5Gtango

5G Development and Validation Platform for global Industry - specific Network Services and Apps

5GTANGO

TECHNICAL AND RESEARCH CHALLENGES

5GTANGO addresses the emerging challenges associated with both the development and validation of vertical services and applications. The following technologies are envisioned:

1) A modular, dependable service platform with a modular orchestration framework that will support vertical sector needs. A key evolution is a more profound separation of concerns by factoring out the verification and validation (V&V) steps to the V&V store role.
2) A store for Verification and Validation expertise. The V&V component is key to 5GTANGO and not present in existing NFV architectures
3) A NFV-specialized Software development kit (SDK) to support the development of NFV services.
4) An adapted DevOps methodology and associated tools that will help connect stakeholders to a modern, agile workflow that supports the rapid development cycles of software-driven networks, and helps tackle the inter-organizational challenges

MAIN OBJECTIVES

5GTANGO puts forth the flexible programmability of 5G networks. The main objectives within the 5GTANGO project are:

- Reduce the time-to-market for networked services by shortening the service development cycle and by qualifying those network services to be adopted.
- Reduce the entry barrier to third party developers and support the creation and composition of Virtual Network Functions (VNFs) and application elements as "Network Services".
- Enable new business opportunities with the customisation and adaptation of the network to vertical application´s requirements.
- Accelerate the NFV uptake in industry via an 'extended' DevOps model and the validation at scale of Network Service capabilities of the 5GTANGO platform in vertical show cases.

APPLICATIONS

In order to illustrate the added value of the service programmability, service validation and orchestration offered by 5GTANGO, we have selected two pilots in relevant areas for 5G:

- Smart manufacturing with deployment and orchestration of network services to control machinery or factory-wide networking system processes, address network security issues and deal with operational verification and validation.
- Immersive media, introducing a solution that relies on virtualisation technologies to implement a virtual Content Delivery Network (vCDN) architecture and adaptive streaming technologies.

EXPECTED IMPACT

5GTANGO will help to open the telecom market and to create business models adapted to the new paradigm: 5GTANGO's NFV-enabled SDK will encourage the creation and growth of start-ups in the sector; the V&V store will be an experimental innovation environment for 5G services where collaboration from different industries will enrich service portfolios; the Service Platform with its modular orchestration framework will alleviate some of the CSPs´ pain points related to the NFV transition.

Its open source results will be made available for their use in industrial and other open source initiatives and as well as future 5G PPP projects and will be discussed with the community and by promoting and actively driving standardization.