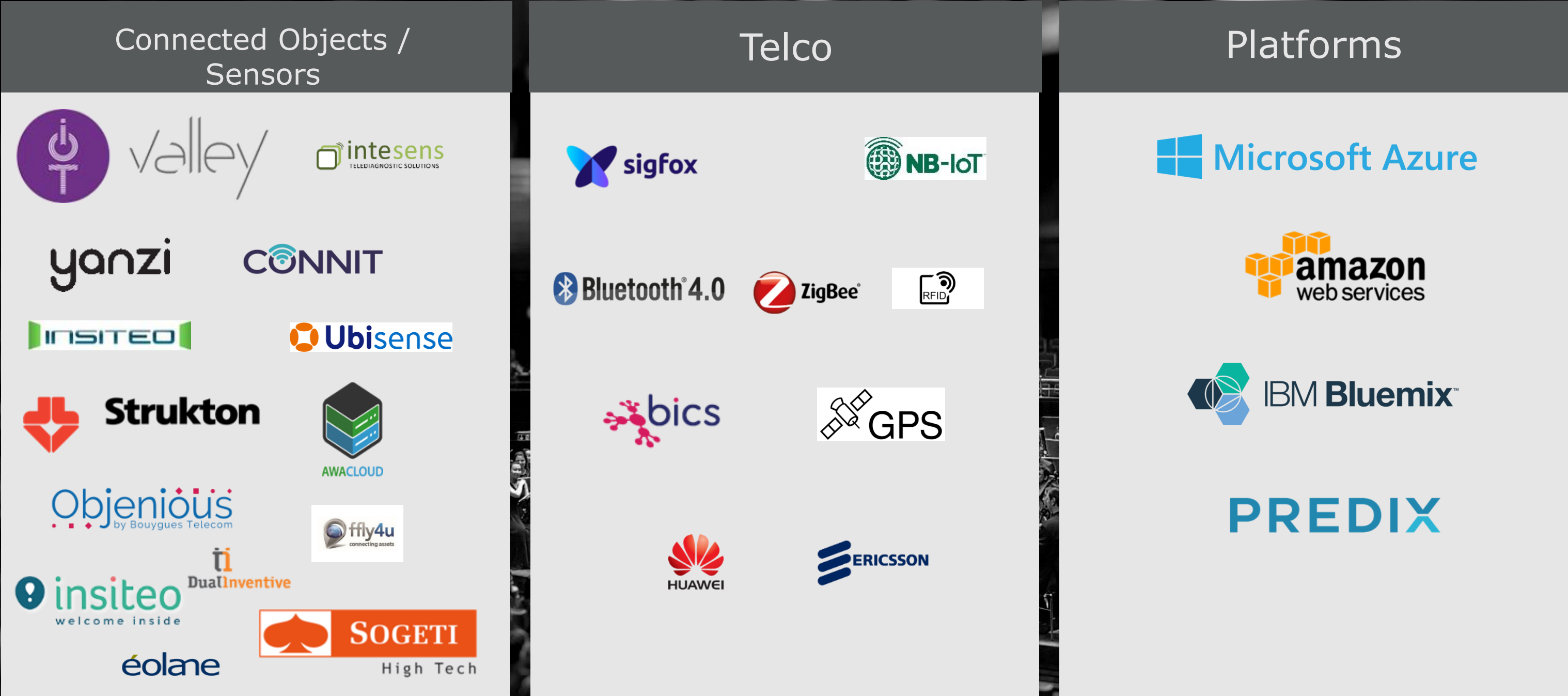
**Visitor guided tour / site information**

	Native approach	Alternate solutions / integration capability
	Indoor location through Insiteo sensors, Map Server	Any standard BLE Beacons (eg Aruba...)
	Presence detection with Yanzi, Microsoft Exchange connectors, Office 365	- Presence detection through Lora, Sigfox, Objenious, Zigbee, Zwave - Standard API management for room booking systems
	BackOffice Capt'ain, Push notifications Firebase	CMS, Push Server
	Incident management with Trello (or Connexion to Planon EMS solution), email notification	- Any API enabled EMS solution, - Any helpdesk/ITSM API enabled solution (ServiceNow, BMC...)
	OpenData connectors to local transports live update database	API based, External application (deepLink)
	Native connection to standard applications (ex France IDVroom)	API based, External application (deepLink)
	Pushed events through native BackOffice portal	CMS, Agenda (Google...)
	Point of Interests (POI) mapping solution integrated with Google Map	API based, External application (deepLink)
	Information management with native UI within Capt'ain BackOffice, including way finding, AR integrated solution	API based, External application (deepLink)

# Capgemini Smart Building Platform – Functional aspects

	Native approach	Alternate solutions / integration capability
Service Management, plans & POI management, IOT asset tracking	Back Office Capt'ain Chaine d'intégration Autocad	HPE/Aruba Asset tracking
Security	Android Certificate Pinning SSL	-
User Authentication	Oauth LDAP, SAML V2	-
Application deployment	Private or Public App Stores	Private App Store : Google Enterprise Playstore, MAM and Enterprise Mobility suites...
Crash Reporting	CrashLytics	Alternatives standards

# An ecosystem to assist us on Smart Building & Smart Cities



# The benefits of our solution



# Capgemini Smart Building Platform - Value proposal

Meeting  
your requirements

Packaged with  
flexible IT solutions,  
designed for the  
Connected Building

Integrating a  
steady ecosystem  
of technology  
partners and  
experts

A unique  
user-centric project  
methodology



# Notes

# Your contacts



Pascal Hoguet

Smart city | Smart building – COE Director  
[pascal.hoguet@capgemini.com](mailto:pascal.hoguet@capgemini.com)

Capgemini  
6, rue Nathalie Lemel  
44015 Nantes Cedex  
France

+33 (0) 6 46 20 55 26



Philippe Pierre

Smart building product owner  
[philippe.pierre@capgemini.com](mailto:philippe.pierre@capgemini.com)

Capgemini  
6, rue Nathalie Lemel  
44015 Nantes Cedex  
France

+33 (0) 6 30 59 07 56



Damien Laigre

IOT | Smart building principal  
[damien.laigre@capgemini.com](mailto:damien.laigre@capgemini.com)

Capgemini  
5/7 rue Frédéric Clavel  
92287 Suresnes Cedex  
France

+33 (0) 6 74 35 54 29



## About Capgemini

A global leader in consulting, technology services and digital transformation, Capgemini is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. It is a multicultural company of 200,000 team members in over 40 countries. The Group reported 2016 global revenues of EUR 12.5 billion.

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