End-to-End Cognitive Network Slicing and Slice Management Framework in Virtualised Multi-Domain, Multi-Tenant 5G Networks
The case of the SLICENET project

Christos Tsirakis, Dr. George Agapiou

Measurements and Wireless Technologies Research Laboratory

Labs and New Technologies Department, Fixed & Mobile

Introduction to 5G Network Slicing

- According to [NMGN, 2015], "a 5G slice supports the communication service of a particular connection type with a specific way of handling the C- and U-plane for this service. To this end, a 5G slice is composed of a collection of 5G network functions and specific Radio Access Technology (RAT) settings that are combined together for the specific use case or business model."

- Network slicing has been identified as a crucial enabler for provisioning flexible, cost-efficient and tailored services in software-networking based 5G networks.

SliceNet Overview

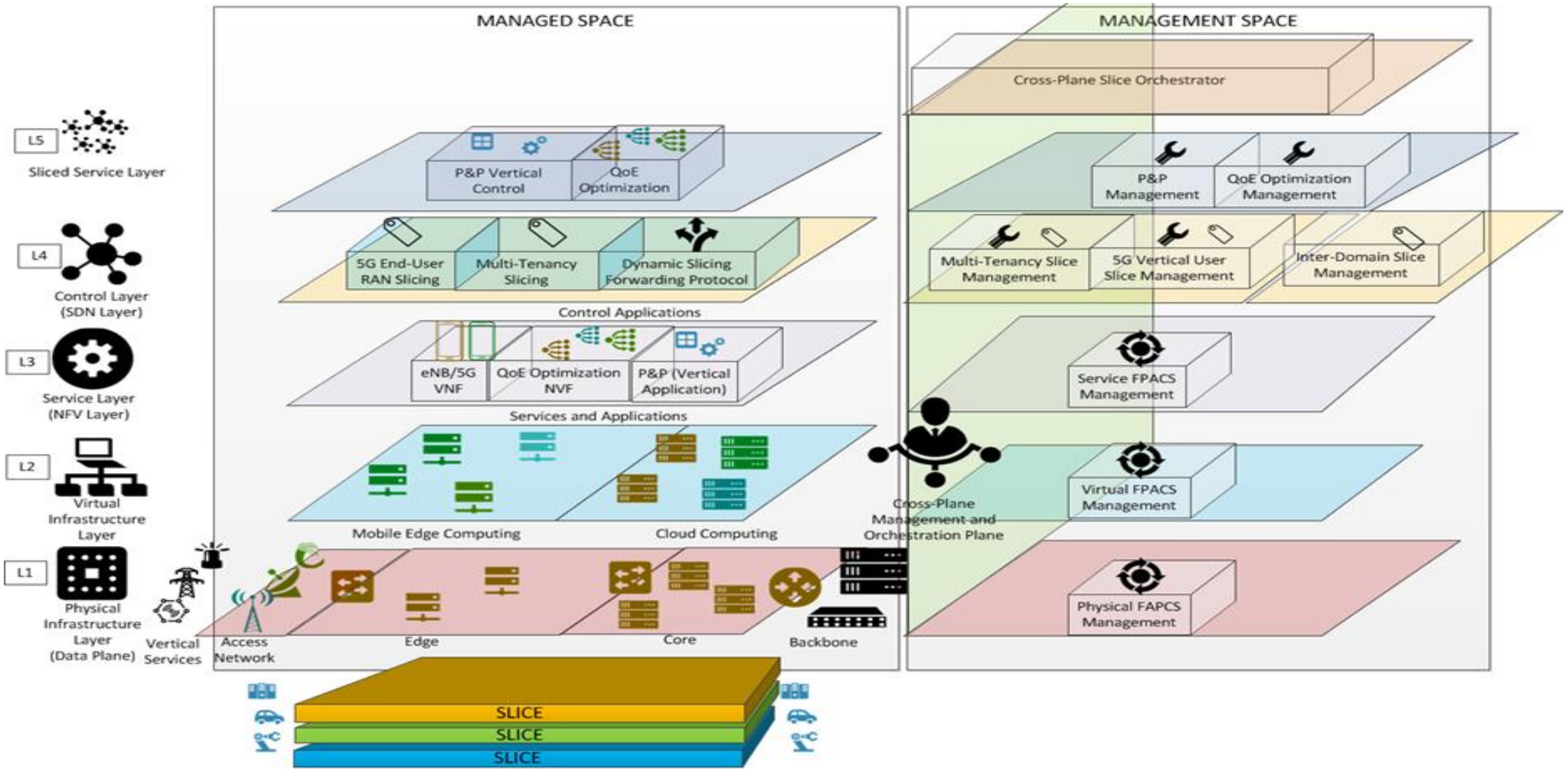
Start/End: June 2017 / May 2020

Budget: 7.9 M€

SliceNet Objectives

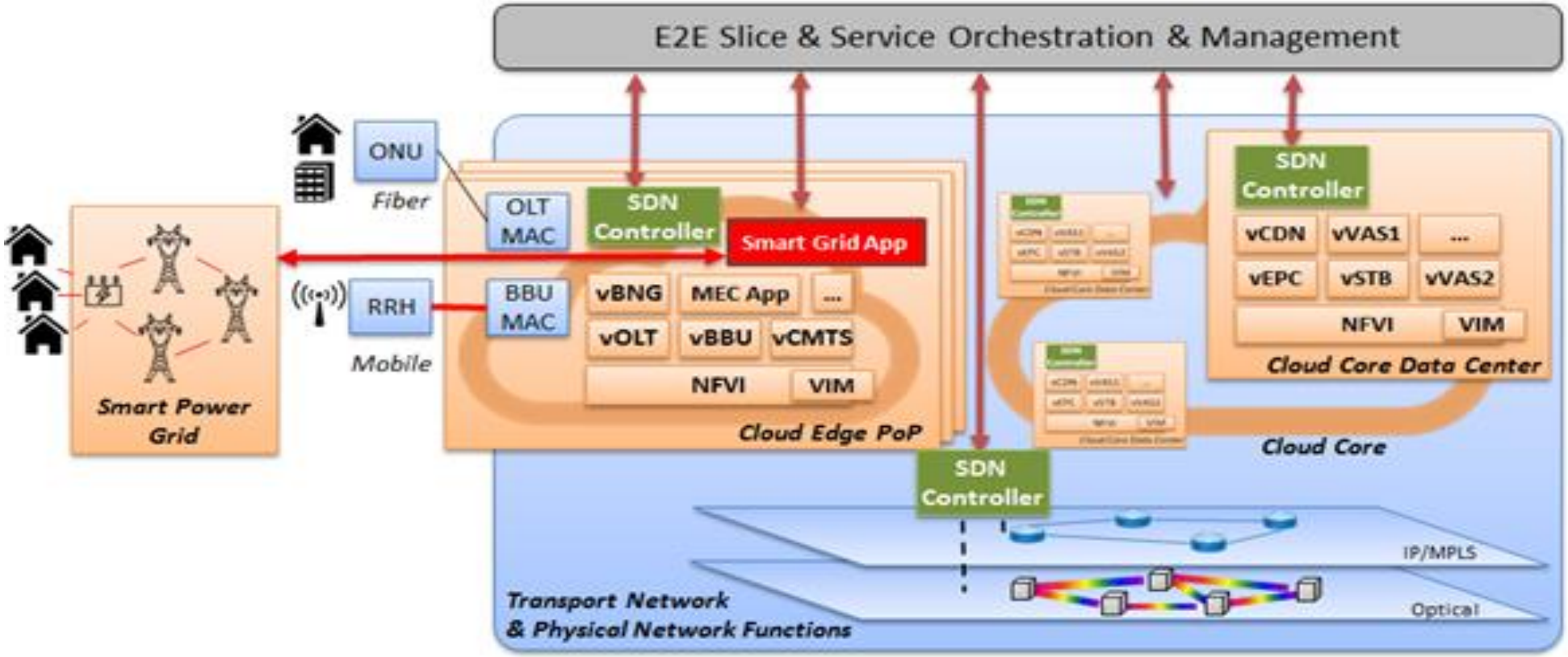
- Achievement of truly E2E network slicing across multiple administrative domains where multiple providers cooperate
- Maximization of the network resources sharing within and across domains, thus reducing the capital expenditure (CAPEX) for 5G network operators
- Formation of close partnership between industry and vertical business sectors in achieving the fully connected society vision in 5G
- Improvement of the users' QoE for the use cases of the vertical businesses, thus meeting different requirements from diverse vertical businesses

SliceNet Architecture



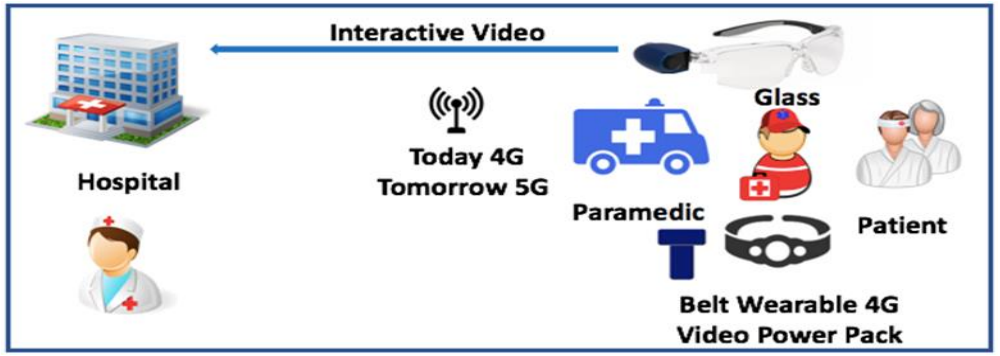
SliceNet Use Cases

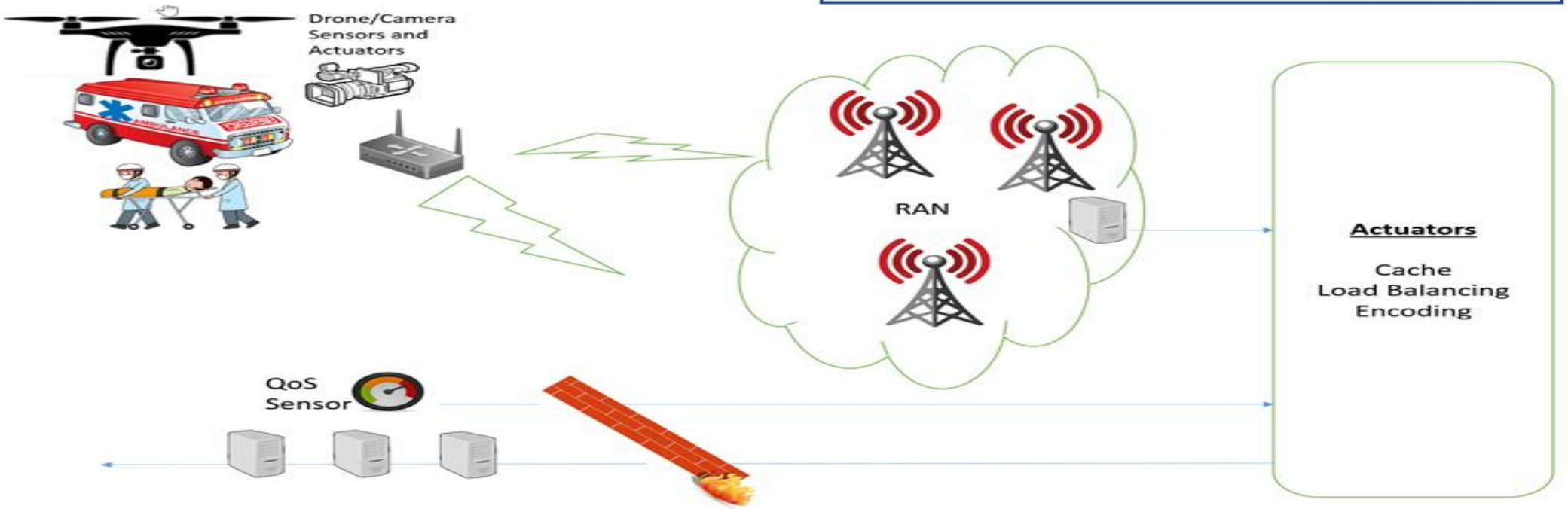
1. 5G Smart Grid Self-Healing



SliceNet Use Cases

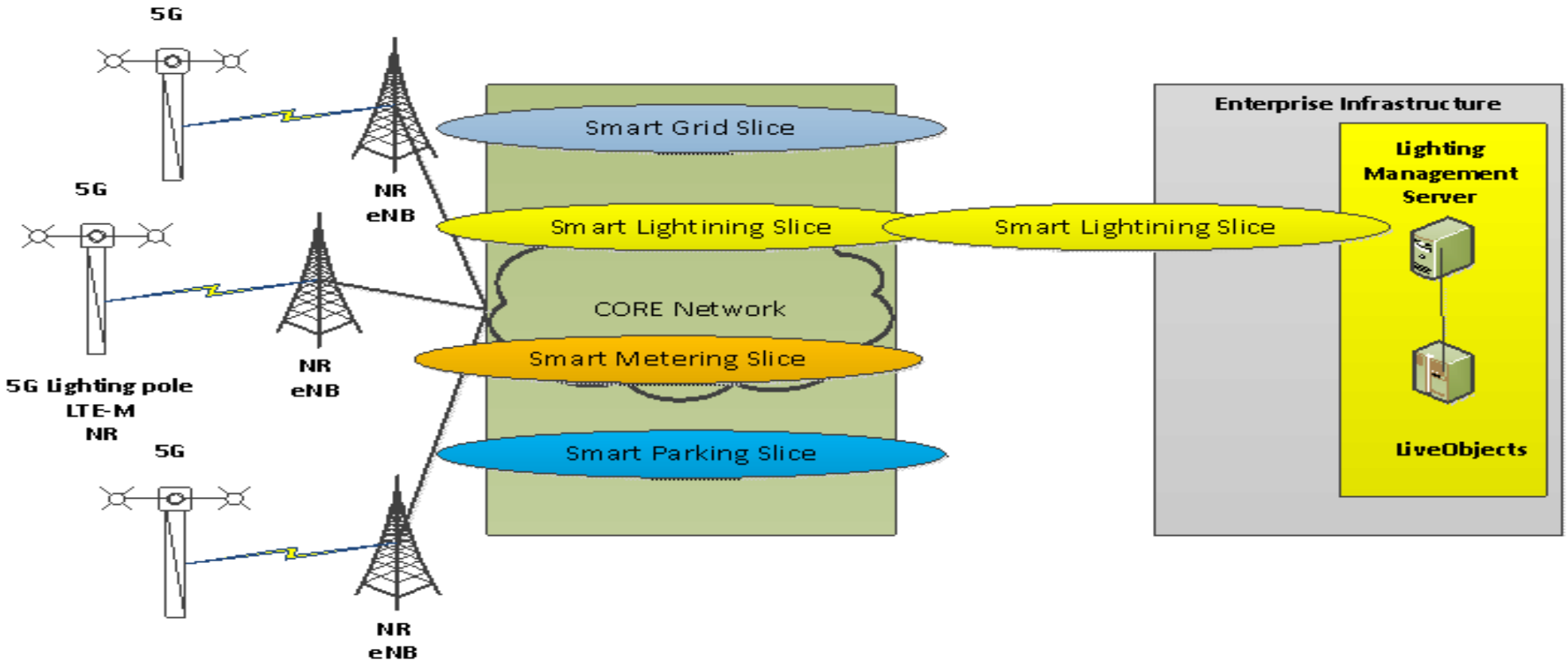
2. 5G eHealth Smart Architecture





SliceNet Use Cases

3. 5G Smart City



Role of OTE at SliceNet

- OTE will contribute to any task from a telecom network operator's perspective
  - mostly focusing on the multi-domain slice management aspect
  - prototyping the use cases
  - analyzing the implications of system integration
  - testing on the system design

- OTE via SliceNet will find a way to effectively provide new services and applications to the end user, which promise to lower the OPEX and CAPEX and thus offer reduced prices to the users

Thank You !!!