



IoT for Public Safety

PSCE White Paper

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Content

- Description of IoT Technologies
- IoT Use Cases for Public Safety





IoT Network Technologies

- **Narrow Band IoT (NB-IoT)**
Low Power Wide Area Network (LPWAN) by 3GPP - 250kBit/s max)
- **LTE-M**
Low Power Wide Area Network (LPWAN) by 3GPP - 1 Mbit/s max)
- **EC-GSM Extended coverage GSM IoT**
Low Power Wide Area technology based on eGPRS – 70kBit/s
- **LoRa (Long Range)**
license-free sub-gigahertz radio frequency bands. Open source.
Very-long-range transmissions (more than 10 km in rural areas)
< 50Kbit/s
- **SigFox** - proprietary technology, ISM radio band 868MHz (Europe) , 902MHz (US). wide-reaching signal, passes freely through solid objects – 0.3 Kbit/s (12 Bytes per message – 40 messages per day)

Example use cases

- Mountain rescue (example UK Lake District)
- Early fire warning and fire monitoring
- Water level metering
- Sensors for Landslides Monitoring and Alarming
- Air pollution detection
- Smart locks
- Critical infrastructure protection (example Wooden poles used for electricity transmission lines)





Other use cases

Automated external Defibrillators (AED)

Alerting

Tsunami /earthquakes early warning

Early warning on forest fires using sensors

Avalanches

Border

Cameras

Crowd

Use of Drones

Equipment

Fire

Floods

Monitoring



Other topics to consider

- Ethical, Legal and Social considerations using IoT
- Security
- Robustness





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