



3rd Workshop

**6-7 September 2021**

**Remote event**

# **Towards SAFE and SECURE Urban Air Mobility**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant Agreement n°770138.

# 3rd OPTICS2 Workshop: Towards SAFE and SECURE Urban Air Mobility



If Urban Air Mobility (UAM) is to succeed, it must be safe and secure for both existing and new businesses, protecting all operators, aircraft platforms, end users and the general public from unacceptable risk. Yet the variety, density and complexity of UAM operations – including drones, sky taxis and personal vehicles – will be like nothing we have ever seen before.

What are the scenarios that could contribute to deliver safe and secure UAM? And what are the key safety and security axioms, methods and processes that will support cities in realising the benefits of UAM, enhancing the quality of city life, without adding significant new safety and security risk?

## Agenda (highlights)

### DAY 1

**09:00-09:15:** Practice on technical issues and troubleshooting

**09:15-09:30:** Welcome and description of the workshop

**09:30-13:30:** Futurish Cards Workshop on UAM

### DAY 2

**09:00-09:45:** Presentation and discussion on Day 1 results

**09:45-10:15:** Vladimir Cid-Bourié (European Commission)

**10:15-10:45:** Henk Hesselink (NLR)

**10:45-11:15:** Carmen Aguilera Rios (EUSPA Agency)

**11:15-11:30:** break

**11:30-12:00:** Vassilis Agouridas (ASD)

**12:00-12:30:** Silvio Semanjski (AURORA Project)

**12:30-13:00:** Bianca Schuchardt/Christoph Torens (DLR)

**13:00-13:30:** Q&A, wrap up and conclusions

## Summary:

- This third OPTICS2 workshop brings together leading-edge experts in Urban Air Mobility, Safety, Human Factors and Security to discuss future safe and secure UAM scenarios.
- Representatives from the European Commission, NLR and EU-funded projects on UAM will participate
- The output of the workshop will be future UAM scenarios and their characteristics, as well as a set of safe and secure services/products (*artefacts*) to be developed and used in the identified scenarios.

# 3rd OPTICS2 Workshop: DAY 1 Towards SAFE and SECURE Urban Air Mobility

**09:00-09:15:** Practice on technical issues and troubleshooting

**09:15-09:30:** Welcome and description of the workshop (plenary)

**09:30-10:45:** Futurish Cards Workshop UAM Edition – Futurescape (defining the context of UAM)(individual + team work)

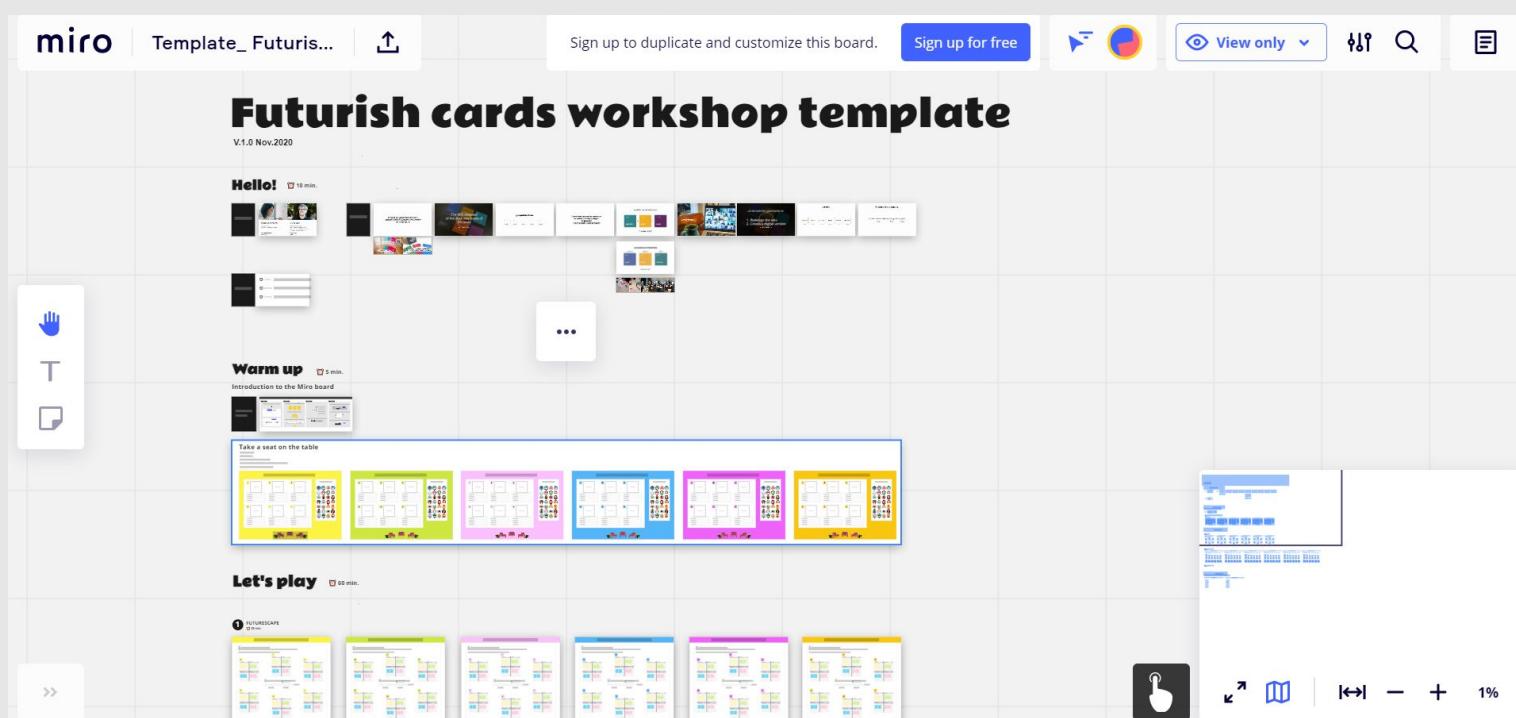
**10:45-11:00:** Coffee break

**11:00-12:00:** Futurish Cards Workshop UAM Edition – Future artifacts (designing safe and secure artifacts for UAM)(individual work)

**12:00-12:15:** Coffee break

**12:15-13:30:** Futurish Cards Workshop UAM Edition – Team discussion and fine-tuning of one artifact per team (team work)

Gratefully inspired by Near Future Laboratory's DF-DBCPC 0-7 and Situation Lab's The Thing From The Future, [futurish cards](#) is a generative card deck developed by Silvio Cioni and Angelica Fontana for envisioning scenarios and artefacts from the future, that can be easily integrated with different methods of Design Futures practice. The futurish cards generative deck was adapted to the scope of the OPTICS2 workshop on UAM and will be used to design future UAM scenarios, as well as to come out with a set of safe and secure artifacts to be used in the identified scenarios. Participants will be able to interact remotely with other experts with the final aim to jointly build, guided by the cards, scenarios and artifacts for UAM bringing their own competences.



# 3rd OPTICS2 Workshop:

## DAY 2

### Towards SAFE and SECURE Urban Air Mobility

**09:00-09:45:** Results of Day 1 workshop

**09:45-10:15:** Vladimir Cid-Bourié (European Commission)

**10:15-10:45:** Henk Hesselink (NLR)

**10:45-11:15:** Carmen Aguilera Rios (EUSPA Agency)

**11:15-11:30:** Coffee break

**11:30-12:00:** Vassilis Agouridas (ASD)

**12:00-12:30:** Silvio Semanjski (AURORA Project)

**12:30-13:00:** Bianca Schuchardt/ Christoph Torens (DLR)

**13:00-13:30:** Q&A, wrap up and conclusions



Vladimir Cid-Bourié is Project Officer at the European Commission's Climate, Infrastructure and Environment Executive Agency (CINEA). Having joined the agency in 2018, he is part of the Horizon Transport Research unit where he is in charge of a Research & Innovation portfolio of aviation and drones related EU projects. Previously he worked for CDTI, the Spanish Innovation Agency, a public body answering to the Ministry of Science and Innovation. Vladimir started his career in KPMG consulting and was trained as an Aerospace Engineer at Universidad Politécnica de Madrid.



Henk Hesselink is senior R&D Manager at the Royal Netherlands Aerospace Center, NLR, and team lead for the integration of unmanned systems with a focus on U-space and UAM. He is policy advisor for the Dutch government and involved in EU projects (VLDs) for demonstrating complex drone operations in different environments. He is project coordinator of VUTURA and technical manager for the AMU-LED project. Henk participates to international working groups for the integration of drones and urban air mobility, such as EUROCAE and IFAR.



Carmen Aguilera is Head of Section for Operational Market Development in charge of Safety Critical Applications at EUSPA, the EU Agency for the Space Programme. She is serving the Agency since 2009 and is in charge of bringing Space services into aviation and unmanned vehicles, maritime and rail transport users, fostering new applications, research and development and business growth for EU industry. She has over 15 years experience in the aerospace sector with focus on research and innovation in the downstream market.



Vassilis Agouridas is Head of the EU Public Co-Creation & Ecosystem Outreach activities at AIRBUS (Urban Mobility) and Chairman of the UAM Committee of ASD Europe (the AeroSpace & Defence Industries association of Europe) and, on behalf of Airbus, the Leader of the UIC2 (Urban Air Mobility Initiative Cities Community) launched in October 2017 within the Smart Cities Marketplace of the European Commission. More recently, Vassilis has been designated member of the EASA Steering Group on the development of Acceptable Means of Compliance (AMCs) and Guidance Material (GM) for the U-Space Implementation Regulation (2021/664) in his capacity as leader of an experts' team for Article 18(f).



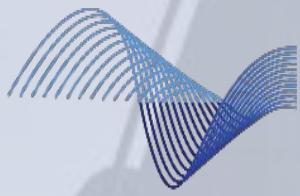
Silvio Semanjski, aerospace researcher for more than 20 years, specialized in manned and unmanned air traffic management. He is currently leading the AURORA project ([www.aurora-uam.eu](http://www.aurora-uam.eu)). The project brings safety-critical solutions for autonomous self-piloting flight capability in UAM operations, integration with very low level air traffic management, and urban/peri-urban mobility ground elements.  
UAM, GALILEO, AUTONOMOUS FLIGHT, VLLATM, SELF-PILOTING.



Bianca I. Schuchardt works as aeronautical research engineer at DLR in Braunschweig and has been engaged in UAM research since 2011. At the DLR Institute of Flight Guidance she is leading the DLR projects "HorizonUAM – Urban Air Mobility Research at the German Aerospace Center" and "MaRPAS 2 – Maritime Operation of Remotely Piloted Aircraft Systems". She is also coordinating the UAM topics within the NASA-DLR cooperation on "Air Traffic Management Exploration (ATM-X)".



Christoph Torens is a research scientist at DLR, Institute of Flight Systems, Department Unmanned Aircraft in Braunschweig. His research focuses on software verification, software safety, and software certification for autonomous unmanned aircraft. He graduated in computer science from the Technical University Braunschweig, Germany. He is currently vice chair of the AIAA Software Technical Committee and member of the AIAA Unmanned Systems Integration Committee. He is a working group member for ongoing standardization efforts with ASTM and EUROCAE.



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## Consortium:



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