

Towards @ 2020 (Innovation and Standards)

*International Telecommunication Union
~ United Nations specialized agency for ICTs*

SIXTY YEARS REDEFINING THE FUTURE



Words with ICT innovation @ 2020

@ 2020

5G/IMT-2020

Internet of Things

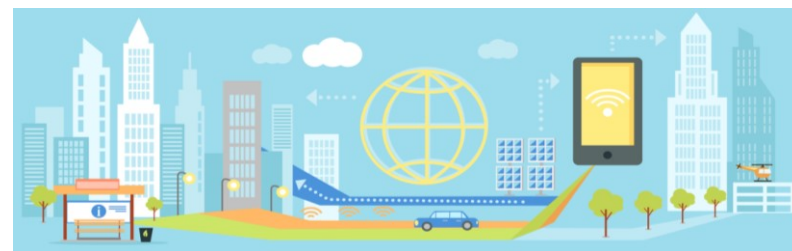
Automatic Driving

Smart Sustainable City

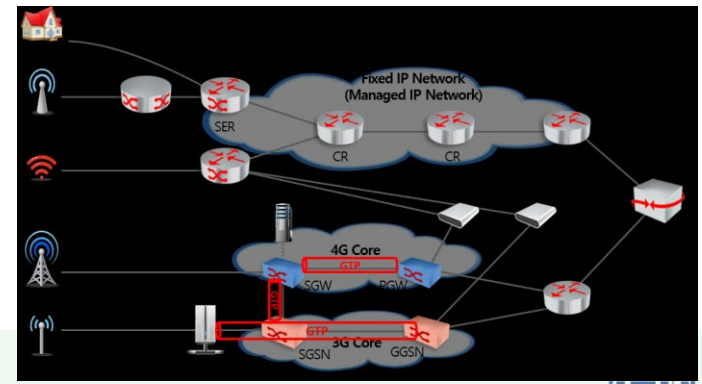
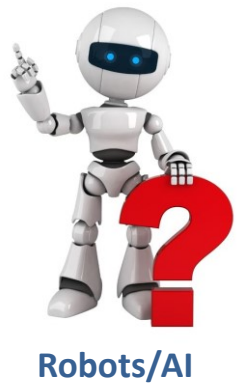
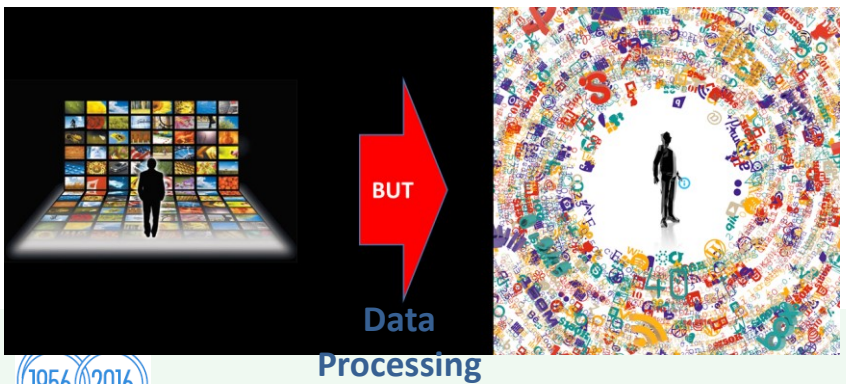
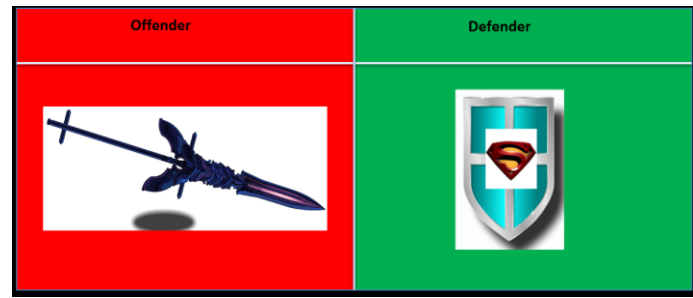
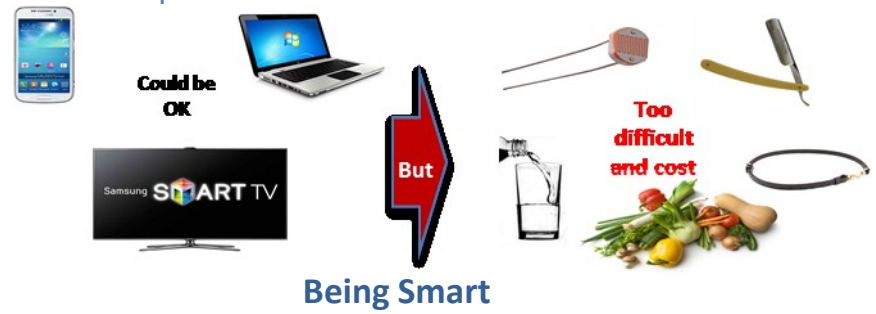
Security, Privacy and Trust

Artificial Intelligence/ Robots

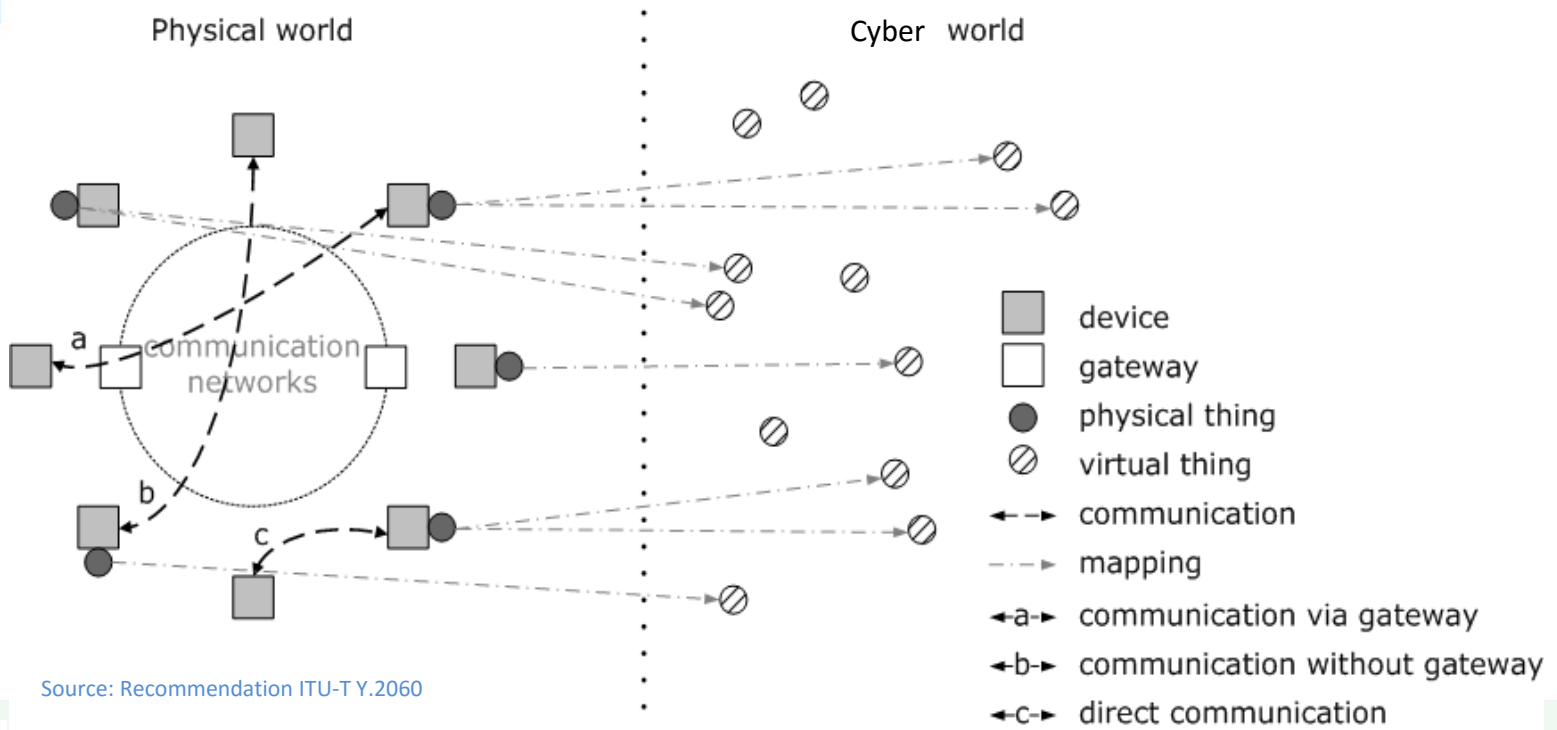
Immersive Life



Problem Spaces

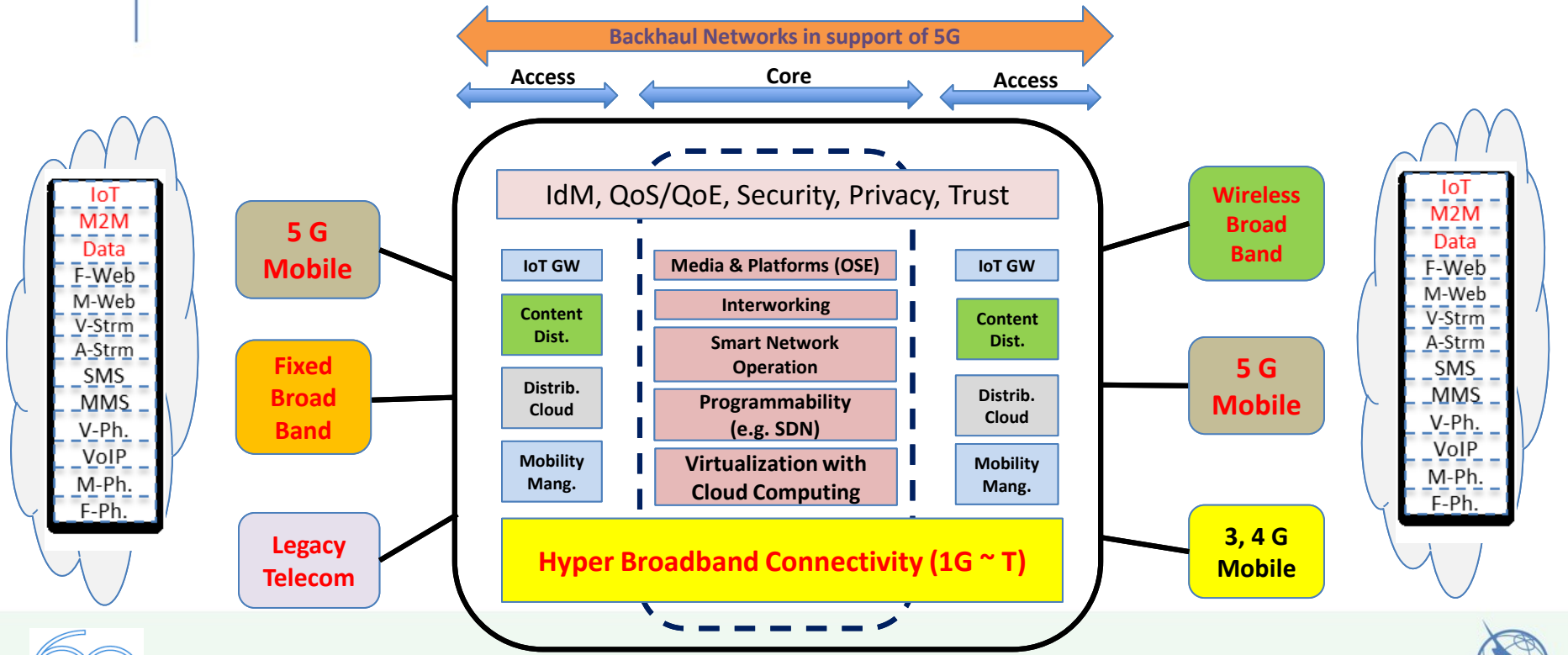


Expansion of Life to Cyber space

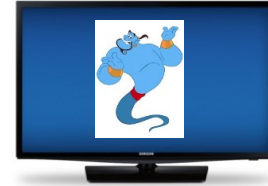


Source: Recommendation ITU-T Y.2060

Impacts of 5G/IMT-2020

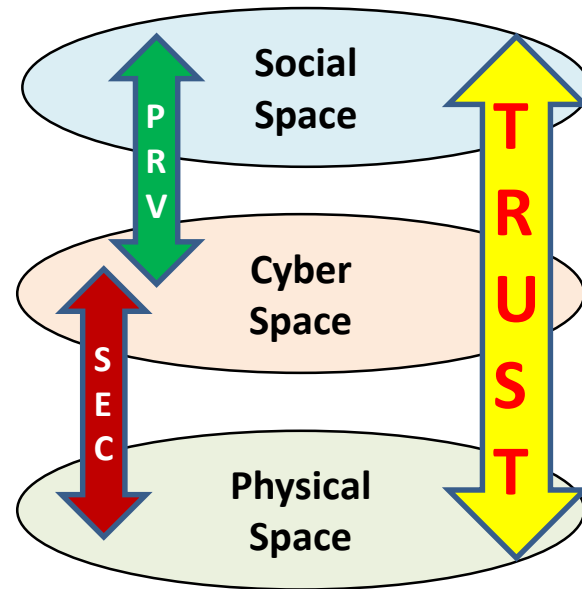


Impacts by Artificial Intelligence/Robots



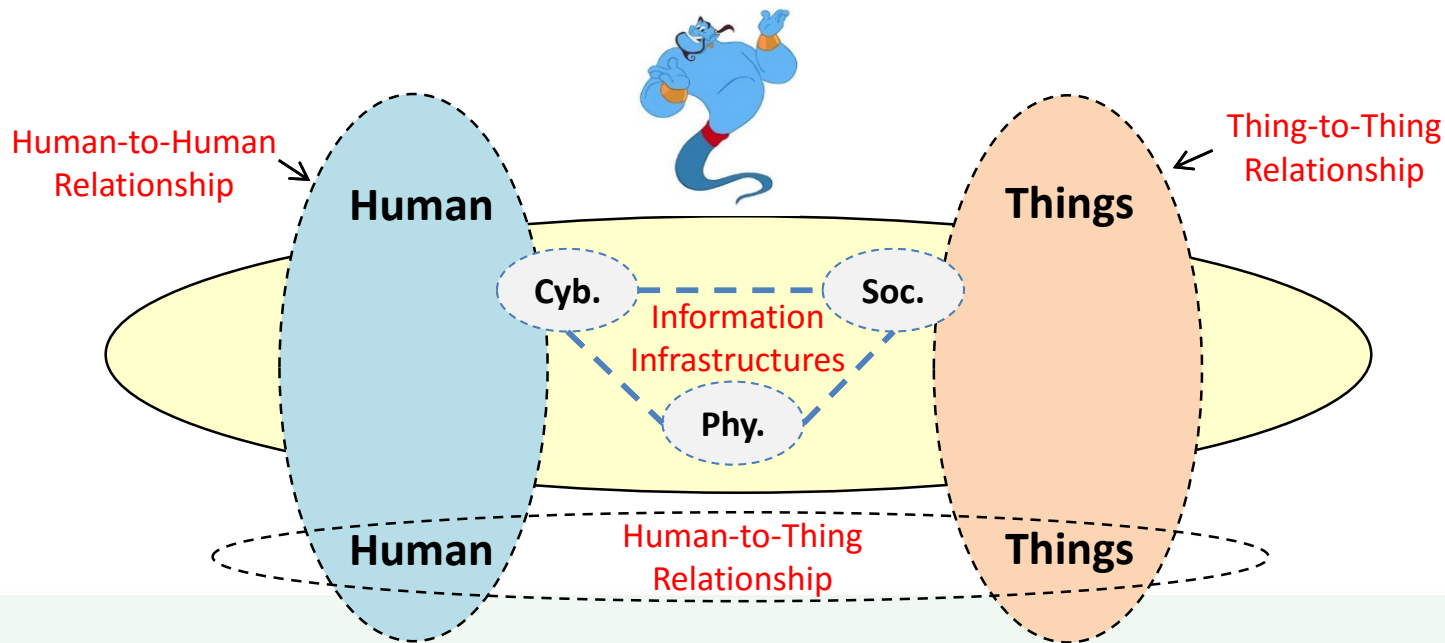
Impacts to Security: Privacy and Trust

- **Living space@2020: Social-Cyber-Physical**
- **Social-Cyber-Physical Relationships**
 - Co-existence
 - Connectivity
 - Interactivity
 - Spacio-temporal situations
- **Human-Thing Relationships**
- **Need more than “Security and Privacy”**
- **Trust as a cross domain relationship**



Future Environments of Information Society @2020

- Change of communication objects: Humans and Things
- Expand living spaces: SCPs with Artificial Intelligence but complex

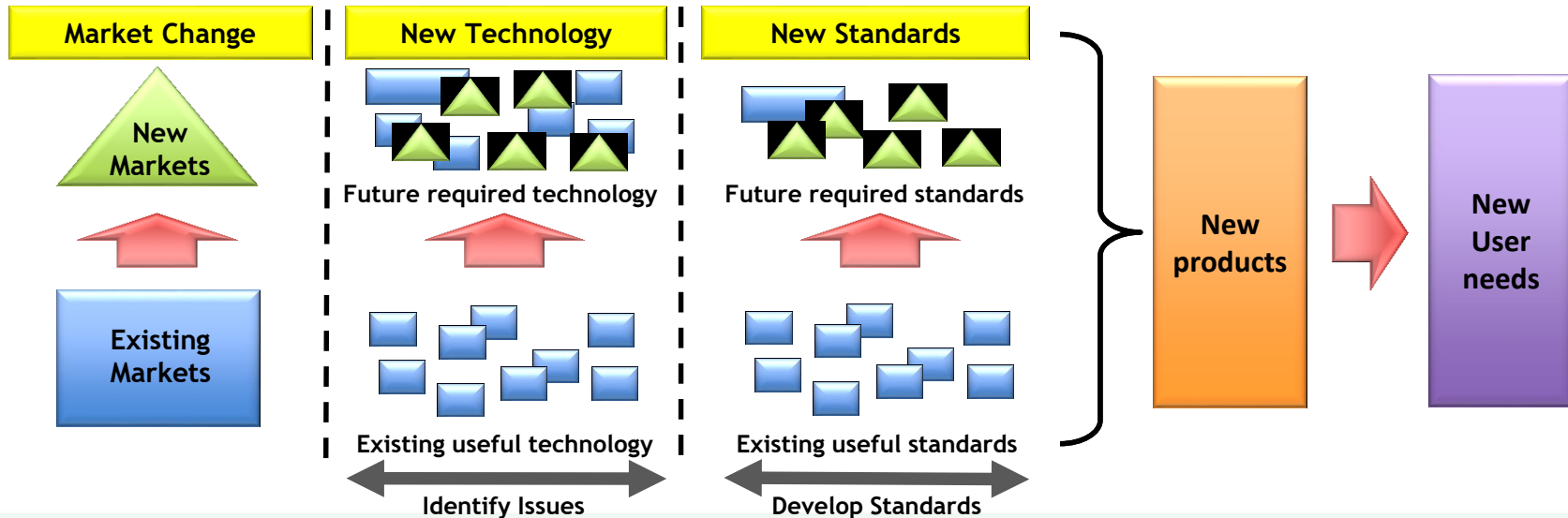


Standard/-ization (1)

- Standard is **Not** an objective (target nor goal)
- Standard is **a Language** and **a TOOL** to enable, coordinate and facilitate:
 - a common understanding among “Stake-holders”
 - the development of devices, systems, and services
 - interoperability (functions, services, and operations)
 - building market(s)
- Standards developed through various processes:
Use cases → Requirements (services and functions) → Architectures → Interface(s) → applying technologies

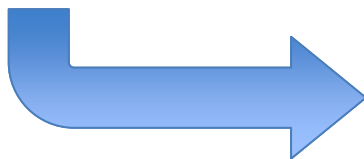
Standard/-ization (2)

- Standardization is a part of eco-environments movement:
Market → Technology → Standard → Product → User needs → Market



Conclusion

Way to 2020: innovation
Innovation: Bottom Up
Knowledge on technology & market
Standards are tool
SDO is a platform
More than 800 SDOs & activities





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