Turning 5G mobile network architecture concepts into practice

- Enhance and complete 5G *network architecture concepts*, making network slicing usable in practice
- Develop and implement dedicated *vertical use cases* with specific functionality requirements
- *Proof-of-concept and validation* through real-world testbeds – sea port and touristic city

### Solution Concepts and Testbeds

#### Industrial Sea Port Environment
- Transportation traffic steering within harbor area through traffic light control
- Environmental measurements
- Video surveillance

#### Touristic City Environment
- Augmented / Virtual Reality for live event experience
- Cooperative media production: user interaction with virtual environment

#### Reliability, Resilience & Security
- RAN reliability: multi-connectivity and network coding
- Resilience in telco clouds: fault isolation & prioritization and scaling of NFs & semi-autonomous 5G islands
- Security: security trust zones & fault isolation

#### Elasticity of Resources
- Efficient resource scaling through network functions
- Computational resources – graceful downscaling
- Orchestration: re-allocate network functions within and across the edge cloud
- Slice-aware network size and resource optimization

### Benefits and Impact

#### Commercial Impact
- Enhanced products such as orchestrators, edge-cloud RAN, management solutions
- Enabling novel services through network slicing
- Opportunities for new market players – mobile service providers, tenants, and infrastructure providers

#### Technical Benefits
- Filling conceptual gaps in network slicing and architecture concepts
- Improve and proof usability of network slicing
- Development, evaluation, validation and implementation of real-life 5G use cases

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