Assessment and tech trends for IoT enabled smart cities

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Assessment of Smart Cities deployments (based on AIOTI WG08 findings)

- **Connectivity**, plenty to chose from...
  - But manageability could become a challenge

- **Open data already happening**: Traffic, parking, number of people in a geographical region, library occupancy, etc.

- Operational **city funded projects** remain vertically integrated and justified by short term RoI (e.g. street light) or very specific needs

- **Horizontal platform** and **cross vertical** data exchange remain limited to pilots or policy funded projects

- Vendor/platform lock-in remains a key concern
Telecom infrastructure: multiple type of connectivity technologies are needed

Diversity and scale of Smart City use cases poses unique and contradictory challenges on the network.

- FTTx
  - >10 Gbps peak data rates
  - 10-100 x more devices
  - 10 years on battery
  - M2M ultra low cost

- WiFi
  - Massive broadband
  - 100 Mbps average throughput

- LPWAN
  - Ultra-low cost
  - Massive machine type communication

- LTE
  - 10 000 x more traffic
  - <1 ms latency
  - Critical machine type communications

# of Devices | Cost | Power

- Mission-critical wireless control and automation
- GB transferred in an instant
- A trillion of devices with different needs

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## 3 trends for 2018

| Cross domain/application use cases | • Identification of **commercially viable cross domain and cross applications use cases will raise awareness and drive the need for horizontalization** (not a single platform)  
 | | • Replication guidelines leveraging ongoing pilots |
| Platform to platform interoperability | • Platforms will ultimately need to exchange data  
 | | • Requirements are under development, e.g. H2020 Symbiote and Inter-IoT  
 | | • Need industry convergence to ensure success |
| Streams processing | • Video analytics for **data driven public safety** as a key driver  
 | | • Distributed cloud approach  
 | | • Value: faster response to emergencies, improved decision making, increased operational efficiency, efficient asset management |
Data driven public safety use cases (source IDC 2017)
Stream processing example: real-time city dashboard with alerts, from any sensor

Get relevant information, when needed
For more info: https://www.worldwidestreams.io/

1. Request in user language
   i.e: Alert me when yellow car 123 XY is detected in this area

2. Compile, deploy and process requests

3. Real time Information
   Relevant set of streams is delivered

World wide streams (WWS)

Any sensor, any stream