

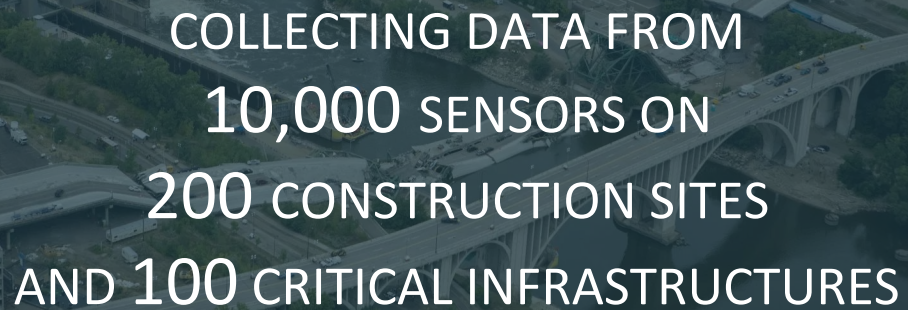


WORLD  SENSING

**Making construction sites,
critical infrastructures and
cities smarter**

Albert Zaragoza
CTO





COLLECTING DATA FROM
10,000 SENSORS ON
200 CONSTRUCTION SITES
AND 100 CRITICAL INFRASTRUCTURES



SUPPORTING DECISION
MAKING IN 6 MAJOR
CONSTRUCTION SITES

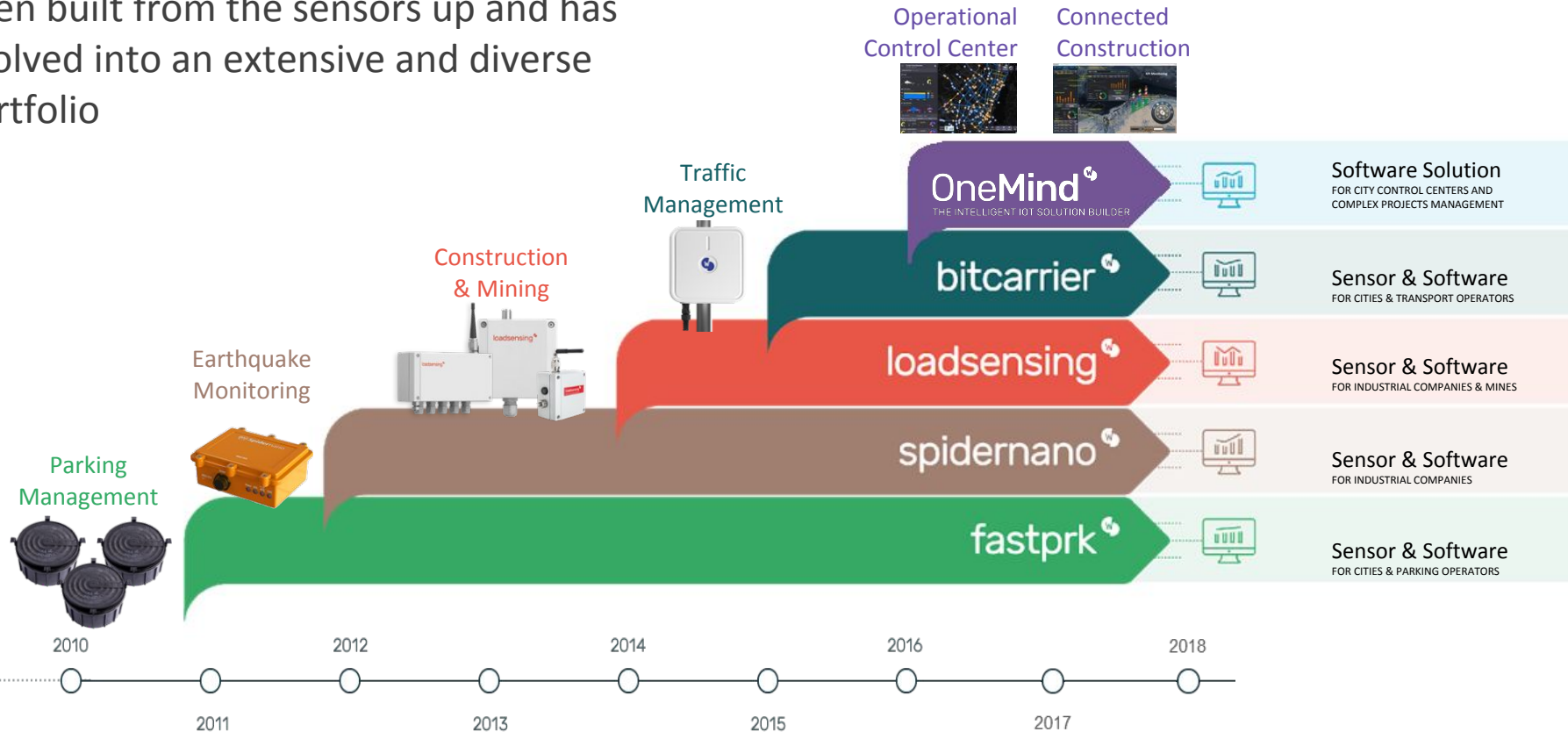


MONITORING MOBILITY, PARKING,
SECURITY AND TRAFFIC
IN 60 CITIES



ENSURING THAT 60 MINES ARE SAFE
AND WELL MAINTAINED

Worldsensing's product portfolio has been built from the sensors up and has evolved into an extensive and diverse portfolio



Ponte Vecchio, Florence, Italy





Bogota DC, Colombia

An aerial night-time photograph of Bogotá, Colombia. The image captures a dense urban environment with numerous high-rise buildings, some of which are brightly lit. A prominent feature is a large, circular stadium with a tiered seating area, illuminated from within. The city is set against a backdrop of dark, forested hills. The overall scene is a mix of modern architecture and urban sprawl, with warm streetlights contrasting with the cool blue tones of the night sky.



Los Angeles Metro, USA





Mine Tailing Dams

Upgrade the way you operate

A 5-step approach to making your operations smarter with IoT technology

1

DIGITIZE

Connect your assets
& infrastructures

2

MONITOR

Gain actionable insights

3

PREDICT

Achieve operational
efficiency

4

ACT

Make better, faster
decisions

5

ENGAGE

Involve citizens and
workers in the process



loadsensing^w

WORLDSENSING

**THE WIRELESS
MONITORING SYSTEM**

We use Industrial Internet of Things sensing technology



WIRELESS

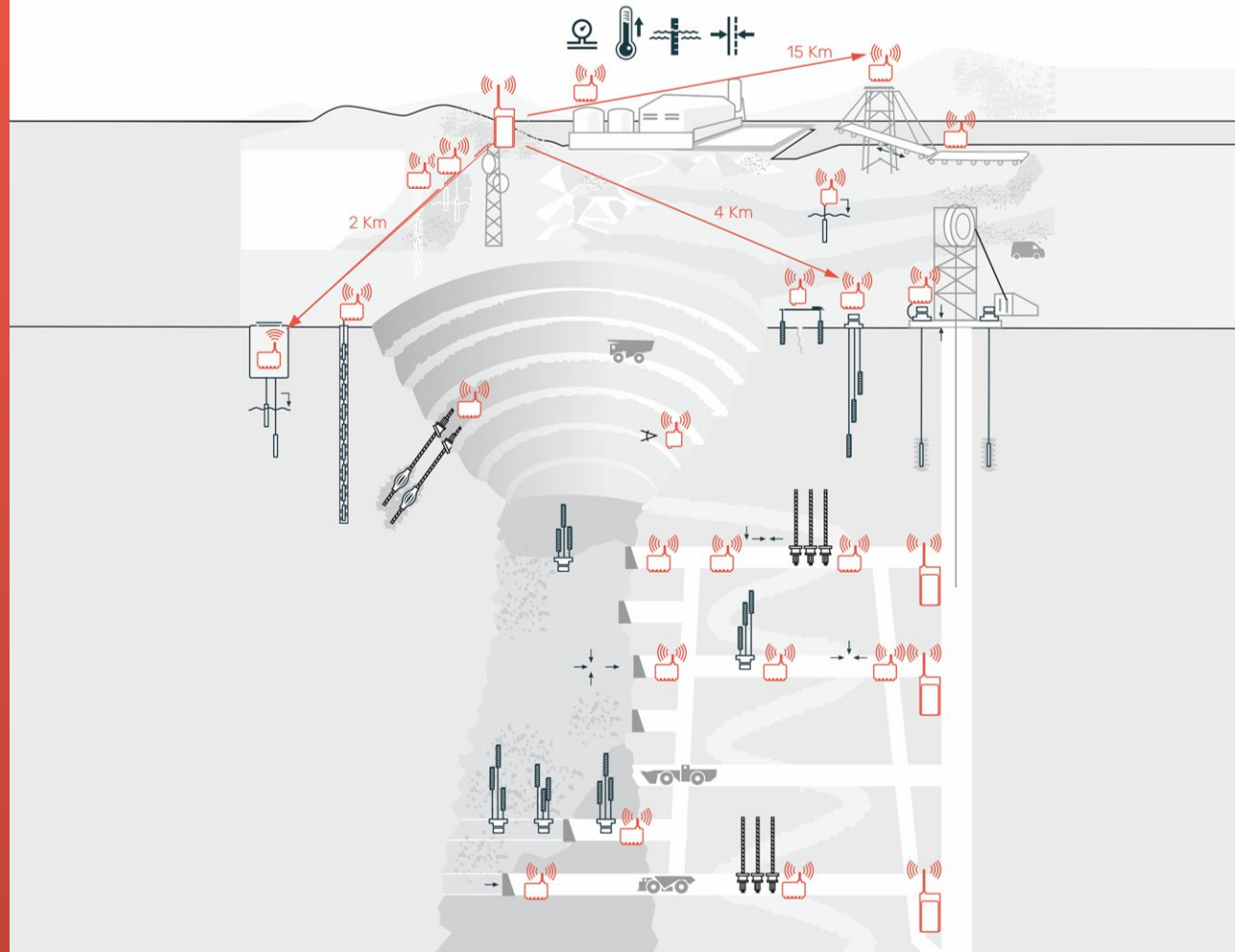


LONG-RANGE



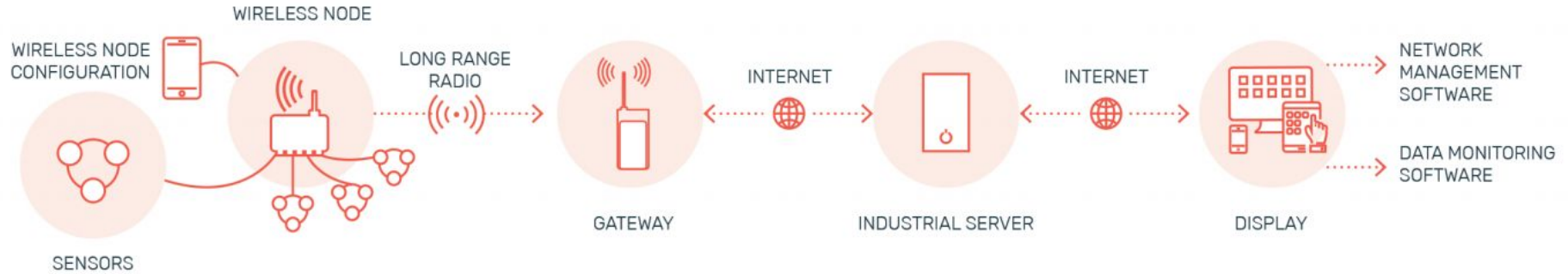
LOW-POWER

How Loadsensing works in Mining



How Loadsensing works

System Architecture

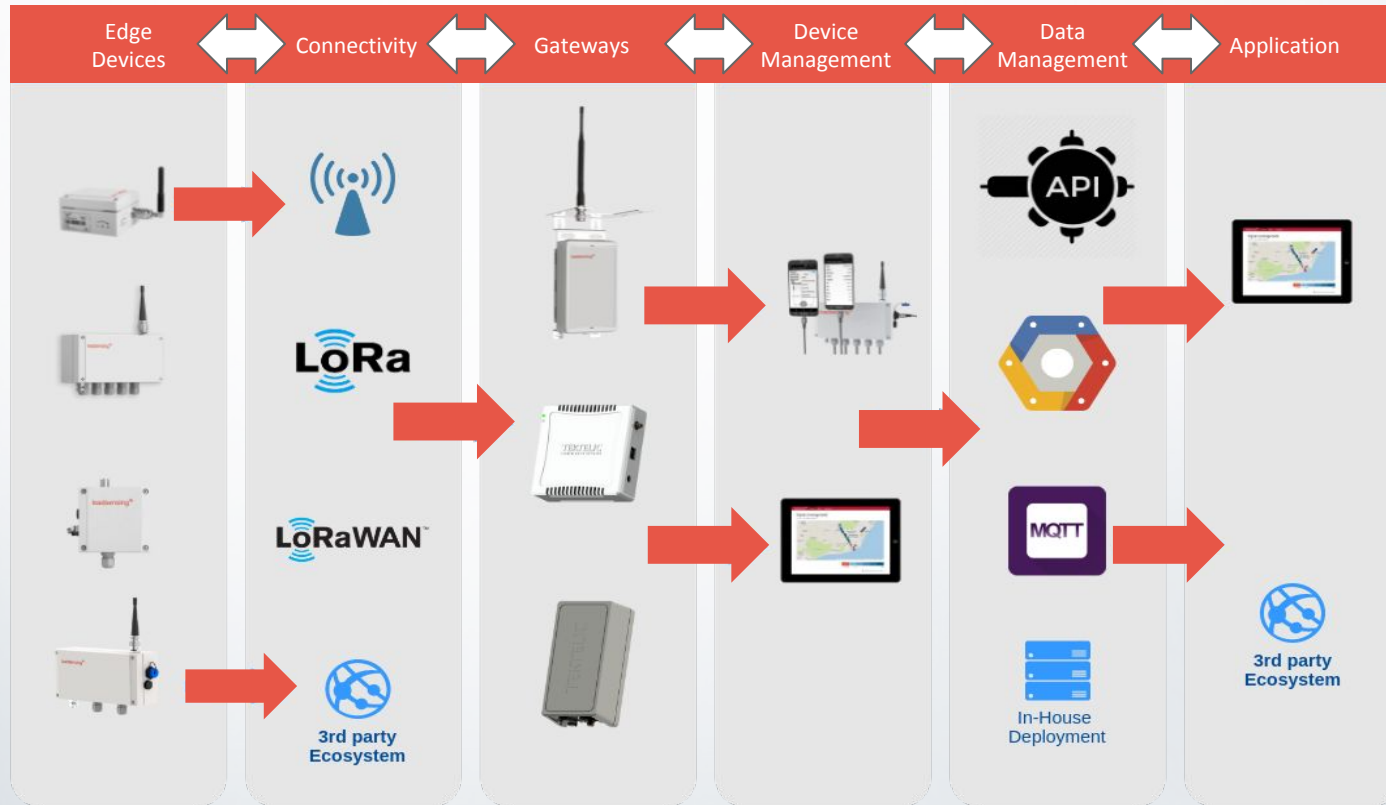


DATA COLLECTION

COMMUNICATION

VISUALIZATION

Construction & Critical Infrastructures - Architecture



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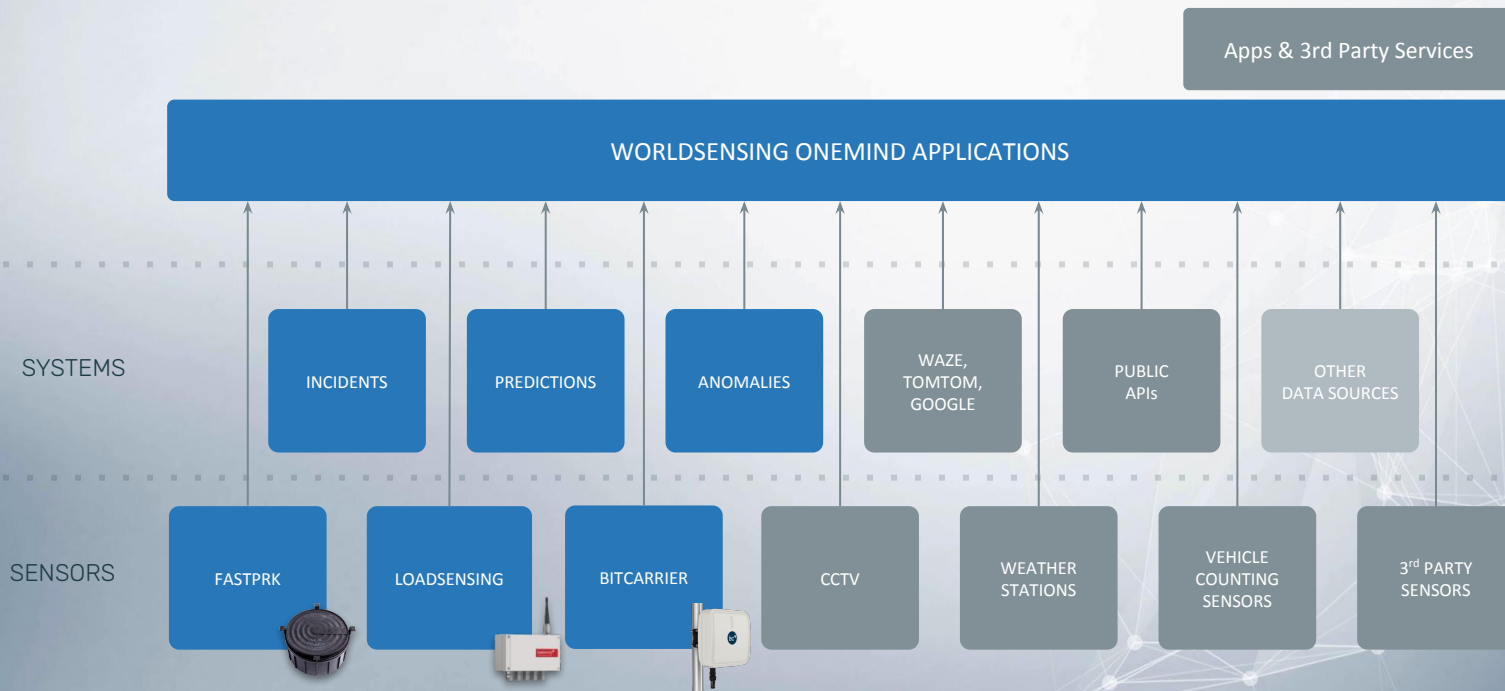
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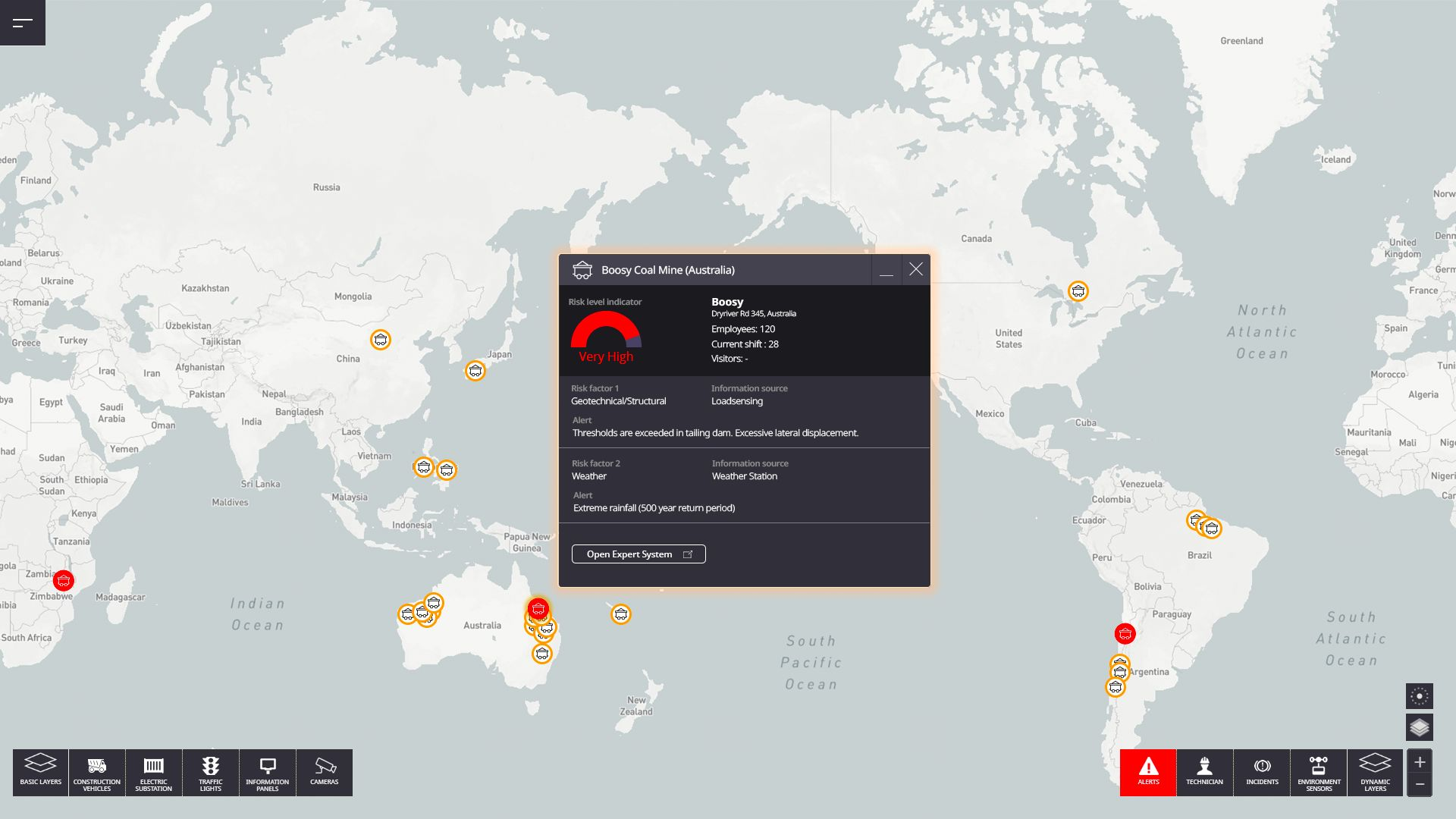
ENGAGE


Involve citizens and
workers in the process

We build sensors, systems & business applications.


End to end **CONNECTED OPERATIONAL INTELLIGENCE**





 **Boosy Coal Mine (Australia)**

Risk level indicator



Very High

Boosy
Dryriver Rd 345, Australia
Employees: 120
Current shift : 28
Visitors: -

Risk factor 1
Geotechnical/Structural

Alert
Thresholds are exceeded in tailing dam. Excessive lateral displacement.


Information source
Loadsensing

Risk factor 2
Weather

Alert
Extreme rainfall (500 year return period)

Information source
Weather Station

Open Expert System



Traffic

21-02-2018 11:42:45 AM

0.02 75%

Flow Rate/Capacity

0.66 69%

Peak Hour Factor

0.02 75%

Density/Max. Density

86%

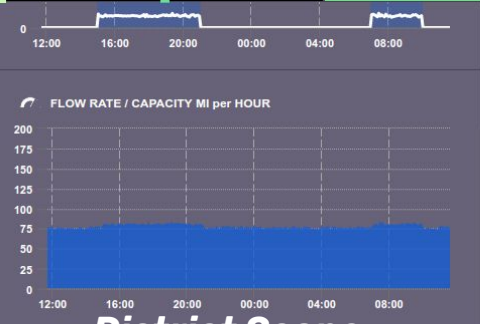
Matching Index

0% 100%

Congestion

A

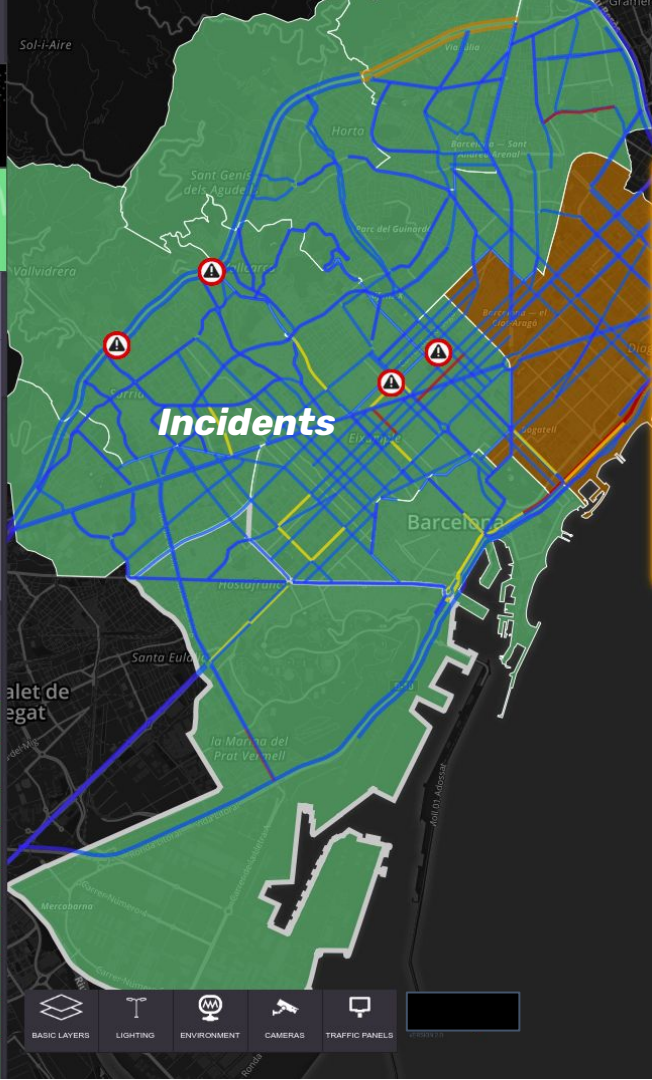
Level of Service



District Scope

Sort by: Area

Area	Flow Rate/Capacity	Peak Hour Factor	Density/Max. Density	Matching Index	Congestion	Level of Service
CIUTAT VELLA	0.02	0.02	0.69	89%	A	
EXAMPLE	0.03	0.03	0.71	90%	A	
GRÀCIA	0.02	0.02	0.64	88%	A	
HORTA-GUINARDÓ	0.02	0.02	0.66	84%	A	
NOU BARRIS	0.02	0.02	0.67	84%	A	
SANT ANDREU	0.02	0.02	0.68	84%	A	
SANTS-MONTJUIC	0.02	0.02	0.64	88%	A	
SARRIÀ - SANT GERVASI	0.02	0.02	0.57	88%	A	
LES CORTS	0.01	0.01	0.7	81%	A	



ID: 2 - Sants-Montjuic

0.02 78% F/C

480 78% Flow

1 74% PHF

10.67 88% Density

0.02 78% D/D. Max

45 99% Avg. Speed

0% 100% Congestion

A Level of Service

FLOW RATE / CAPACITY

FLOW RATE / CAPACITY MI per HOUR

Bitcarrier Data

TRAVEL TIME TOMCOM

TRAVEL TIME BITCARRIER

INCIDENTS

TOW TRUCKS

AGENTS

DYNAMIC LAYERS

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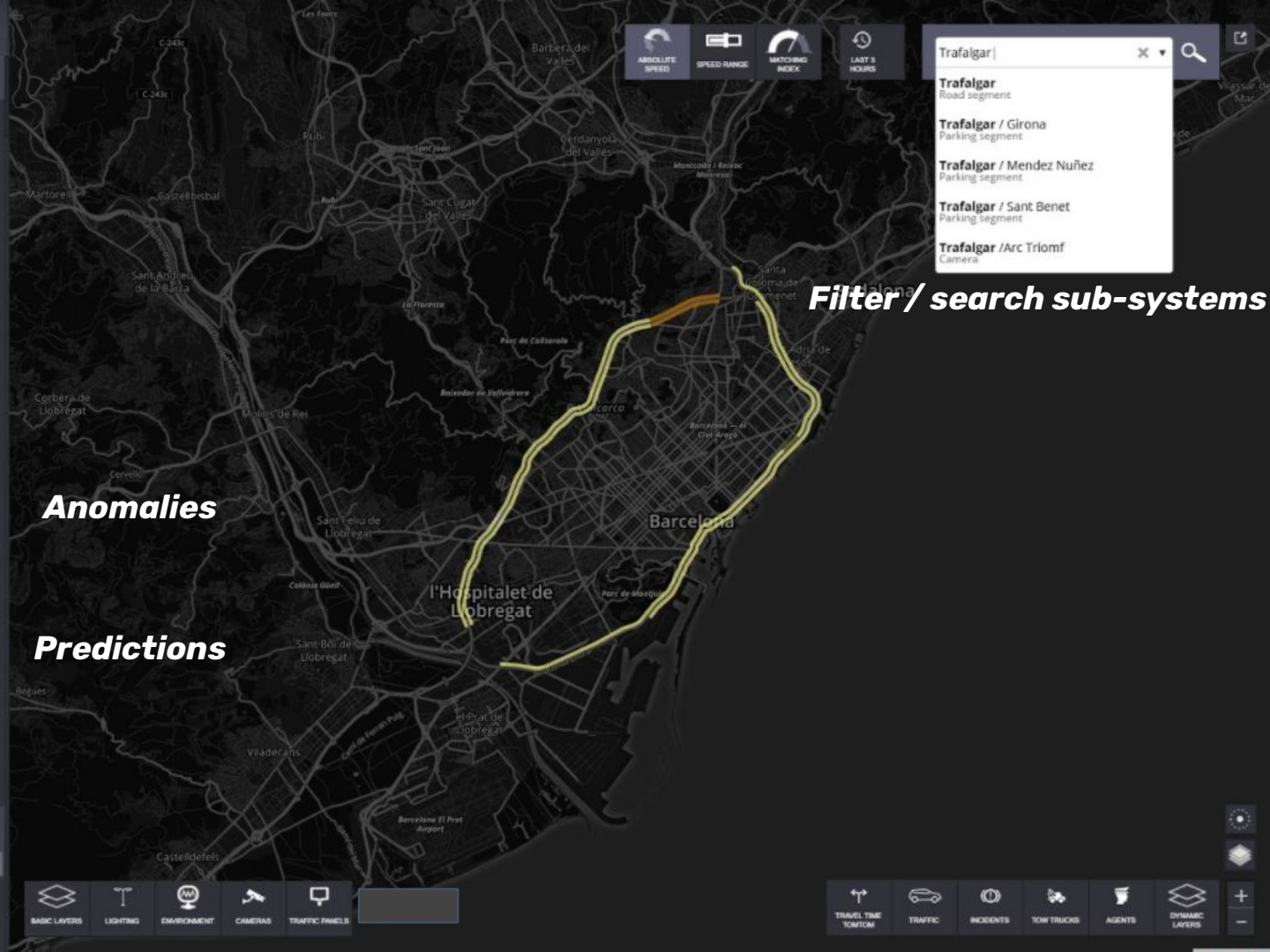
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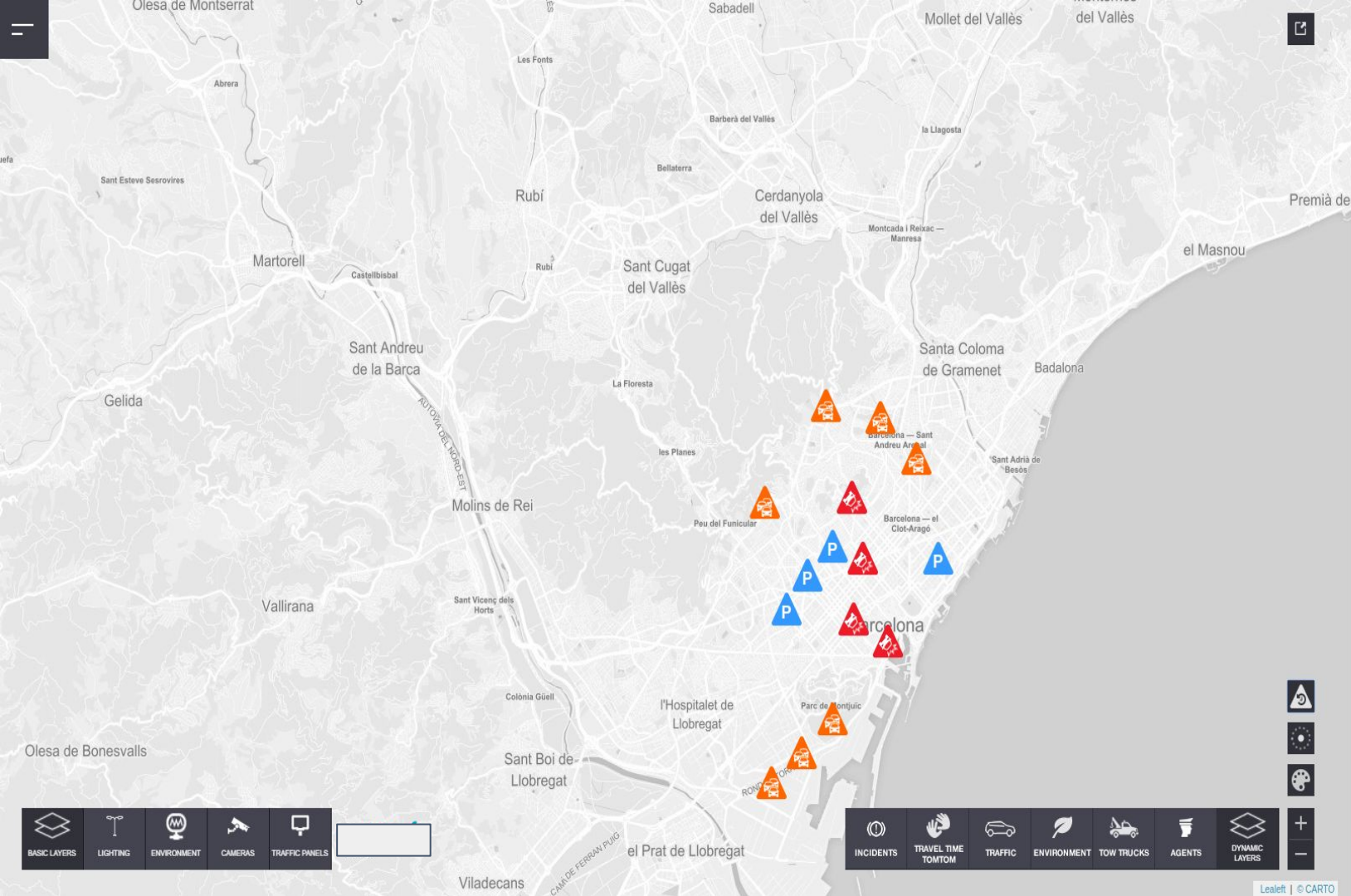
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



Involve citizens and
workers in the process

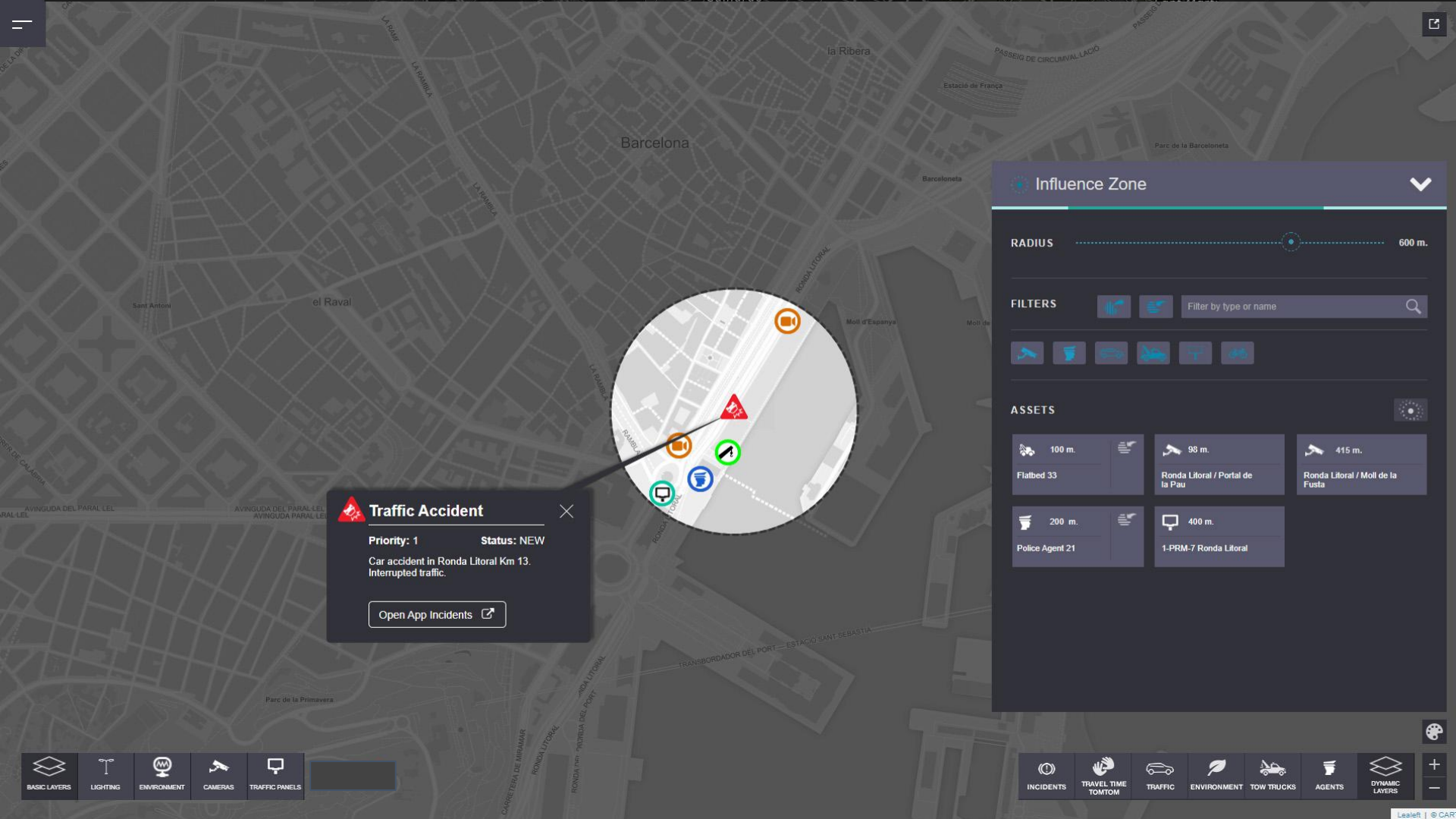


Alerts

Show on map ☐

Sort by:

	Parking not paid 12:15:23 PM Severity: 3	Status: NEW	<input type="text" value="v"/>
	Traffic Accident 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Traffic Congestion 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Traffic Accident 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Traffic Congestion 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Traffic Congestion 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Parking not paid 12:15:23 PM Severity: 3	Status: NEW	<input type="text" value="v"/>
	Traffic Congestion 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Parking not paid 12:15:23 PM Severity: 3	Status: NEW	<input type="text" value="v"/>
	Traffic Accident 12:15:23 PM Severity: 1	Status: NEW	<input type="text" value="v"/>
	Traffic Congestion		



Traffic Accident

Priority: 1

Status: NEW

Car accident in Ronda Litoral Km 13.
Interrupted traffic.

Open App Incidents



Influence Zone

RADIUS

600 m.

FILTERS

Filter by type or name

ASSETS

100 m.

Flatbed 33

98 m.

Ronda Litoral / Portal de la Pau

415 m.

Ronda Litoral / Moll de la Fusta

200 m.

Police Agent 21

400 m.

1-PRM-7 Ronda Litoral

BASIC LAYERS

LIGHTING

ENVIRONMENT

CAMERAS

TRAFFIC PANELS

INCIDENTS

TRAVEL TIME
TOMTOM

TRAFFIC

ENVIRONMENT

TOW TRUCKS

AGENTS

DYNAMIC
LAYERS

Leaflet | © OpenStreetMap contributors

Alerts

Date

Type

All selected (8)

Subtypes

All selected (8)

Severity

Operative Status

All selected

Updated at

None

dd / mm / yyyy, -- :--

- Alert 1

06/10/2019 - 13:28:31 PM

Severity: 8

Status: NEW
- Alert 2

05/10/2019 - 10:20:20 AM

Severity: 1

Status: SEEN
- Alert 3

05/10/2019 - 11:20:10 AM

Severity: 1

Status: SEEN
- Alert 4

05/10/2019 - 15:40:45 PM

Severity: 1

Status: SEEN
- Alert 5

05/10/2019 - 18:50:47 AM

Severity: 2

Status: SEEN
- Alert 6

04/10/2019 - 10:12:10 AM

Severity: 1

Status: SEEN
- Alert 7

04/10/2019 - 11:30:47 AM

Severity: 2

Status: SEEN
- Alert 8

04/10/2019 - 10:20:20 AM

Severity: 1

Status: SEEN

Alert 1

06/10/2019 - 13:28:31 PM

Time window
Valid from 06/10/2019 13:29 until 06/10/2019 15:00

Location
Location name 1

Type
Type name

Subtype
Subtype name

Description
Short alert description

Severity
8

Alert 1

1

Incident pre-qualification

Category

Traffic incident

Impact

Hazard

Check sensors for traffic congestion indicator

Verify sensors are reporting high level reading to verify that it is not a point escalation or false alarm

2

Open Influence Zone

Review the possible presence of critical facilities (hospitals, schools, ...) and check if CCTV available in the area.

Open Influence zone

3

Activate traffic police perimeter

Police plan includes: divert perimeter traffic, traffic light, traffic panels.

Action done

Activate

Operator

Timestamp

Set as not done

Alerts

Show on map On

Lamppost alert

Luminaire ID
0013a2004152d2f45

Location 41.381225, 2.141072	Type NATH Istanium2 LED	Transformer RAB.025-98
Installation date 17/07/2017	Last update time 20/07/2018	Energy 10,3 kwh



Alerts
20/07/2018
Severity: minor.
Incident reference: 256-98
Irregular energy consumption.

Sort by: Time

Filter by: All alerts All sub-types

All status ▼

Last 30 min ▼

- Lamppost alert**
20/07/2018 - 12:28:31 PM
Severity: minor Status: NEW
- Traffic Accident**
12:15:23 PM
Severity: 1 Status: NEW
- Traffic Congestion**
12:15:23 PM
Severity: 1 Status: NEW
- Traffic Accident**
12:15:23 PM
Severity: 1 Status: NEW
- Traffic Congestion**
12:15:23 PM
Severity: 1 Status: NEW
- Traffic Congestion**
12:15:23 PM
Severity: 1 Status: NEW
- Parking not paid**
12:15:23 PM
Severity: 3 Status: NEW
- Traffic Congestion**
12:15:23 PM
Severity: 1 Status: NEW
- Parking not paid**

ATM 11th



CrossingBridge-11th SW



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Integrated Solution for City Mobility Departments



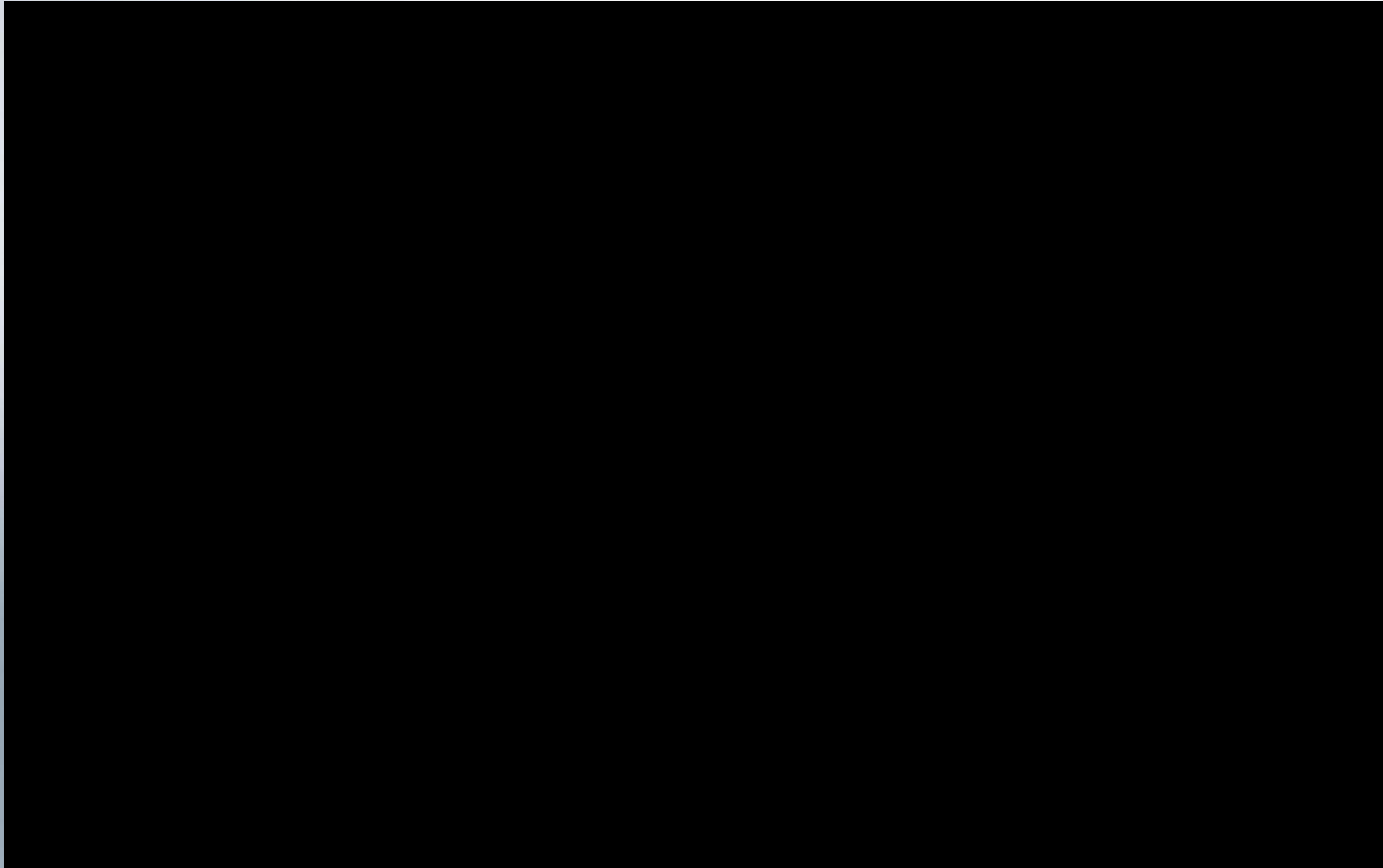


Smart Cities

powered by OneMind[®]

The intelligent IoT solution builder
Boost the digitization of your city.

DEMO



It is a new way of thinking



vs





CONNECTED OPERATIONAL
INTELLIGENCE

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