



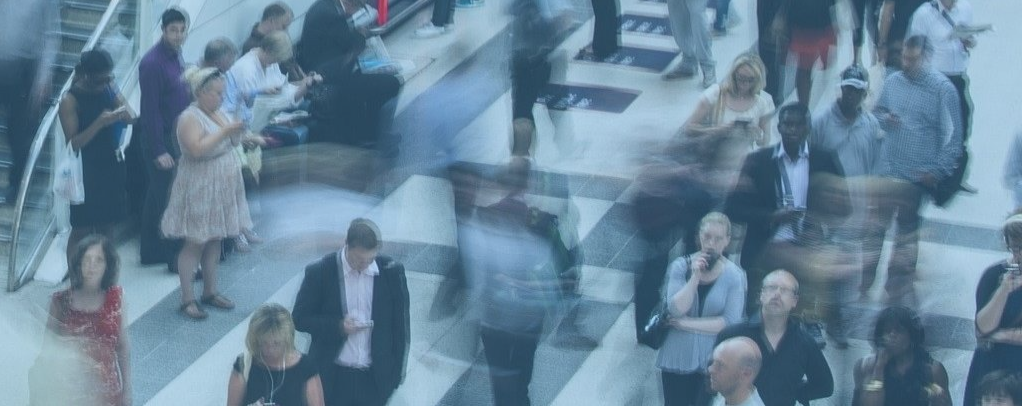
UNDERGROUND UNDERGROUND

London Travel Information

Buy or top up your Oyster card here



CROWDSCAN
THE FUTURE OF CROWD ANALYTICS





**Top15
IoT Innovator
13th IoT
Innovation
World Cup®**



“THIS IS THE FIRST
TECHNOLOGY THAT
PROVES THE REAL
SITUATION.”



CROWD·SCAN
THE FUTURE OF CROWD ANALYTICS



“We were searching for a non-intrusive technology to count the visitors in our shopping streets. CrowdScan made it possible for us to monitor our shoppers on a real-time base.”



Sofie Bracke
Deputy Mayor of Ghent for Economy and Digitalization



“CrowdScan is best equipped to measure crowd density in specific zones. Each zone can be further divided into subzones, enabling us to perform even more detailed crowd analyses.”

Lode Nulens
IT Manager City of Bruges



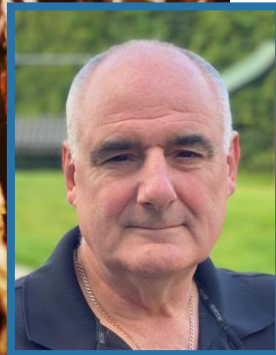
"CrowdScan gives us a unique method to measure crowd density using wireless sensor technology that utilizes low-energy radio waves. This method can be applied to any type of area without the need for cameras, Bluetooth, Wi-Fi, or mobile devices"



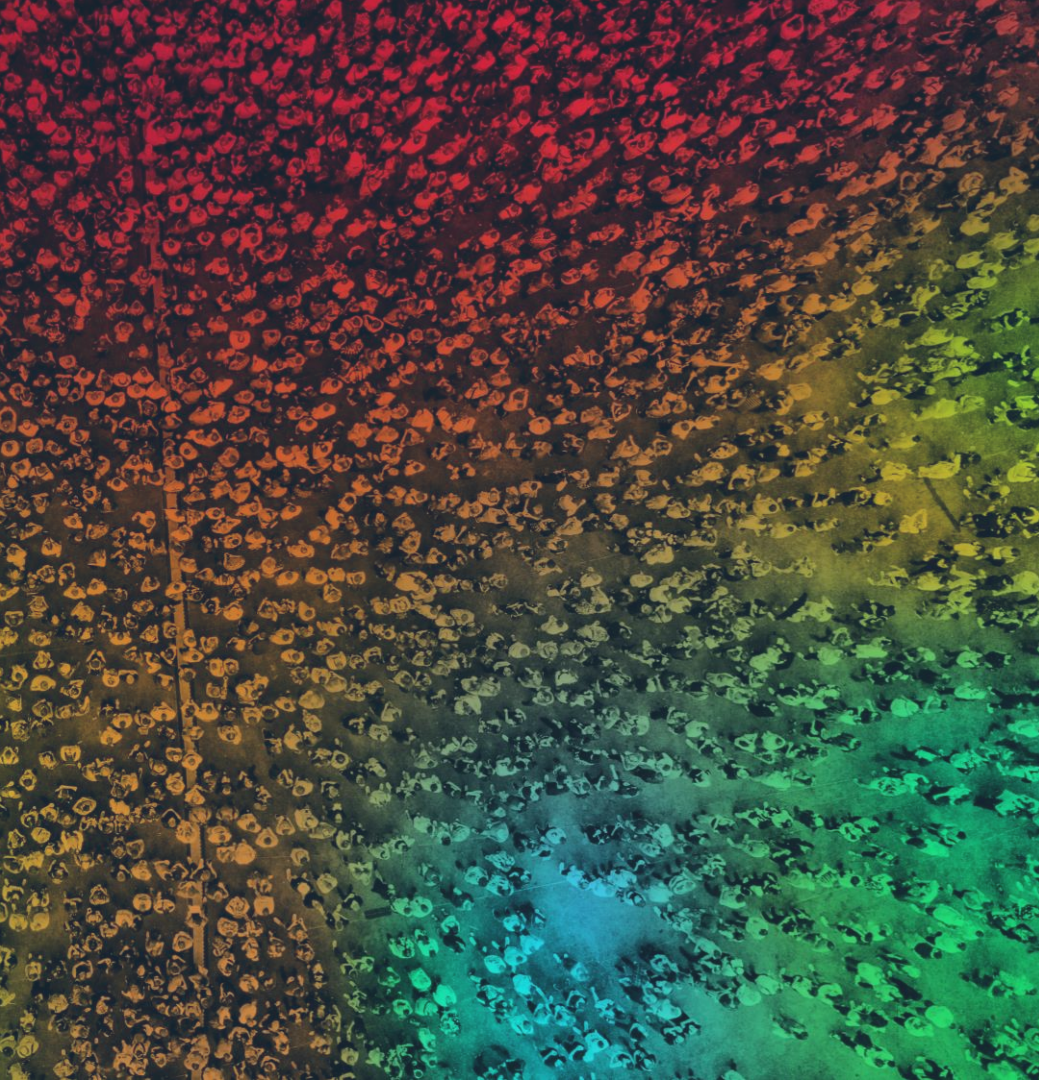
Enzo Castiglio Moreno
Head of Research TRAM Barcelona



“One thing I know for sure, is that reliable crowd monitoring is the right step, in the right direction for crowd risk analysis and crowd safety management.”



Prof. Dr. Keith Still
Visiting Professor of Crowd Science – University of Suffolk
Independent board member CrowdScan



2. WHAT WE OFFER

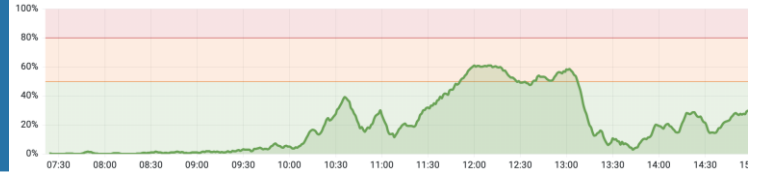
CROWDSCAN OFFERS REALTIME INFORMATION



Alerts

- Send Whatsapp, SMS, email message at threshold x

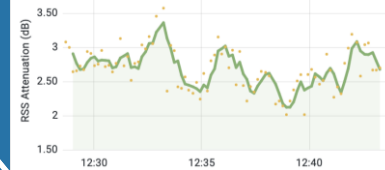
Capacity/Density



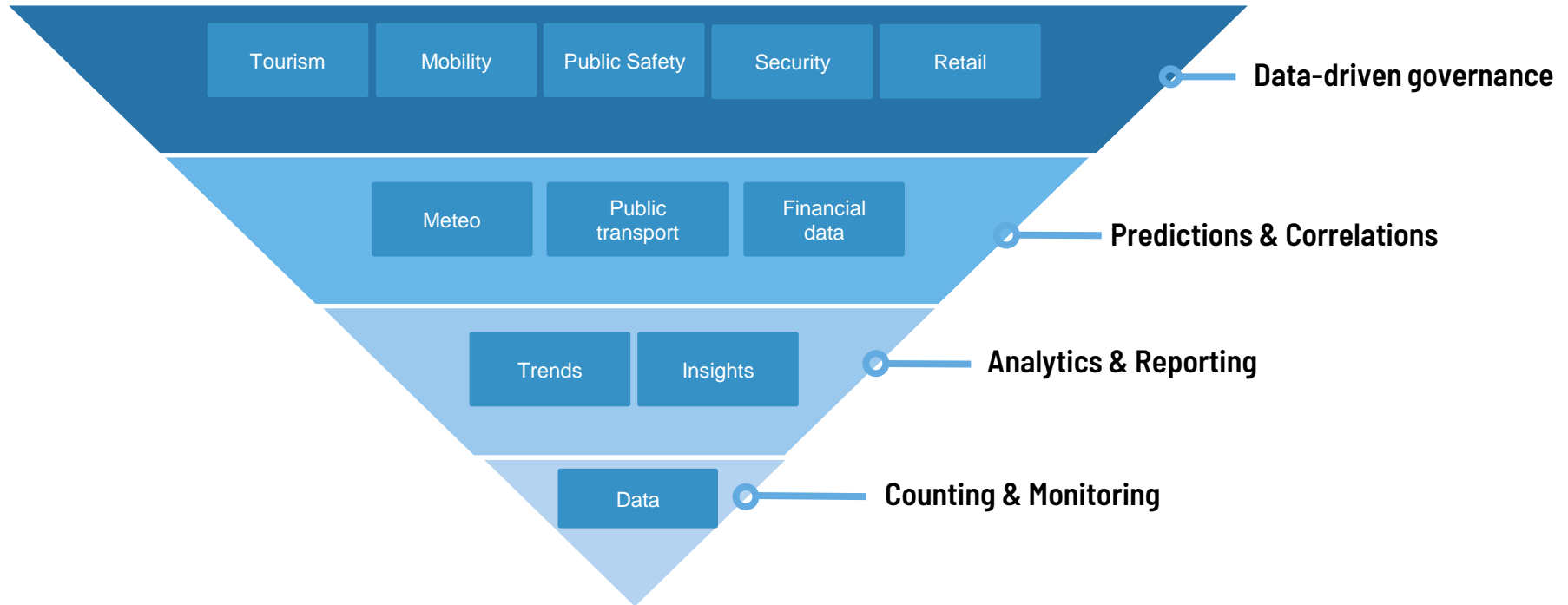
People count



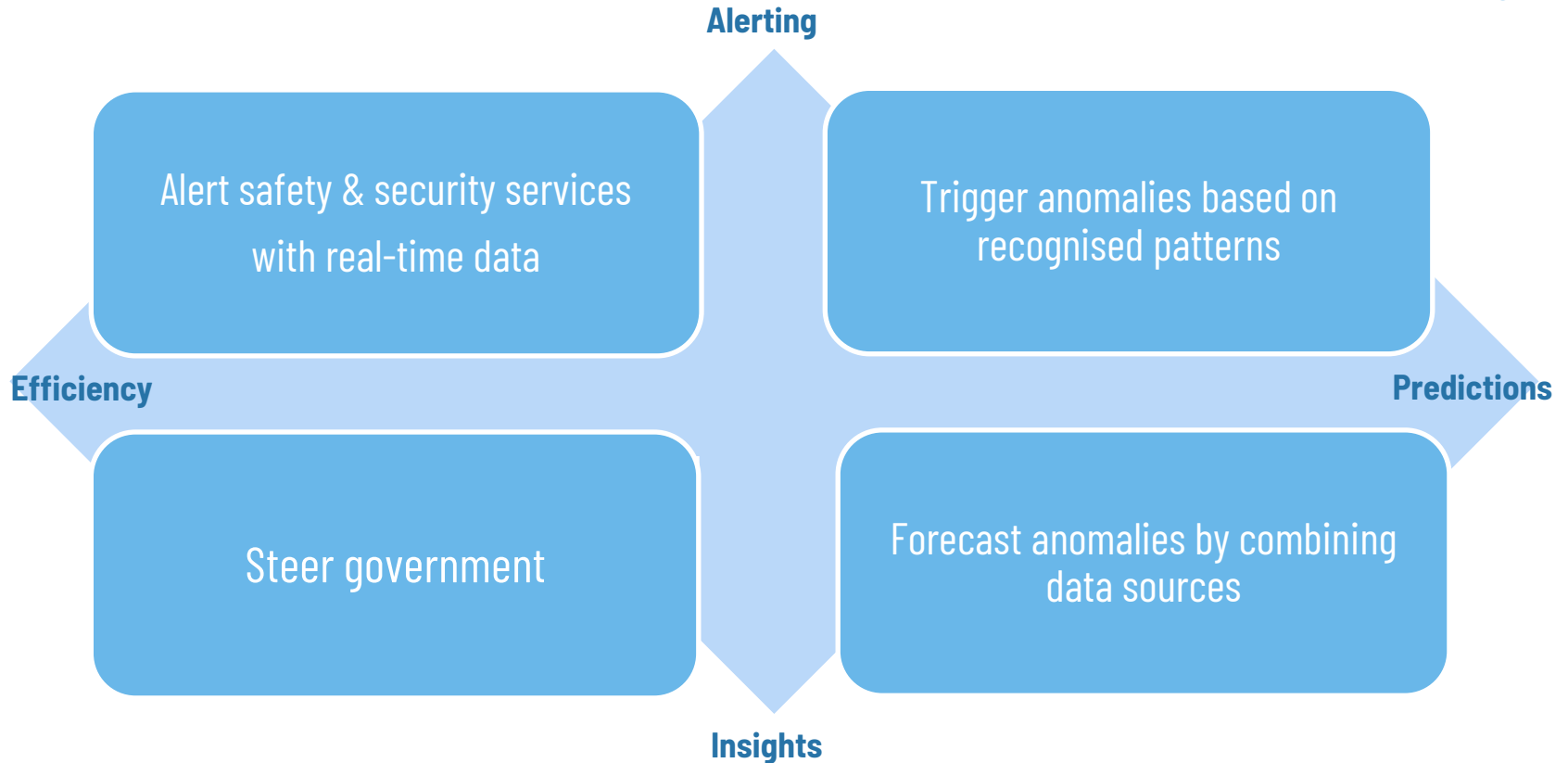
Signal strengths (dB)



... OR IN POST-ANALYSIS TO MAXIMIZE YOUR ROI



WHAT TO DO WITH THIS DATA?



WHO'S INTERESTED IN CROWD DATA?



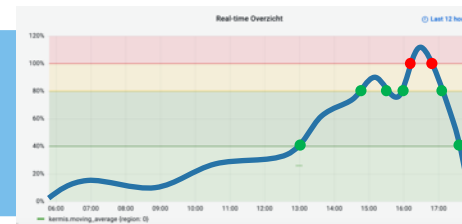
Citizens & Private Partners

- General crowd information
- Real Estate valuation



Public Safety Services

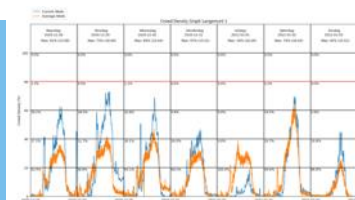
- Staff allocation
- Trigger alerts on defined thresholds
- Monitor people density in real-time



Governments

(city council)

- Historical Data
- Trends & Analytics





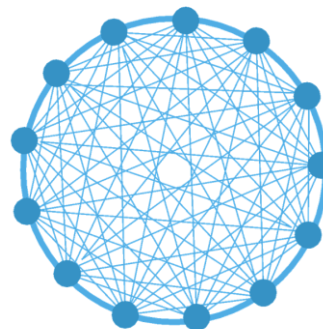
3. HOW IT WORKS



TECHNOLOGY



CROWDSCAN measures the average attenuation of a wireless sensor network relative to the empty environment.



RF Transmission
area with sensors



RF Transmission through body

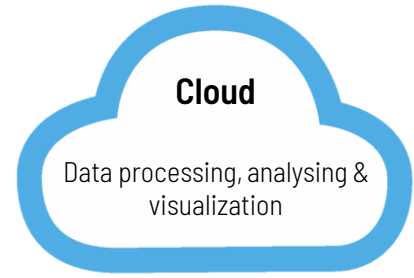
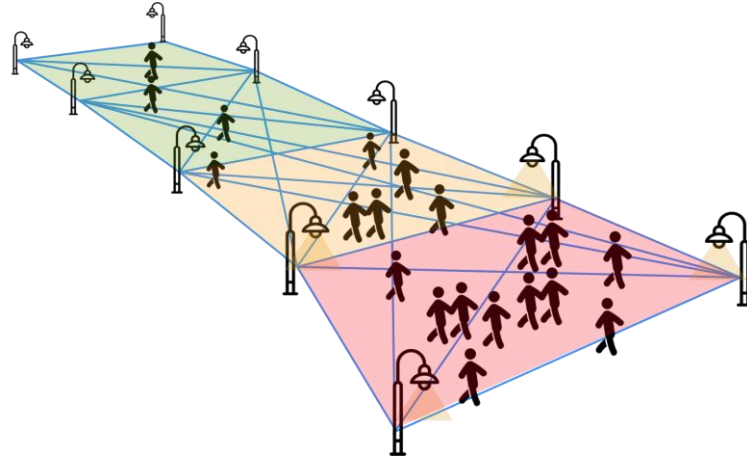


HARDWARE SET-UP



Sensor

Waterproof
Battery-powered
Lifetime: 1 to 3 years
CE/FCC certified



Gateway

Powered Network

UNIQUE COMBINATION OF USP's



Cost-effective



Flexible & Easy-to-install



Privacy-friendly



Real-time



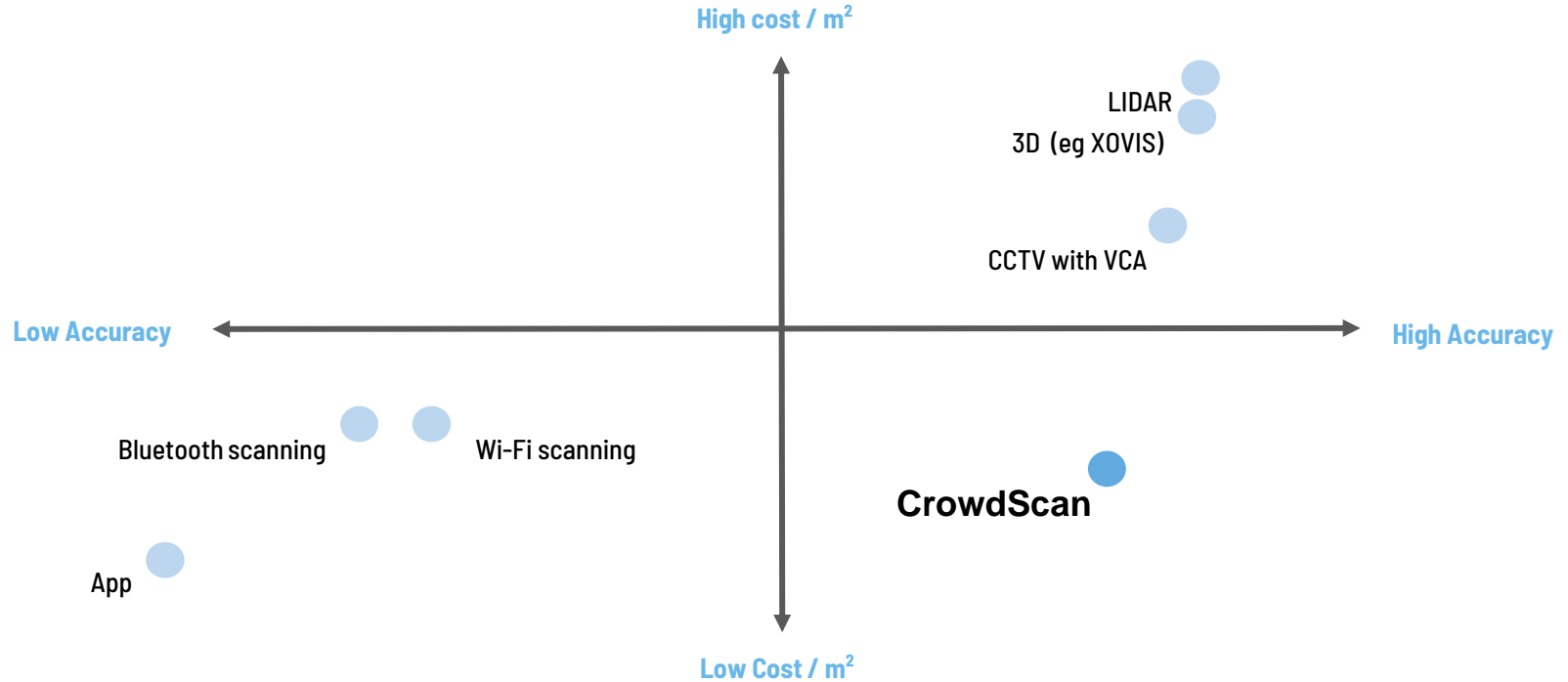
Easy data integration



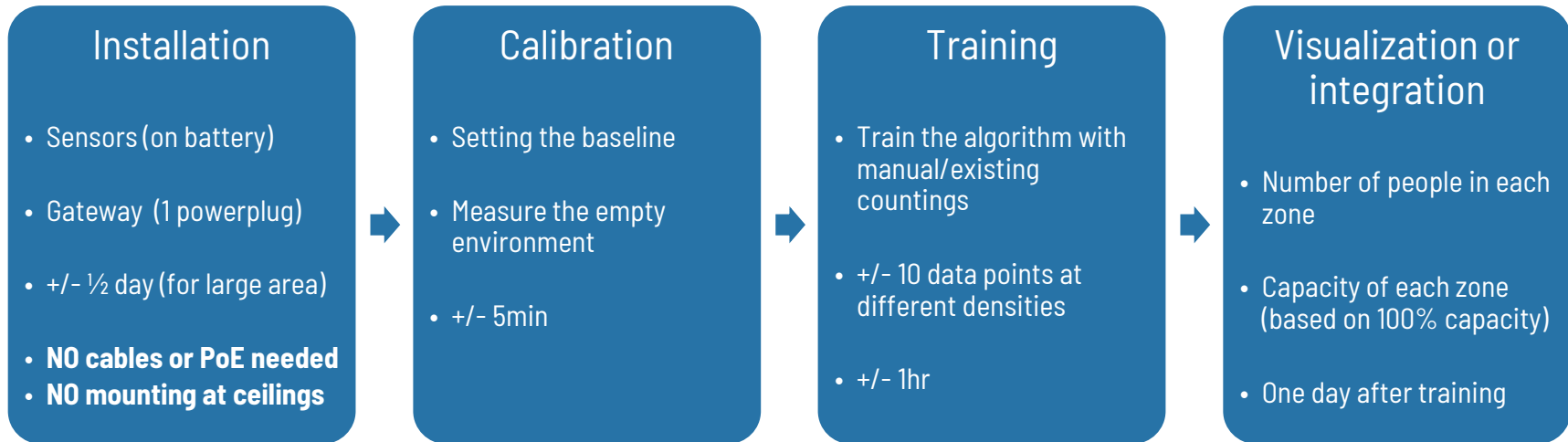
Large zones



TECHNOLOGY COMPARISON (COST vs ACCURACY)



IMPLEMENTATION PROCESS





USE CASES

Image: US Open 2022

ANTWERP: DYNAMIC SIGNAGE BASED ON REAL-TIME DENSITY



GHENT: DEFINE THRESHOLDS AND ALERTS



▼ covid-19 Langemunt en Veldstraat

♥ 80% drempel Langemunt 1
OK for a day

♥ 80% drempel Langemunt 2
OK for 17 hours

♥ 80% drempel Veldstraat
OK for 2 days

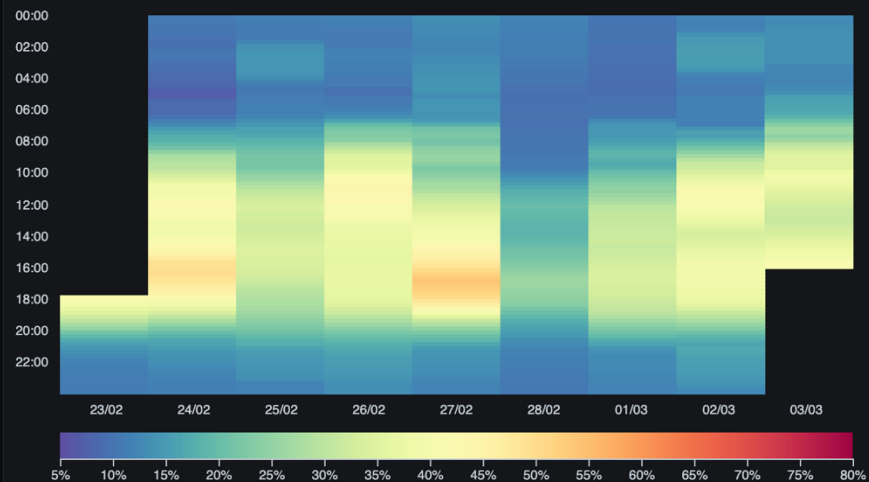
♥ Langemunt deel 1



— 10s moving average

Langemunt deel 1 - 8 dagen historiek ▼

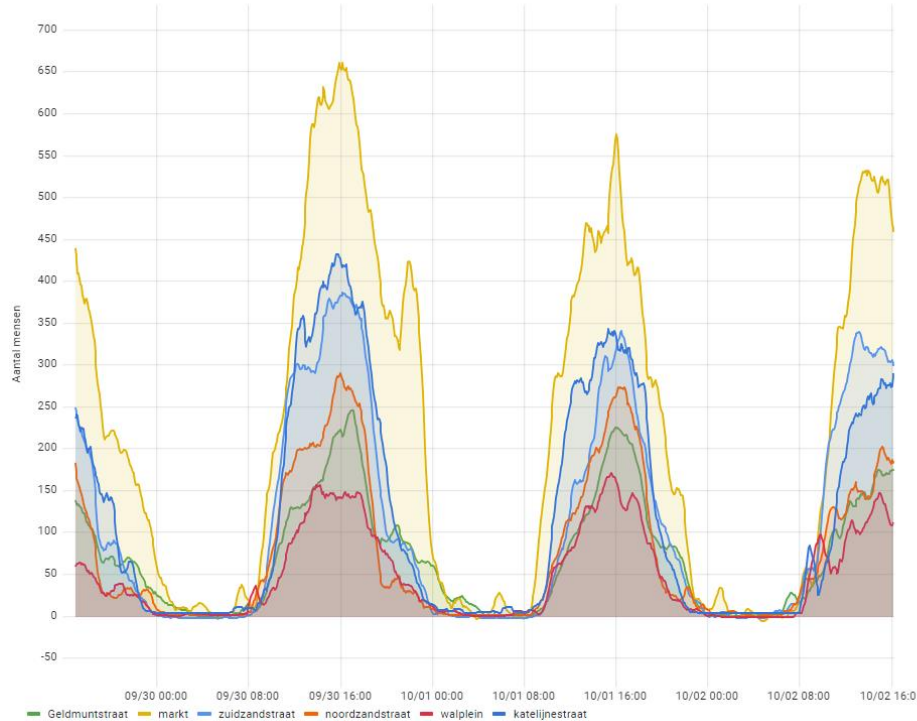
🕒 Last 8 days



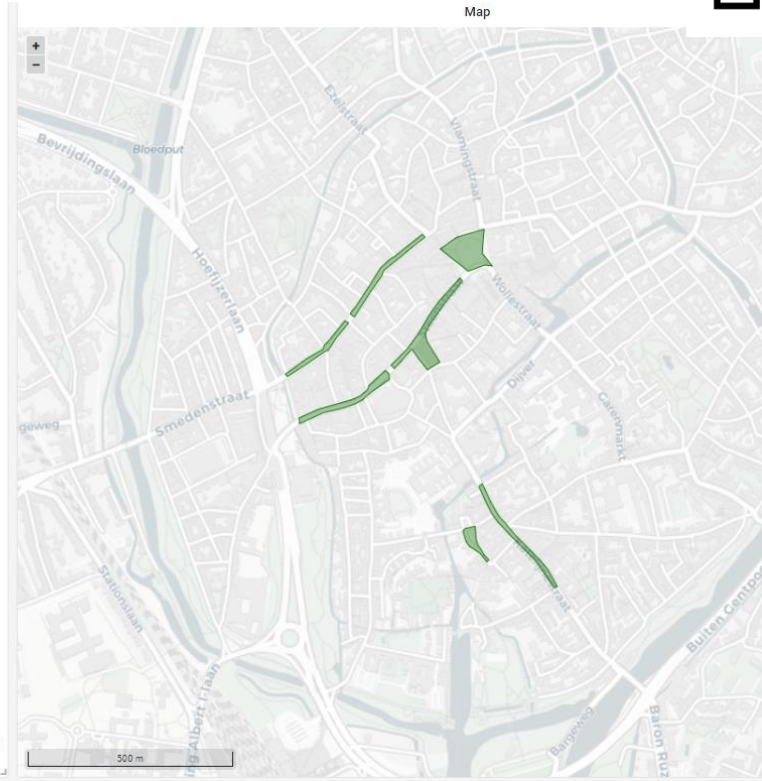
BRUGES: HISTORICAL DATA & REALTIME HEATMAP



Drukke in de binnenstad



Map

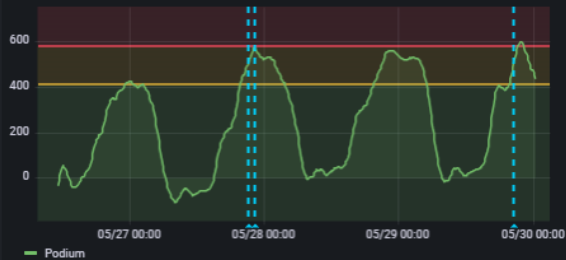


KORTRIJK: SAFETY AT CITY EVENT

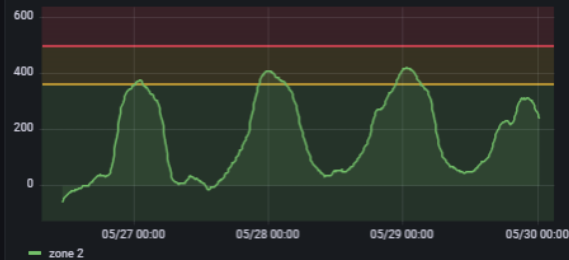


One street
subdivided in 3
zones

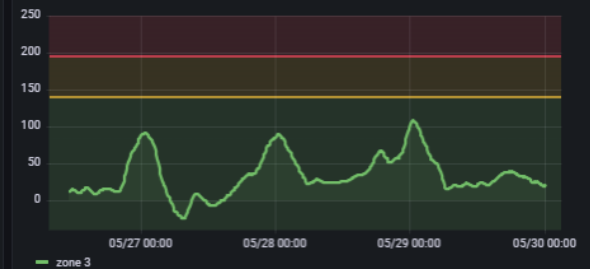
Zone 1 - sensoren



Zone 2 - sensoren



Zone 3 - sensoren



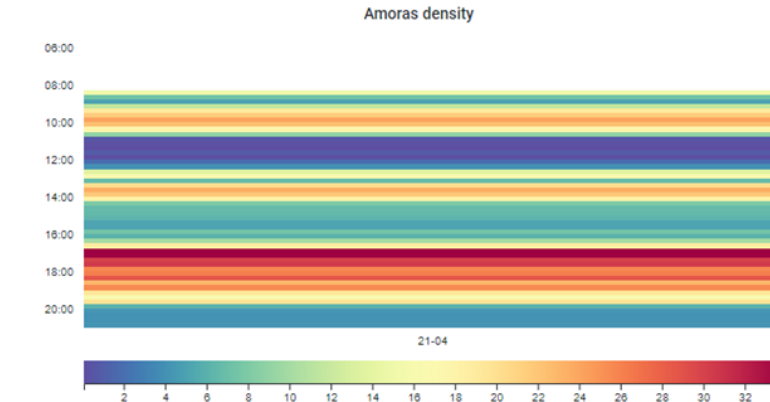
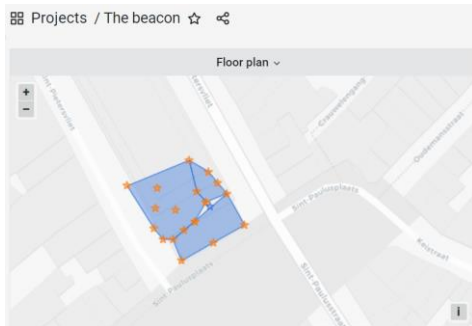
CITY EVENT:REAL-TIME DATA

Data available in the event control center

Web-based access on any device



INNOVATION HUB 'THE BEACON': SMART BUILDING DATA



"We want to transform The Beacon into a smart workspace. Thanks to the CrowdScan data, we gain even more insights into how the building is being used."

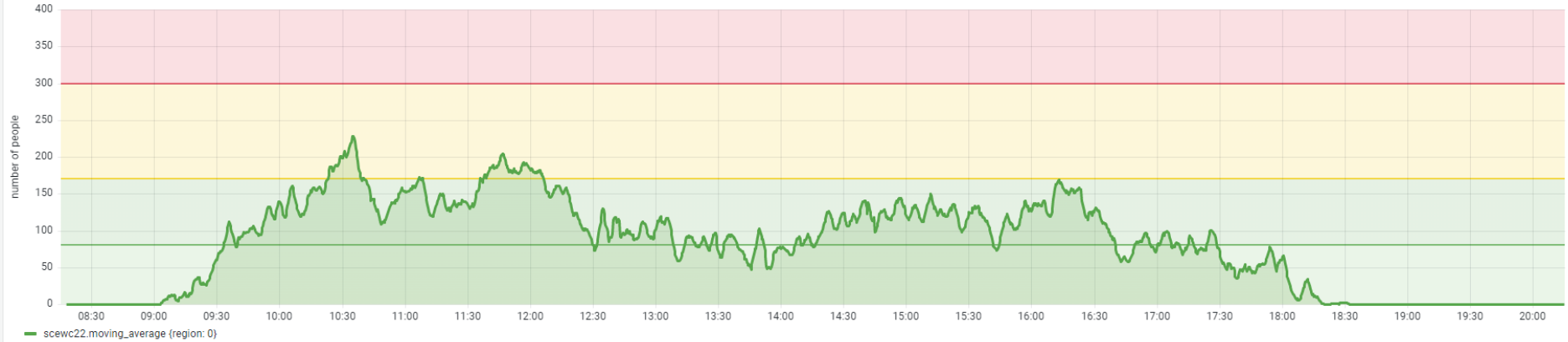


Robin Pauwels –
COO The Beacon



MICROSOFT BOOTH (2500 m²): SMART EXHIBITIONS

people density @ booth

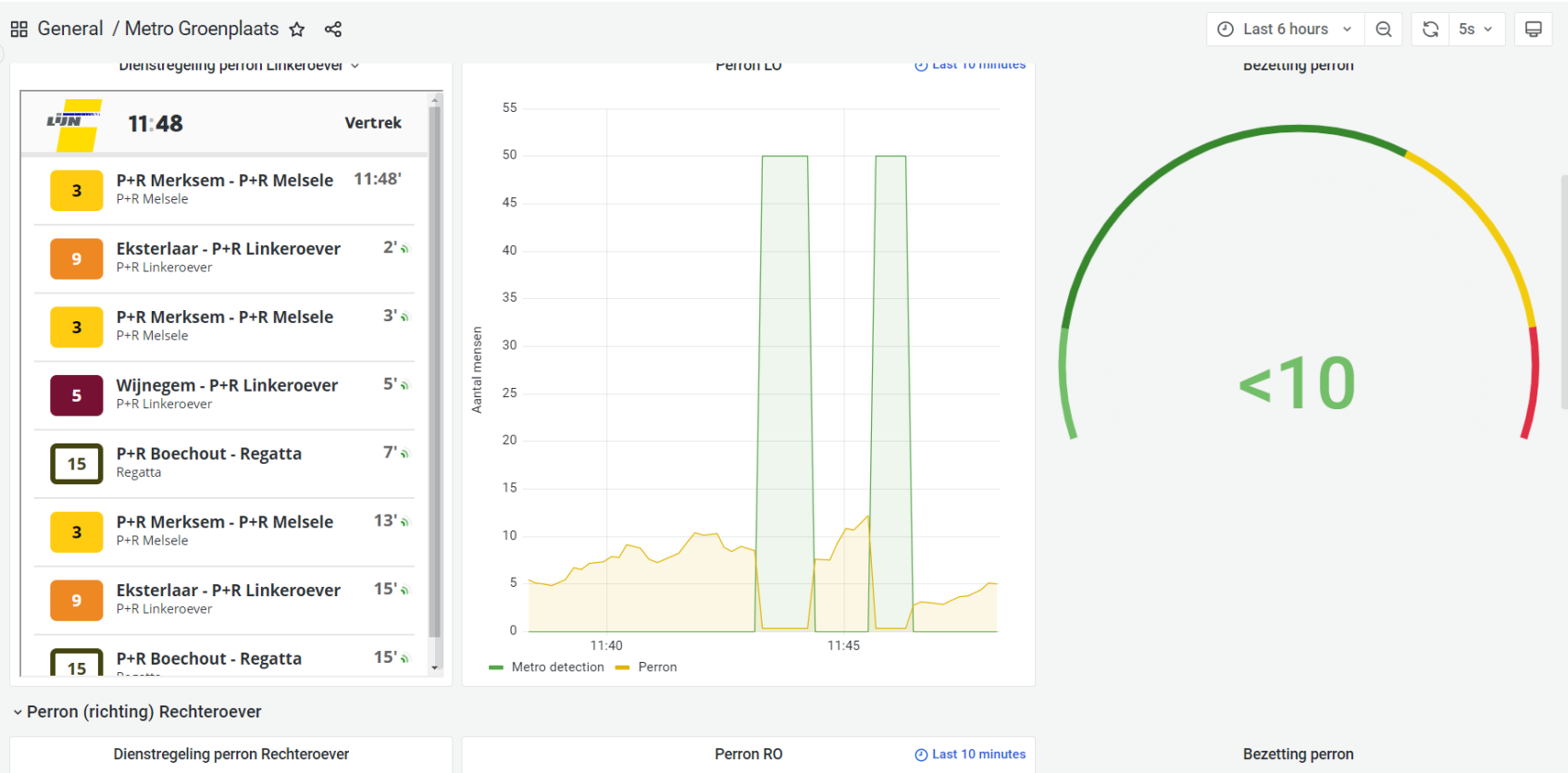


CASE: TRAM BARCELONA





CASE: REALTIME DATA PLATFORM SUBWAY STATION ANTWERP

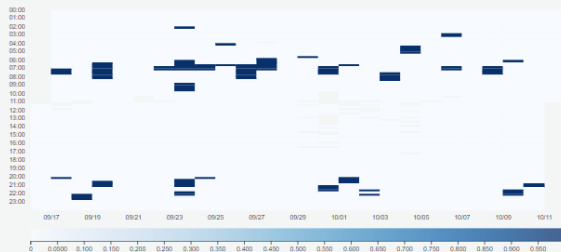




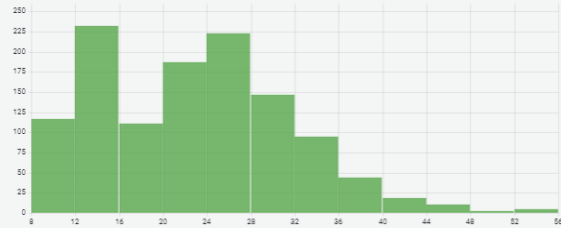
Seattle International Airport (Security Line & Baggage reclaim)



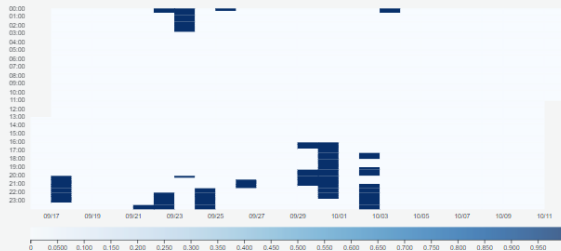
count of periods where more than 45 people were at baggage



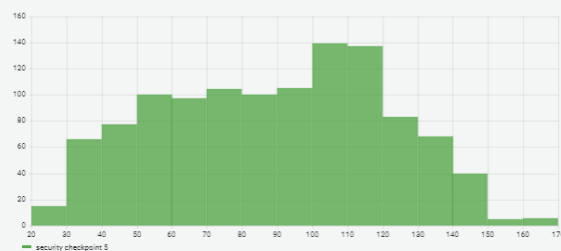
Distribution of people count at baggage



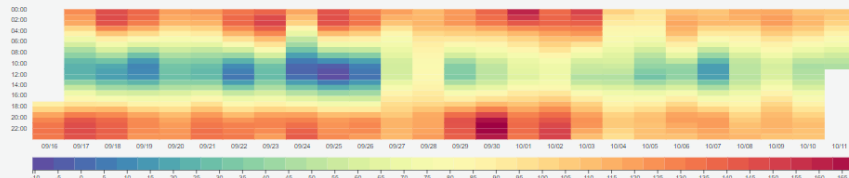
count of periods where more than 145 people were at security



distribution of people count at security



Hourly heatmap for Checkpoint 5



Adaptive lighting with Schröder

Schröder

How does Schröder EXEDRA LightSync operate?



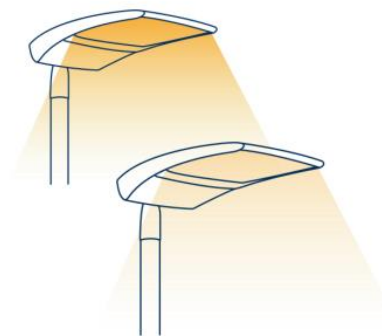
Pulls information from available data sources or types



Computes the adequate lighting level



Adapts the lighting accordingly



Collect, monitor, generate insights, process and adapt



Future integrations....

Schröder

Unlocking value with Schröder EXEDRA LightSync

Grow as you go! Integrate the latest technologies to better manage your city





More info?

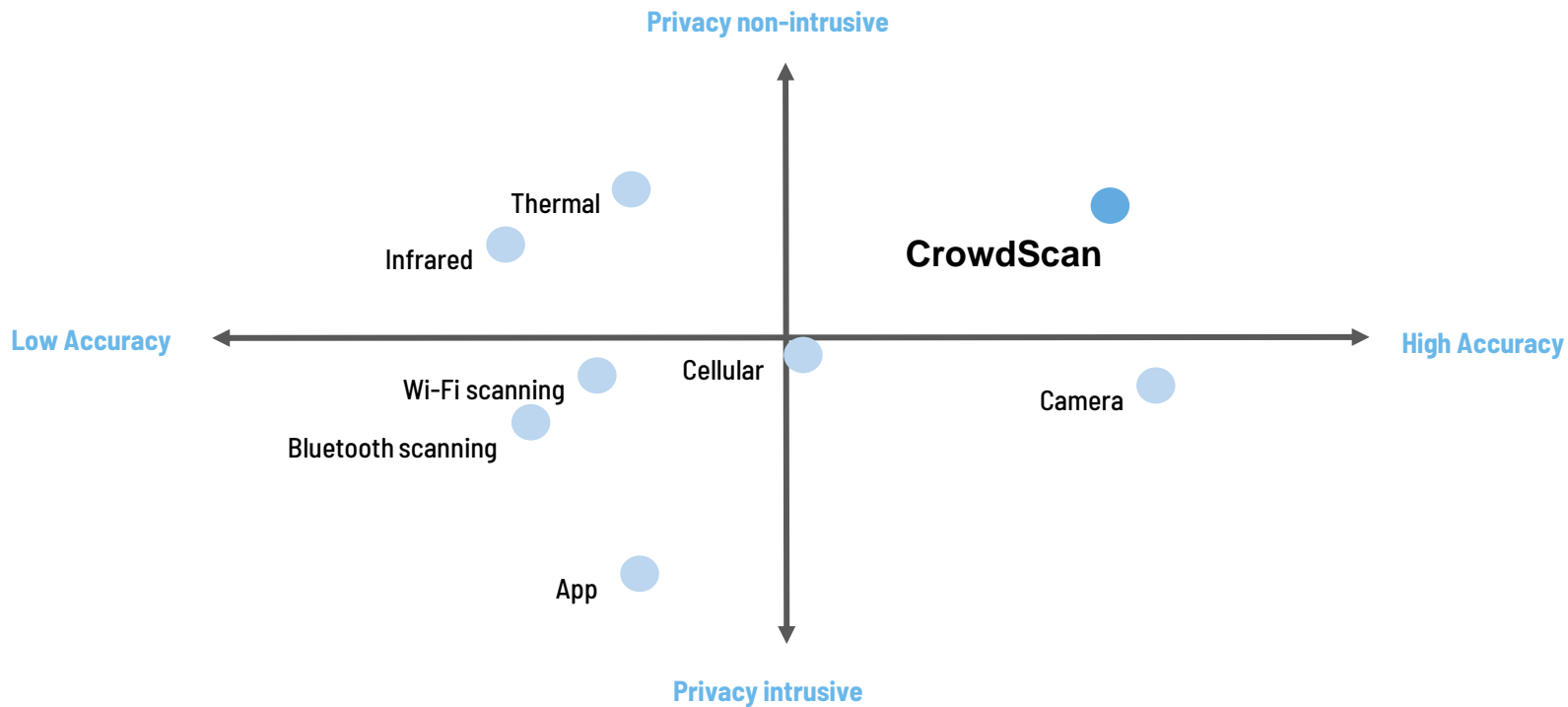
www.crowdscan.be

info@crowdscan.be

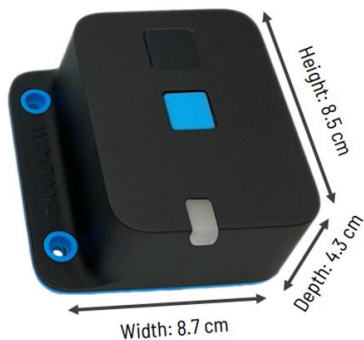
Book a meeting
with Anton Dierickx
COO CrowdScan



TECHNOLOGY COMPARISON



HARDWARE SPECS



Power source	Battery (3.7 V - 5,4 Ah capacity)
Attachment possibilities	screwed into wall metal Colson cable tie (around poles) with adhesive magnet (against metal plate)
Emitting frequency band	863 - 868 MHz
Battery life span	1 - 2 years (*)
Installation height	1.20 m - 1.60 m above ground
Weight	78g
Certification	C/CE - FCC



Power source	plug-in (220V) Power-Over-Ethernet (PoE)
Power consumption	2W
Attachment possibilities	screwed into wall attached with tie wrap
Emitting frequency band	863-868MHz
Communication	nanoSim 4G
Installation location	200m - 400m (outdoors)
Weight	1.8 kg
Certification	C/CE - FCC (pending)