The path to 5G ready city

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Smart city industry technical priorities in 2019/2020

- Strong interest in data lakes and initial interest in data monetization strategies
  - Sustainability of data lakes
  - The role of blockchains
  - IoT platform to IoT platform communications

- Standardized data models for smart city data lakes (e.g. SAREF4CITY at ETSI, ITU-T SG20 and FG Data Processing and Management, OGC, OASC, etc.)

- Open data portals considering standardized APIs to allow for application portability: ETSI ISG CIM getting initial traction in Europe

- Cross domain use cases and replication guidelines of commercially viable ones
  - Smart parking in relation to Smart Mobility
  - Pollution monitoring in relation to Smart Mobility

- The whole area of 5G cities
  - Relationship to city furniture, e.g. lampposts
  - Business models, etc.
In previous presentations, I advocated: «connectivity, plenty to chose from»

- **>10 Gbps**
  - peak data rates
- **10-100**
  - x more devices
- **10 years on battery**
- **M2M**
  - ultra low cost
- **LPWAN**
  - Massive machine type communication
- **10 000**
  - x more traffic
- **WiFi**
  - 100 Mbps
  - average throughput
- **5G**
  - <1 ms
  - latency
- **P-LTE**
  - Critical machine type communication
- **FTTx**
  - Massive broadband
- **# of Devices | Cost | Power**
- **example:**
  - Public Surveillance (M2M)
  - Smart Metering (LPWAN)
  - Traffic Management (WiFi)

- **A trillion of devices with different needs**
- **e2e Security**
- **Outdoor**
- **GB transferred in an instant**
- **Ultra-dense**
- **Mission-critical wireless control and automation**
- **Service Flexibility**
- **Critical  machine type communication3**

Source: Nokia
5G for Verticals

SLICE 1 (Latency)
SLICE 2 (Reliability)
SLICE 3 (Throughput)
5G ready city, what it is and why now?

• Search for 5G cities, most publications are about 5G in the city

• We want to bring a different perspective:
  • Cities have assets (fiber, furniture, etc.) that can be valuable for 5G deployments
  • Smart cities and communities not only can take huge advantage from 5G deployments but can also play a key and instrumental role in expediting its deployment and time to market
  • But need to figure-out related use cases, deployment models, roles (and revenue streams) for 5G infrastructure partnership

• Call to action:
  • Bring together relevant stakeholders to study and progress 5G ready cities