5Growth: 5G-enabled Growth in Vertical Industries

MAIN OBJECTIVES

The objective of 5Growth is the technical and business validation of 5G technologies from the verticals' points of view, following a field-trial-based approach on vertical sites (TRL 6-7). Its vision is to empower verticals industries, such as Industry 4.0, Transportation, and Energy with an AI-driven Automated and Sharable 5G End-to-End Solution that will allow these industries to simultaneously achieve their respective key performance targets.

Towards this vision, 5Growth will automate the process for supporting diverse industry verticals through:

A vertical portal in charge of interfacing verticals with the 5G End-to-End platforms, receiving their service requests and building the respective network slices on top,

- Closed-loop automation and SLA control for vertical services lifecycle management, and
- AI-driven end-to-end network solutions to jointly optimize Access, Transport, Core and Cloud, Edge and Fog resources, across multiple technologies and domains.

CONCEPTS & CHALLENGES

5G platform for multi-RAT, multi-platform, multi-domain mobile networks that bridges the gaps resulting from Phase 1/Phase 2 projects while leveraging the potentials of ICT-17 platforms to deliver end-to-end services. Main challenges:

- Design and implementation of a platform, and the related components, interfaces and algorithms, to empower verticals to provision 5G connectivity and services directly at the verticals' sites.
- Automated multi-level, cross-domain, hierarchical service orchestration with multi-domain management of resources with seamless integration at vertical sites with existing platforms.
- Vertical-oriented trial-based assessment, incl. 5G PPP KPIs.
- Tight integration between 5Growth and ICT-17 testing facilities with the goal of measuring KPIs and validating 5G capabilities.
- Quantification of the advantages of the use of slicing, virtualization and orchestration.

VERTICAL PILOTS AND USE CASES

Transportation
Industry 4.0
Energy

Vertical Slicer
- Service Creation
- Service Description
- Service Orchestration

Vertical Service Slices

Resource Management
- Resource Orchestration
- Resource Automation

Resource layer
- Networking
- Monitoring

Vertical IoT slicing

Resource layer

5G

Enhanced vertical support: processing vertical service requests
Building & Managing respective network slices for the regulated services
Closed-loop automation and SLA control for vertical service lifecycle management (create, instantiate, update/modify, terminate...)
AI-driven end-to-end network solutions to jointly optimize Access, Transport, Core and Cloud, Edge and Fog resources, across multiple technologies and domains

START DATE: 01/06/2019
END DATE: 30/11/2021
COST: 14,109,226.25 €
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5Growth-H2020
Supported by the

The 5Growth Project has received funding by the European Union’s Commission Horizon 2020 research and innovation programme under the grant agreement number No 856709.

The European Commission support for the production of this publication does not constitute endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

More information at
www.5g-ppp.eu