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5GENESIS Newsletter July-September 2019 - Issue 5

5GENESIS website: www.5genesis.eu/

INSIDE THIS ISSUE

1. 5GENESIS Overview
2. Dissemination and Communication Channels
3. Dissemination and Communication Activities
4. General Assembly Meetings



5GENESIS Project Overview

The fifth issue of the 5GENESIS newsletter presents the project activities and achievements during the period July - September 2019. This issue focuses on the latest 5GENESIS dissemination and communication activities, the deliverables that have been published as well as the details of the preparatory review meeting, which took place at the Intel premises in Munich, Germany, in September 2019.

5GENESIS activities in numbers:

- Three Conference/Journal Papers
- One White Paper
- One Presentation
- Two Articles in Newspapers and Online Sources
- One Experiment
- Seven Deliverables
- Two meetings

Communication Channels



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Dissemination and Communication Activities

Dissemination and Communication Activities of 5GENESIS during July - September 2019, cover a great number of initiatives such as publications, participation in conferences and workshops, presentations, demonstrations, additional dissemination events and preparation/planning of upcoming events.

Papers in Conferences – Journals

PIMRC 2019 (8-11/09/2019)

Eurescom conference paper entitled “Improving ultra-reliable low-latency communication in multiplexing with enhanced mobile broadband in grant-free resources” was presented at the PIMRC 2019, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications in Istanbul, Turkey on 8-11/09/2019. Read the paper [here](#)

MDPI Technologies, Vol. 7, Issue 3 (09/2019)

A 5GENESIS journal paper entitled “ThingsLocate: A ThingSpeak-Based Indoor Positioning Platform for Academic Research on Location-Aware Internet of Things” published in MDPI Technologies. This paper proposes a new indoor positioning platform, called ThingsLocate, by building upon the popular and flexible ThingSpeak cloud service for IoT, leveraging its data input and data processing capabilities and its native support for cloud execution of Matlab code. Read the paper [here](#)

ISWCS 2019 (27-30/08/2019)

Eurescom conference paper entitled “Strategies to meet the configured repetitions in URLLC Uplink grant-free transmission” was presented at the ISWCS 2019, 16th International Symposium on Wireless Communication Systems, in Oulu, Finland on 27-30/08/2019. Read the paper [here](#)

White Papers

5G-PPP Software Network Working Group

A white paper entitled “Cloud-Native and Verticals’ services - 5G-PPP projects analysis” was released in August from the 5GPPP Software Network Working Group in which 5GENESIS actively participates. This white paper is a follow-up of 2018 Cloud-Native transformation white paper and analyzes how 5G-PPP projects interpret Cloud-Native design patterns and identify adoption barriers. Read the paper [here](#)

Presentations

Jara Suárez de Puga (UPV) participated in the EoT Workshop: Enabling Internet of Things Ecosystems through the Edge (ICCCN) in Valencia, Spain, on 1st of August 2019. She participated with a presentation entitled “Architecture and Use Case for an IoT Deployment with SDN at the Edge and dual Physical and Virtual gateway” which provided an overview of the IoT Gateway used in the Limassol platform and its edge capabilities, presenting 5GENESIS, as a Scenario for its application.

Magazines/Newspapers

Limassol Newspaper, CY (10/07/2019)

A 5GENESIS article (in Greek) entitled “Development of a large-scale 5G experimental infrastructure in Limassol” published in Limassol Newspaper and overviews the network evolution in Cyprus. Read more on the article [here](#)

Sigma Live, CY (09/07/2019)

5GENESIS article (in Greek) entitled “Digital Cyprus: The need for new services and modern infrastructure” (in Greek) overviews the developments in communications and information technology. Read more on the article [here](#)

5GENESIS Experiment Results - First Experimentation Cycle

During the first experimentation cycle of 5GENESIS, the 5G protocol stack of precommercial 5G NR equipment surpassed the target of 1 Gbps for the downlink rate, **reaching the peak rate of 1.4 Gbps!**

Upcoming Events

ACM Mobicom 2019 (21/10/2019, Los Cabos, Mexico)

A 5GENESIS paper entitled “Empirical Analysis of LoRaWAN Adaptive Data Rate for Mobile Internet of Things Applications” is presented at S3 Workshop at the ACM Mobicom 2019 in Los Cabos, Mexico in the 21st of October 2019.

IEEE 5G World Forum (30/09 – 2/10/2019, Dresden, Germany)

5GENESIS co-organizes with the rest ICT-17 projects the “2nd workshop on 5G-Trials - From 5G Experiments to Business Validation” in the IEEE 5G World Forum in Dresden, Germany.

Deliverables

Seven deliverables have been published in the period July - September 2019 referring to management and orchestration, monitoring and analytics, API, Network Functions, Access Components and User Equipment as well as the Security Framework of the 5GENESIS project.

- **D3.1** Management and orchestration: This deliverable focuses on the definition, design and configuration of the MANO architecture to manage the end-to-end services in the 5GENESIS infrastructure.
- **D3.3** Slice management: This deliverable focuses on the design and implementation of the Slice Manager component that will be available in each island/platform. The Slice Manager is responsible for the operation and management of the slice lifecycle within the infrastructure.
- **D3.5** Monitoring and analytics: This deliverable focuses on design and implementation of a unified monitoring framework for all 5GENESIS testbeds.
- **D3.7** Open API, service-level functions and interfaces for verticals: This deliverable focuses on the design and implementation of the 5GENESIS openness framework
- **D3.9** Core Network Functions: This deliverable focuses on 5G core network functions developed to support the use cases of the project.
- **D3.11** Access Components and User Equipment: This deliverable focuses on the design and development of the 5G gNB (5G Base Stations) for the needs of 5GENESIS platforms, including the Physical and MAC (Layer-1 and Layer 2) layers, as well as its interfaces, structure and processing.
- **D3.13** Security Framework: This deliverable introduces the 5GENESIS security analytics engine.

Upcoming 5GENESIS deliverables (October - December 2019)

- **D1.3** Legal aspects and data management (Release B)
- **D4.2** The Athens Platform (Release B)
- **D4.5** The Malaga Platform (Release B)
- **D4.8** The Limassol Platform (Release B)
- **D4.11** The Surrey Platform (Release B)
- **D4.14** The Berlin Platform (Release B)
- **D4.17** Portable 5G Demonstrator (Release B)
- **D5.1** System-level tests and verification (Release A)
- **D7.9** Innovation and exploitation activities (Release B)

If you wish to learn more about 5GENESIS deliverables you may visit 5GENESIS website on the corresponding Deliverables page <http://www.5genesis.eu/deliverables/>

Meetings

EC Review - Year 1, Brussels

The 5GENESIS first year review took place at EC premises in Brussels on the 26th of September 2019. The partners presented to the independent experts of EC the project's first year achievements and also organized two live demos.



5G PPP 5G-Initiative Steering Board Meeting, Brussels

Dr. Harilaos Koumaras (NCSR), coordinator of 5GENESIS Project, participated at the 5G PPP 5G-Initiative Steering Board meeting in Brussels in 18 September 2019.



Preparatory Review Meeting, Munich

The preparatory review meeting of the 5GENESIS Project was held at Intel's premises in Munich, Germany on the 5th and 6th of September 2019. In this meeting, 5GENESIS partners worked together for preparing the presentations and demos to be used for Year 1 project review in Brussels. During these two days, fruitful discussions, presentations, rehearsals and demos took place in order to prepare the partners for the review day!



5GENESIS meeting in Munich

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Communication Channels



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Platforms Contact Information

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