



At the core of the Engage KTN is the definition of various thematic challenges: new ideas suggested by the research community, not already included within the scope of an existing SESAR project. They are developed along with the ATM concepts roadmap and complementarily with some of the network's PhDs and theses.

Thematic challenge 1

Vulnerabilities and global security of the CNS/ATM system



Workshop programme

Edition 1.0, 3 September 2021

Workshop date: **15 September 2021**

Host: Held virtually

Web details for access: <https://engagektn.com/thematic-challenges/>

Registration: https://us02web.zoom.us/meeting/register/tZMpc-qpqDloHdLNEQyfQdTQohO_Vhp6ihIt

Abstract

CNS/ATM components (e.g., ADS-B, SWIM, datalink, Asterix) of the current and future air transport system present vulnerabilities that could be used to perform an 'attack'. Further investigations are necessary to mitigate these vulnerabilities, moving towards a cyber-resilient system, fully characterising ATM data, its confidentiality, integrity and availability requirements. A better understanding of the safety-security trade-off is required. Additional security assessments for legacy systems are also needed to identify possible mitigating controls in order to improve cyber-resilience without having to replace and refit. Future systems security by design is essential: a new generation of systems architectures and applications should be explored to ensure confidentiality, cyber-resilience, fault tolerance, scalability, efficiency, flexibility and trust among data owners. Collaborative, security-related information exchange is essential to all actors in aviation. This is specially challenging in a multi-stakeholder, multi-system environment such as ATM, where confidentiality and trust are key.

Programme



Vulnerabilities and Global Security of the CNS/ATM systems

3rd edition

- 15th September, 2021
- Held virtually
- 11:00am - 15:30pm CEST



11:00-11:10 Opening & Welcome

11:10 - 12:30 Session 1: Research for future secure CNS/ATM systems

11:10 - 11:25

Dr. Andrei Costin (Senior Lecturer/Docent Assistant Professor at Faculty of Information Technology at University of Jyvaskyla)
"Proof-of-concept: practical, flexible, affordable pentesting platform for ATM/avionics cybersecurity (ATM-cybersec)"

11:25 - 11:40

Jacob Blamey, NATS
"Safe drone flight - assuring telemetry data integrity in U-Space scenarios"

11:40 - 11:55

Dr. Martin Hawley (Managing Director, Winsland Ltd)
"Collaborative cyber security management framework"

11:55 - 12:10

Kanaan Abdo (Project manager—Chief Technology Officer at ALTYs)
"SINAPSE: Software defined networking architecture augmented with AI to improve aeronautical communications performance, security and efficiency"

12:10 - 12:30

Q&As session

12:30-13:30 Coffee/Lunch Break

13:30 - 15:00 Session 2: Future needs and challenges

13:30 - 15:00

- Ruben Flohr (SESAR JU, Architecture & Systems Engineering)
"Scientific Committee recommendations presentation"

- Open discussion

15:00 - 15:30

Conclusions and close-out

Registration

To request a place:

- please visit: https://us02web.zoom.us/meeting/register/tZMpc-qpqDloHdLNEQyfQdTQohO_Vhp6ihIt



This project has received funding from the SESAR Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 783287.