EENA 5G Webinar

What might 5G mean for Emergency Services?

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Critical communications for all professional users

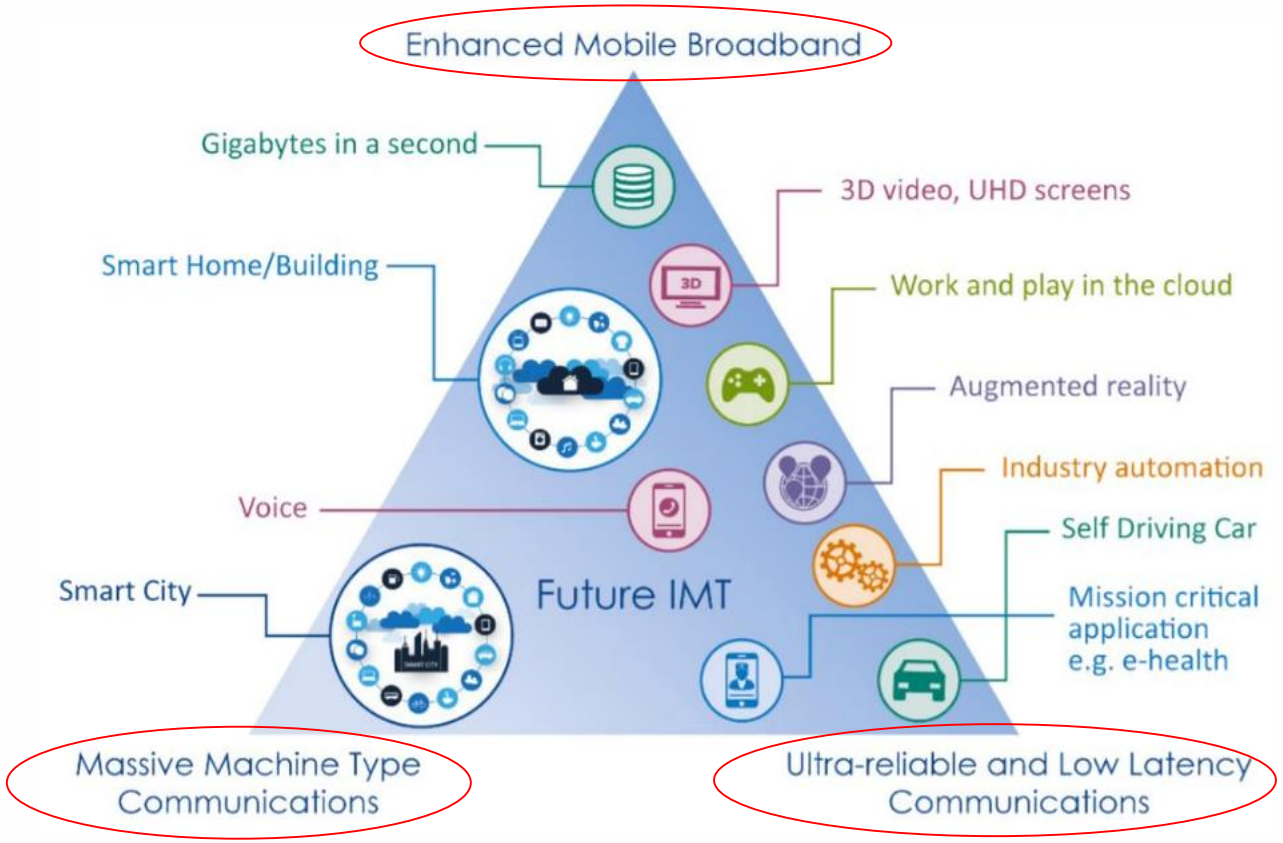
Glib answers….

- ***What is 5G?***
- "The next generation after 4G…"
  - With some fundamental changes & improvements.
- ***What could it do for Emergency Services / PPDR?***
- "Nobody quite knows yet…"
  - But definitely the expectation & hype is growing!

More seriously though…

- 5G is a brand new mobile technology – not simply 4G on steroids!
  - **New radio technology & new spectrum bands**: Increased speed & capacity + reduced delay (latency)
  - **New core technology**: Edge computing, network slicing, etc
  - **New architecture**: Flatter, more seamless infrastructure with more standardised interconnections
- Four fundamentals of 5G:
  - **Bandwidth**: Predicted to reach up to 1 GB/sec
  - **Latency**: Predicted to be one msec or even less
  - **Energy efficiency**: Devices will consume less power = longer battery life
  - **Network capacity**: Significantly increased to accommodate millions / billions of concurrent devices

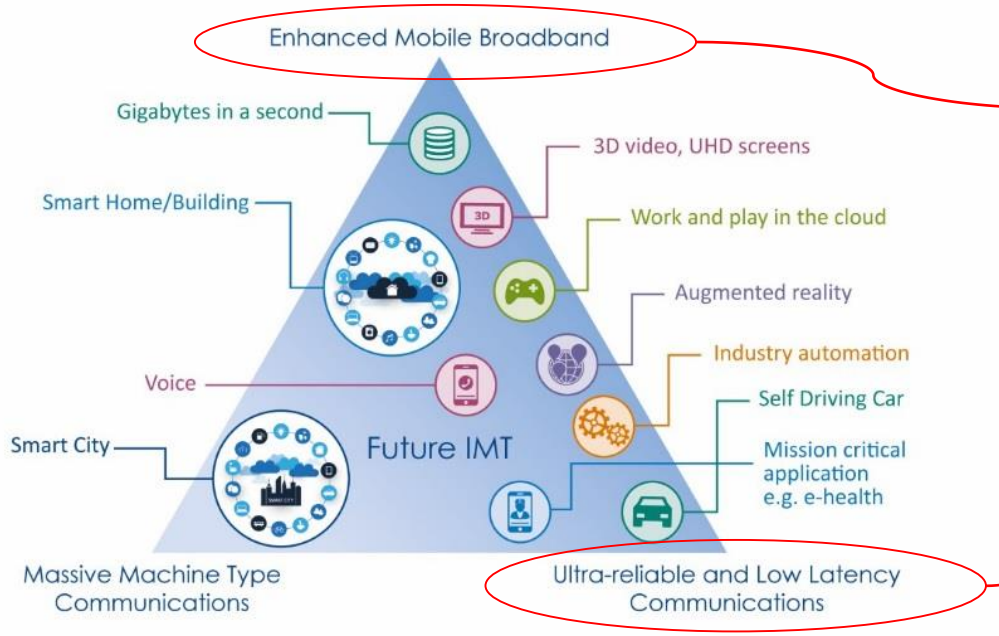
What is 5G for?



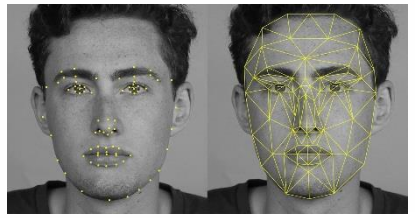
Source: ITU-R IMT-2020 usage scenarios

What might it do for PPDR?

- An open question until use cases are defined and standards developed.



Initial driver for 4G PPDR work in 3GPP



Future capabilities potentially of interest to mission critical users e.g.: AI, VR, Facial Recognition, drones, satellite, etc….

So when can I have it & should I wait?

- When:
  - ~ End 2020 first standards available
  - ~ 2022 first release equipment?
  - ~ 2025 commercial deployments?
- Wait??
  - **NO!**
  - 4G (LTE Advanced) MC-X 3GPP standards are substantially complete & beginning to be implemented
  - *When you needed a computer did you wait for the next generation??*
  - Narrowband (TETRA, etc.) & 4G broadband will be the de-facto standards for PPDR for decades yet
  - MC-X standards will naturally feed forward into 5G together with new use cases as yet only imagined

3GPP timeline for initial 5G standards

- 3GPP release timing:

- Two phases of initial 5G standards work:
  - Phase 1 (Rel-15) addresses the more urgent subset required for initial commercial deployments (e.g. NR: New Radio)
  - Phase 2 (Rel-16) Completes the 3GPP IMT 2020 submission to ITU-R & addresses all identified use cases & requirements
- **NB: ONLY STANDARDS** – allow another 9-18 months for development!

In conclusion

- Timescales:
  - By end 2020 adequate initial standards available for vendors to begin development
  - ~2022 first equipment could start to become available
  - ~2025 before full commercial deployments begin to become mature
- To quote the World Economic Forum:
  - *“Economists estimate the global economic impact of 5G in new goods and services will reach US$12 trillion by 2035 as 5G moves mobile technology from connecting people to people and information, towards connecting people to everything.”*
- **It may not be here tomorrow, but there’s little doubt that 5G is the long term future.**

Thank you

Questions / Comments?

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