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# 5G business aspects from METIS-II project

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# Introduction

- › 5G will accelerate the new paradigm shift in telecom and networking started by NFV and IoT which with advances in Wireless, Wireline and Data Center network technologies will foster the ubiquitous network connectivity.
- › The entire networking and telecom ecosystem comprising of MNOs, Original Equipment Manufacturers (OEMs), Silicon Providers, Independent Software Vendors (ISVs), System Integrators and Service Providers will be impacted by this change.
- › ICT will be intersected in unique ways to provide new value added services to various vertical industries such as Energy and Utilities, Healthcare, Transportation, Retail, Media and Entertainment, Finance and Public Safety.
- › It is a real challenge for the telecommunication ecosystem to keep the current business and to develop the new one.

# Connectivity



- › In order to meet 5G technical requirements including connectivity
  - The traditional macrocell deployment will evolve taking technology development into account, i.e. more spectrum and better technology will provide more capacity
  - However, in order to do this, no major change of business is really needed
- › Besides macrocell we will see much denser deployment, UDN (Ultra Dense Networks), both outdoor and indoor
- › The “indoor thinking” will go outdoor with more common shared solutions and/or with third parties
- › For UDN we foresee other 3<sup>rd</sup> party actors taking care of “small” towers and urban furniture supporting multi-operator networks  
The same will happen indoor, i.e. more sharing of spectrum and infrastructure
- › New business models such as SCaaS (Small Cell as a Service)

# Services

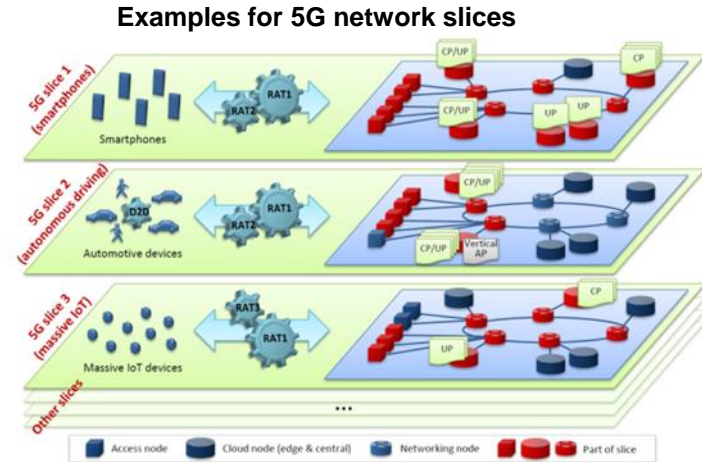


- › Until now the major operator services is connectivity, i.e. connectivity is the service itself.
- › MTC (Machine Type Communications) and IoT (Internet of Things) services will be composed of both applications and use connectivity and service platforms
- › Other actors than MNO will play a natural role: transport, health, facility mgmt. etc.
- › MNOs are developing new competences and strategies to meet customers/3rd parties expectations (see NGMN 5G White Paper)

# Network evolution necessary



- › SDN, NFV, convergence are key trends
- › Network Slicing for 5G will facilitate new business models
  - A NW slice instance is a dedicated logical (virtual) network with customer specific functionalities (e.g. for a vertical industry company) hosted on a common infrastructure with other slices
  - Network slicing will help to optimize virtualized radio access/core network to deliver a different network experience for different kinds of traffic: Video, Autonomous driving, Internet of Things data
  - High economy of scale can be achieved



Source: NGMN



# Research challenges

- › Which new players are expected to emerge in 5G?
- › What are the main roles that will be played by the classical and new players and what will be the relationships between them?
- › In a context of a very large heterogeneity in the radio access network, how to make a fair and efficient sharing of network deployment costs and revenues between the different players?



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**Thank You**

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