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## 5GENESIS Newsletter

October - December 2020 - Issue 10

5GENESIS website: [www.5genesis.eu/](http://www.5genesis.eu/)

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### 5GENESIS Project Overview

The 10th issue of the 5GENESIS newsletter presents the project activities and achievements during the period October - December 2020. This issue focuses on the latest 5GENESIS dissemination and communication activities, the upcoming deliverables as well as the details of the 10th GA meeting, which was hosted virtually, due to the coronavirus impact, 24-26 November 2020.

**5GENESIS activities in numbers for the October-December 2020 period:**

- Two Special Issues and Call for Papers
- One Journal paper
- Three Online Articles
- One 5GPPP Activity
- One Online Workshop
- Six Presentations/Webinars
- Two Trials - Test flights
- Six Upcoming Deliverables
- One GA meeting

#### Communication Channels



<http://www.5genesis.eu>

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## Dissemination and Communication Activities

Dissemination and Communication activities of 5GENESIS during October - November 2020, cover a great number of initiatives such as publications, articles, presentations and trials.

### Special Issues - CFP

- 5GENESIS team of SRL, KAU, NCSR, UMA and INTEL are leading a special issue on the Sensors journal entitled: "Experimentation in 5G and Beyond Networks: State of the Art and the Way Forward". This Special Issue aims to collect original contributions on experimental aspects of 5G and beyond networks and systems. Manuscripts submission is now open! Start submitting your papers now! Deadline 30 April 2021. More information available here: [https://www.mdpi.com/journal/sensors/special\\_issues/5G\\_beyond\\_networks](https://www.mdpi.com/journal/sensors/special_issues/5G_beyond_networks)
- 5GENESIS team of University of Malaga lead a special issue on the SENSORS journal (ISSN 1424-8220) entitled "5G Mission-Critical Applications". This special issue belongs to the section "Communications". The deadline was on 15 December 2020. You may learn more information by clicking on the following link: [https://www.mdpi.com/journal/sensors/special\\_issues/5G\\_mission?fbclid=IwAR2xEVEeEKwVGw0XzMA4TeR\\_cYMIie\\_Y8J3f8bJcfPgZ0yQfCh4IAbLf-s](https://www.mdpi.com/journal/sensors/special_issues/5G_mission?fbclid=IwAR2xEVEeEKwVGw0XzMA4TeR_cYMIie_Y8J3f8bJcfPgZ0yQfCh4IAbLf-s)



### Journal Paper

The 5GENESIS journal paper (by Almudena Díaz Zayas, Giuseppe Caso, Özgü Alay, Pedro Merino, Anna Brunstrom, Dimitris Tsolkas and Harilaos Koumaras) entitled: "A Modular Experimentation Methodology for 5G Deployments: The 5GENESIS Approach" has been published at Sensors special issue "Experimentation in 5G and beyond Networks: State of the Art and the Way Forward", Vol 20, Issue 22, 20 Nov 2020. You may access the paper online at: <https://www.mdpi.com/1424-8220/20/22/6652/html>



## Website Articles

### AIGALEO.GR

An article (in Greek) was published from the official website of Municipal of Egaleo exploring the nature of feasibility tests executed at 5GENESIS Athens 5G platform (Municipal stadium of Egaleo). The trials conducted in the context of 5G!Drones Use Case 4 (connectivity during crowded events). You may read the full article in its online web version through the following link: <https://www.aigaleo.gr/2020/10/22/technikes-dokimes-5g-me-drones-sto-dimotiko-gipedo-aigaleo/>



### IITDEMOKRITOS.GR

- Dr. Harilaos Koumaras, scientific responsible for Media Networks Laboratory's of NCSR "Demokritos" and 5G!Drones partner, along with representatives from partners Cosmote, HEPTA, CAFA Tech, robots.expert, Municipality of Egaleo and INFOLYSIS conducted technical flight trials with drones in 5G network at the Stavros Mavrothalassitis municipal stadium of Egaleo, on 19-20 October 2020 and on Cosmote Academy premises, on 21 October 2020, in Athens. Both locations are part of the 5GENESIS Athens platform. More information about the trials is provided in the following article: <https://www.iit.demokritos.gr/newsevents/5gdrones-feasibility-tests-athens/>
- The Institute of Informatics & Telecommunications (IIT), of NCSR "Demokritos", dedicated its October newsletter issue to "5G Networks". Special mention was made on the workshop "5G Trials in Europe: 5G Experimentation Facilities and Vertical Trials: Current Status and Future Perspectives" which was successfully organised by the Media Networks Laboratory (MNL) on Wednesday 14 October, between 9:00-15:00 CEST, in the frame of H2020 projects 5GENESIS and 5G!Drones with the support of the 5G-PPP partnership. It was attended online by almost 100 participants. In the newsletter also the 5G!Drones trials on the Athens 5GENESIS 5G experiments platform were reported in details. You may access it here: <https://mailchi.mp/3e9ed2da4eba/newsletter-iit-ncsrdemokritos-august-october-2020>



## 5GPPP – Activities

The 5G PPP Annual Progress Monitoring Report has been published. The report is giving insights and information about progress and development of ICT projects under the supervision of 5GPPP. It also provides information about the format of the consortiums within these projects. You can read more here: <https://5g-ppp.eu/annual-progress-monitoring-reports/>



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## ONLINE WORKSHOP

5GENESIS co-organizes the online workshop entitled "Validation Trials for 5G-based IoT Solutions Workshop (5GIoTtrials 2021)" at ICIN 2021, 24th Conference on Innovation in Clouds, Internet and Networks. Call for papers was up to 21 December of 2020. You may read more by clicking on the following link:

<https://www.icin-conference.org/workshops/>



## Presentations/ Webinars

### 5G Experimentation Facilities and Vertical Trials by NCSR "Demokritos"

Dr. Harilaos Koumaras, NCSR "Demokritos" and 5GENESIS project coordinator, participated and presented at the online workshop "5G Experimentation Facilities and Vertical Trials: Current Status and Future Perspectives" co-organized by NCSR "Demokritos" (Athens, Greece) and EU projects 5GENESIS and 5G!Drones with the support of the 5G-PPP partnership on 14 October 2020. The Subject of the agenda was about 5G Experimentation Platforms. More information about the event and the speakers is available at: <https://5g-ppp.eu/event/5g-experimentation-facilities-and-vertical-trials/?fbclid=IwAR3w3f7aptcRXYuKAcPsJZJ8oECZkxgleGIJ44E-Snv94H4Ihu85SuH7-A8>. You can also watch the video of the presentation at: [https://www.youtube.com/watch?v=FqqZMm52CEI&fbclid=IwAR0Op-uNjjkmGf1cyTUBefWIS3cdnMMNa5rHARzYWDAKJEeIXAcZln\\_VNS8](https://www.youtube.com/watch?v=FqqZMm52CEI&fbclid=IwAR0Op-uNjjkmGf1cyTUBefWIS3cdnMMNa5rHARzYWDAKJEeIXAcZln_VNS8)



### Xchanging Ideas - Global 5G Evolution

Dr. Harilaos Koumaras from NCSR, 5GENESIS project coordinator, participated in the online event "Xchanging Ideas - Global 5G Evolution" on 8th of December 2020, presenting the trial field results of 5G-enabled UAVs that performed in the framework of 5GDRONES Project on top of 5GENESIS Project experimental 5G infrastructure, where NCSR "DEMOKRITOS" participates. The event broadcasted through Xchanging Ideas - Global 5G Evolution YouTube channel at: <https://www.youtube.com/channel/UCg4qorwUkYzEee-BIR7Catw>



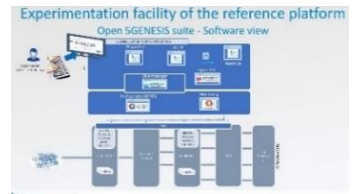
## WINTeCH'20

In this demo, EURECOM team showed the current implementation status of the OpenAirInterface (OAI) 5G non-standalone (NSA) system operating with a common-of-the-shelf (COTS) phone in the sub-6 GHz band. The radio access network (RAN) comprises an OAI eNB and a gNB, both running on general purpose x86 servers and USRP N310 software defined radios. Further, the team used the OAI evolved packet core (EPC) comprising home subscriber server (HSS), mobility management entity (MME), serving and packet data network gateway (S-PGW), which are all deployed in Docker containers. In the demo was shown the initial connection and user registration on the 4G cell, the secondary cell addition, the initial connection on the 5G cell and some initial traffic on the 5G cell. More information at: <https://dl.acm.org/doi/abs/10.1145/3411276.3417985> The video of the demo presentation is available here: <https://www.youtube.com/watch?v=FrtvilrrTl0>



## 5G-PPP Technology Board Workshop

- Almudena Diaz Zayas from University of Malaga, 5GENESIS partner, gave the online presentation entitled: "5GENESIS: 5G performance experimentation and trials: key results and lessons learned". This presentation occurred in the context of 5G-PPP TB workshop, session "Testing: Methodologies and Setup" on 10 December 2020.
- Dr. Harilaos Koumaras from NCSR "Demokritos", 5GENESIS coordinator, presented online the: "Field Trials of UAVs on top of 5GENESIS platform: Advances and Lessons Learned". This presentation happened in the context of the 5G-PPP Technology Board e-Workshop, session "Working on Verticals", on 10 December 2020.



## 5G and Internet of Things Thessaloniki Week 2020

Dr. Harilaos Koumaras from NCSR "Demokritos", 5GENESIS coordinator, participated on 14 December 2020 at the "5G and Internet of Things Thessaloniki Week 2020". He presented and showcased how 5G-enabled UAVs can support the IoT vertical industry, based on the work that is performed in 5GENESIS and 5G!Drones, 5G-PPP projects. More information available here: <https://www.ihu.gr/ucips/post-3399>



## Demonstration

University of Malaga together with the Municipal Police of Malaga and Nemergent, all 5GENESIS partners, performed a showcasing event of 5G for first responder teams, utilizing the 5GENESIS 5G Malaga platform. More details are available at the 5GENESIS YouTube channel at:

<https://www.youtube.com/watch?v=9H6OkjX74iw>



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## 5GENESIS platform trials by 5G!Drones project (ICT-19)

- **Athens trials - Municipal of Egaleo**

5GENESIS project hosted 5G!Drones partners NCSR “Demokritos”, COSMOTE, HEPTA, CAFA Tech, robots.expert, Municipality of Egaleo and INFOLYSiS to conduct feasibility tests in 5GENESIS Athens 5G platform at the Municipal stadium of Egaleo (Stavros Mavrothalasitis) on 19th & 20th of October. The main goal of the trials was to collect data of the interaction between 5G and UAVs on the context of 5G!Drones use case 4 (connectivity during crowded events).



- **Athens Trials – OTE Academy**

5GENESIS project hosted 5G!Drones partners NCSR “Demokritos”, COSMOTE, CAFA Tech, robots.expert and INFOLYSiS to conduct flight trials in 5GENESIS 5G Athens platform, this time, at COSMOTE premises (OTE Academy) on October 21st of 2020. The main goal was to offer a better level of network services with drones under 5G and avoiding dropped calls and degraded Internet connectivity during mass events. These tests, were also performed in the framework of 5G!Drones use case 4 (connectivity during crowded events).



## Deliverables

### Upcoming Deliverables

**D3.2 Management and orchestration (M33):** Final report on the design and implementation of the management and orchestration component of the 5GENESIS facility.

**D3.4 Slice management (M33):** Final report on the design and implementation of the Slice Manager component of 5GENESIS facility.

**D3.6 Monitoring and analytics (M33):** Final report on the design and implementation of the monitoring and analysis tool of the 5GENESIS facility.

**D3.8 Open API, service-level functions and interfaces for verticals (M33):** Final report on the design and implementation of the 5GENESIS openness framework (east-west interfaces and APIs for verticals are described in detail).

**D3.14 Security Framework (M33):** Final report on the 5GENESIS security analytics engine.

**D3.15 Experiment and Lifecycle Manager (M33):** Midterm report on the 5GENESIS Experiment and Lifecycle Manager, also including descriptors and the 5GENESIS data modeling.



Deliverables

## GA Meeting

### 5GENESIS 10th GA Meeting (virtual)

Due to the COVID-19 impact and safety restrictions that apply worldwide, the 10th 5GENESIS GA plenary meeting took place virtually! It ran for 3 days (24-26 November 2020) and the project's partners discussed about the project's progress, activities, trials, upcoming deliverables, demos, and goals to be met during the 3rd phase of the project.



GA Meeting



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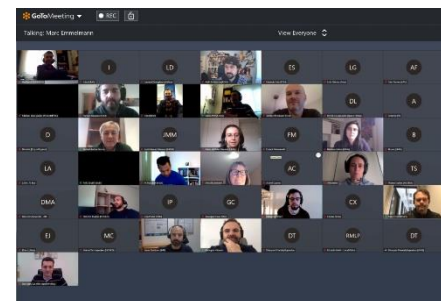


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