[ui!] UrbanPulse
[ui!] COCKPIT

The [ui!] UrbanPulse platform allows cities, large infrastructure providers and others to implement new, data-driven smart services that provide the foundation for increased revenues, reduced costs, improved compliance and more satisfied citizens. The UrbanPulse is the reference implementation for DIN SPEC 91357, the EU standard for Open Urban Platforms.

URBANCOCKPIT — POWERED BY UrbanPulse

DATA | **ANALYTICS** | SOURCES

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ENVIRONMENT

ENVIRONMENT ⊙ Map ●

Air Quality
EU Limits — Good 🙂

Comfort index
Humidity (%) vs Temperature (°C)
- Comfortable
- Acceptable

NOISE POLLUTION ⊙ Map ●

dB
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10

Permissible sound pressure levels pursuant to TLA-Lärm

- 60 dB — Mixed area residential & industry
- 55 dB — General residential area
- 50 dB — Purely residential area

RESOURCE MANAGEMENT

SMART LIGHTING ⊙ Map ●

Saving 24.948 kWh

55.539 kWh

Annual CO_2 savings
14.100 kg

30.591 kWh

Current consumption | Previous consumption

10.846 m² forest is necessary in order to absorb the amount of CO_2

WATER CONSUMPTION ⊙ Map ●

💧 **Possible leak detected**

1.010 litres
+30%
more usage / hour

📅 February 17, 2017 8:23:12 PM

INTEGRATED INFRASTRUCTURES

URBAN TRASH BINS ⊙ Map ●
Planned Movement Commands

70% full / filled

- Tue — Schedule optimized for 3 Trucks
- Sat — Schedule optimized for 2 Trucks

BIKES ⊙ 1/3
max. 912 min. 12

PARKING ⊙ 1/3
- Occupancy
- Frequentation
- Charging Points

SMART WIFI ⊙ Map ●

📶 **Network operating at peak capacity**

We recommend to extend the number of access points in the following areas:
- 📍 Shopping area between Bulock St and Minchinton St
- 📍 Beach area between The Esplanade and Minchinton St
- 📍 Park Alexandra between The Esplanade and De Vene Ave

SUSTAINABLE URBAN MOBILITY

GREEN LIGHT ASSIST ⊙ ●

27 Seconds
Next signal switch

Traffic dependence

Crossroads A99
Hindenburgstraße / Höhenstraße, Darmstadt

Current number of mobile app users — 4.000

CROSSFLEET ●

24 electric vehicles | 3 companies | > 2 cars per company available

Cross-fleet average vehicle use

Active usage (13 h) — 55 %
33,3%
Conventional usage (8 h)

Annual emissions savings — 34.000 kg

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92 BPM

February 17, 2017 8:28:30 PM

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Timeline:
-60 Min. | -30 Min. | -90 Sec. | -60 Sec. | -30 Sec. | **REALTIME NOW** | +30 Sec.

- CO_2 limit exceeded
- traffic light switches
- high traffic volume (Rhein St.)
- parking spots available
- parking spots occupied
- parking spots available
- traffic light switches

Under the hood
UrbanPulse receives event streams through connectors for each IoT sensor it monitors, applies analytics and delivers smart services.

12 Air Quality:
Data from weather stations, environmental sensors, Bureau of Meteorology. Analytics to derive air quality metrics. *Data from ENBW*

11 Smart Lighting
Dynamic lighting control tracks energy savings. *Data from Schreder*

The [ui!] Cockpit
Multiple views into data streams, through cockpit tiles. This cockpit shows eight tiles with insights into a variety of smart services.

10 Smart bin sensors
Track bin levels and schedule bin pickups based on fill levels. *Data from Sunshine Coast Council*

9 Smart traffic
Data from traffic loops and cameras, predict future stoplight behaviour & optimise traffic flows. *Data from city of Darmstadt*

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1 The Pulse:
Radar-style overview of events

2 Historical timeline shows event flow for each tile, including 'future' events from predictive analytics

3 Environmental sensors embedded in smart poles
Track environmental factors, anomaly alerts (eg noise). *Data from City of Bad Hersfeld and WaveScape Technologies GmbH*

4 Smart water metering.
Track water usage, identify problems and alert. *Data from Sunshine Coast Council*

5 Wi-Fi. Track Wi-Fi usage, people hotspots, identify areas where more capacity needed. *Data from Sunshine Coast Council*

6 Smart Bike Sharing
Track & predict bike availability. *Data from KVB and City of Köln*

7 Smart Parking
Track and predict parking bay availability. *Data from City of Köln and CleverCiti*

8 Electric vehicle fleet management
Fleet optimisation and scheduling to reduce fleet ownership costs. *Data from [ui!] the urban institute*