5G!DRONES

Unmanned Aerial Vehicle Vertical Applications' Trials Leveraging Advanced 5G Facilities

ISSUE HIGHLIGHTS

The fourth issue of the 5G!Drones newsletter presents the project activities during the period March-May 2020. This issue focuses on the latest 5G!Drones dissemination and communication activities, the deliverables that have been published as well as the general assembly meeting's details.

5G!Drones activities in numbers:

- Three Journal Papers
- Six Accepted Conference Papers
- Two Articles-Interviews
- One Workshop
- One Presentation-Video
- Four 5GPPP related activities
- Six Deliverables
- One General Assembly Meeting (Virtual)

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DISSEMINATION AND COMMUNICATION ACTIVITIES

JOURNAL PAPERS

IEEE ACCESS JOURNAL

- The 5GDRONES EURECOM Paper entitled "Federated Learning for UAVs-Enabled Wireless Networks: Use Cases, Challenges, and Open Problems" was accepted in IEEE Access Journal. Read the paper online via this link: https://5gdrones.eu/wp-content/uploads/2020/03/Paper_IEEE_Access.pdf

IEEE NETWORK MAGAZINE

- The 5GDRONES Project Aalto University journal paper entitled "Spectrum Sharing for Secrecy Performance Enhancement in D2D-Enabled UAV Networks" has been accepted in IEEE Network Magazine. Read the paper at: https://5gdrones.eu/wp-content/uploads/2020/05/Spectrum-Sharing-for-Secrecy-Performance-Enhancement-in-D2D-Enabled-UAV-Networks.pdf

- The 5GDRONES Paper entitled "A Service-Based Architecture for enabling UAV enhanced Network Services" was accepted in IEEE Network Magazine. Read the paper online at: https://5gdrones.eu/wp-content/uploads/2020/03/Enabling_UAV_based_enhanced__Network_Services.pdf

CONFERENCE ACCEPTED PAPERS

IEEE IWCMC

- The 5GDRONES Aalto University conference paper entitled "Energy-aware Collision Avoidance stochastic Optimizer for a UAVs set" was accepted in IEEE IWCMC (Virtual Event), 15-19/06/2020, Limassol, Cyprus. It can be accessed online at: https://5gdrones.eu/wp-content/uploads/2020/05/Energy-aware-Collision-Avoidance-stochastic-Optimizer-for-a-UAVs-set.pdf

- The 5GDRONES conference paper entitled "UAV Communication Strategies in the Next Generation of Mobile Networks" has been accepted in IEEE IWCMC (Virtual Event) in 15-19/06/2020, Limassol, Cyprus. Read the paper online at: https://5gdrones.eu/wp-content/uploads/2020/05/UAV-Communication-Strategies-in-the-Next-Generation-of-Mobile-Networks.pdf

IEEE CONFERENCE ON NETWORK SOFTWARIZATION

A 5GDRONES Project related conference paper entitled "5G UASPP: 5G-based multi-provider UAV platform architecture", has been accepted at IEEE Conference on Network Softwarization, 29 June – 3 July 2020 (Virtual Conference). Read the paper at: https://5gdrones.eu/wp-content/uploads/2020/05/Multi-provider.pdf

IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS

A 5GDRONES Project related conference paper entitled "On 5G support of cross-border UAV operations" has been accepted at Workshop on Integrating UAVs into 5G and Beyond in IEEE International Conference on Communications, 7-11 June 2020 (Virtual Conference). Read the paper at:

https://5gdrones.eu/wp-content/uploads/2020/05/Cross-border.pdf

AIAI 2020

A 5GDRONES Project related conference paper entitled "A new approach to 5G and MEC integration" has been accepted at 5th Workshop on "5G – Putting Intelligence to the Network Edge" (5G-PINE 2020) in AIAI 2020, 16th International Conference on Artificial Intelligence Applications and Innovations, 5–7 June, 2020 (Virtual Conference) . Read the paper at: https://5gdrones.eu/wp-content/uploads/2020/05/5G-MEC.pdf

IFIP NETWORKING 2020 – WORKSHOP ON NETWORK SLICING 2020

A 5GDRONES Project journal paper entitled "Integration of U-space and 5GS for UAV services" has been accepted in IFIP Networking 2020 – Workshop on Network Slicing 2020, 22-25/06/20. Read the paper at: https://5gdrones.eu/wp-content/uploads/2020/05/Integration_of_U_space_and_5GS_for_UAV_services.pdf

PUBLISHED ARTICLES-INTERVIEWS

ITM

- "Putting Drones to the 5G test", an article in which Adlen Ksentini a key researcher at EURECOM, 5G!Drones key partner, explains the challenges involved. Read the article at:
  https://blogrecherche.wp.imt.fr/en/2020/04/01/putting-drones-to-the-5g-test/

UNMANNED AIRSPACE

- An 5G!DRONES article interview entitled "How Poland built and introduced an operational, integrated national UTM/ATM system" can be found at the Unmanned Airspace website. Read more at:
  https://www.unmannedairspace.info/news-first/how-poland-built-and-introduced-an-operational-integrated-national-utm-atm-system/

WORKSHOPS

AERCOMM WORKSHOP, IEEE WCNC 2020

Due to the coronavirus outbreak, the Aerial Communications in 5G and Beyond Networks (AERCOMM) workshop co-organized by 5GDrones and EU-Korea PriMO-5G project, co-located with IEEE WCNC 2020, became virtual and took place on Monday, May 25th. Additional information concerning the workshop and the 5G!Drones Robots.Expert presentation are available at:
https://5gdrones.eu/presentation/5gdrones-presentation-at-aercomm-workshop-ieee-wcnc/
https://5gdrones.eu/workshop/aercomm-workshop-and-ieee-wcnc-2020-go-virtual/

PRESENTATION-VIDEO

Robots.Expert, 5GDrones project partner, presented "Challenges and Benefits of 5G in Urban Air Mobility" at the AERCOMM workshop, co-organized by EU 5GDrones and EU-Korea PriMO-5G projects, at IEEE WCNC 2020 (virtual), on Monday 25 May 2020. Gokul Srinivasan made remotely this presentation, on behalf of Robots.Expert and 5GDrones.The video of the presentation is available at the 5G!Drones YouTube channel at: https://www.youtube.com/watch?v=m5mndc8_wdU&feature=youtu.be

5G-PPP NEWS AND ACTIVITIES

5G-PPP STAKEHOLDERS GLOSSARY – APRIL 2020

The 5G-PPP and the Full5G project released the revised 5G PPP stakeholders picture, along with the accompanying glossary. Well done to those 5G PPP Phase 2 and Phase 3 projects that contributed. You may access the document at https://bscw.5g-ppp.eu/pub/bscw.cgi/d347361/5G%20PPP%20Stakeholder%20Glossary%202020-04%20v3.pdf

5G-PPP NEWSFLASH ISSUES

- The latest 5G-PPP Newsflash (April 2020), prepared by the Full5G project and 5G-PPP, is available online at https://5g-ppp.eu/newsflash-april-2020/

- 5GPPP Newsflash March Issue, prepared by the Full5G project and 5GPPP, is available online at https://5g-ppp.eu/newsflash-march-2020/

5GPPP NEWLETTER ISSUES

- The latest 5G-PPP Newsletter (April 2020), prepared by the Full5G project and 5GPPP, is available online at https://5g-ppp.eu/newsletter-20/

DELIVERABLES

Six deliverables have been released in the period March - May 2020:

D1.3 5G!Drones system architecture initial design: First version of 5G Architecture to be used for 5G!Drones trials of use cases.

D1.4 Report on UAV business and regulatory ecosystem and the role of 5G: This is a report that contains analysis of the UAV market, business and legal ecosystem within the newly formed 5G environment.

D1.5 Description of the 5G trial facilities and use case mapping: This deliverable is an updated report that contains a detailed description of the supported features and identified requirements of 5G test sites to deploy 5G!Drones, as well as a mapping of use case components to facilities.

D2.1 Initial definition of the trial controller architecture, mechanisms, and APIs: This report contains the detailed architecture of the trial controller including the trial execution and management API definitions.

D4.1 Integration plan: This deliverable presents a guide for integrating all architecture and use case components into the full 5G!Drones system over the selected 5G facilities

D6.2 Annual report, year 1: This is an annual report describing the state of the project and administrative details for year 1.

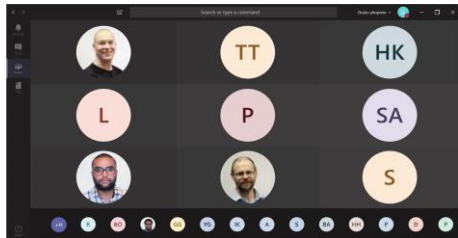If you wish to learn more on the 5G!Drones deliverables you may visit the official 5G!Drones website on the corresponding Deliverables page https://5gdrones.eu/deliverables/

Deliverables

GENERAL ASSEMBLY MEETING

Considering COVID-19 impact and safety restrictions that apply worldwide, the 4th 5GDrones GA plenary meeting was organized remotely! This virtual GA ran for 2 days (25-26 May 2020) and topics related to the project's progress, architecture, submitted and upcoming deliverables, trial activities, review preparation and goals were discussed in detail.

The next GA meeting will be planned for end of September and most probably it will be a remote one too.

Communication Channels

https://5gdrones.eu/

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