International Symposium

Enhanced Solutions
for
Aircraft and Vehicle Surveillance Applications

ESAVS 2018

Berlin, Germany
18 - 19 October, 2018

Call for Papers

organised by the

German Institute of Navigation
Deutsche Gesellschaft für Ortung und Navigation e. V. (DGON)

in cooperation with

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Introduction

The increasing international air traffic volume, along with economic demands for increased capacity and efficiency, as well as environmental pressure require next generation surveillance solutions. These solutions involve technologies and procedures operating in the air and on the ground as well as at airports in support of SESAR 4-D trajectory/ASAS and A-SMGCS operational concepts. In addition, the rapidly growing market of unmanned aerial systems (UAS) and drones drives the need for innovative and reliable surveillance techniques to detect UAS and drone operations.

This implies a need for accurate and high update rate sensor technologies such as wide area multilateration (WAM) and airport surface multilateration (MLAT) as well as ADS-B, ADS-C and ADS-B over satellite. The concept of composite surveillance combines ADS-B and WAM technologies and marks a shift from the traditional radar-based approach to surveillance. Typically, the new cooperative and non-cooperative surveillance means for UAS and drones are no standard for the existing surveillance systems in aviation.

Furthermore, the augmentation of cooperative surveillance by means of non-cooperative surveillance techniques in critical operational environments is of utmost importance. Multi-Static Primary Surveillance Radar (MSPSR) is a novel approach for independent non-cooperative surveillance that has the potential to reduce the impact on the mobile communications spectrum and cut down maintenance costs.

Innovative solutions for guidance and control functionalities on the airport surface (A-SMGCS, CDM, RTO), new data processing technologies, algorithms for multi-sensor data fusion and tracking have to cooperate efficiently with legacy infrastructures of air traffic control (ATC) such as ASR and SMR. Related applications in this context are collaborative decision-making (CDM) on airport operations as well as ideas such as total airport management (TAM) or performance-based airport management (PBAM) and installations of remote tower operations (RTO) using visual sensors in addition to surveillance augmentation.

The increased exchange of data and information following the introduction of system-wide information management (SWIM) brings about clear operational benefits but also risks in the form of greater security vulnerabilities. Therefore, it is important to protect and defend information systems and safety-critical functions such as surveillance data exchange, for example, against cyber security threats. The evolution of system architecture will further promote the use of virtualisation technology, which will allow to significantly reduce hardware development costs whilst increasing system availability.

ESAVS is the globally recognised premier event for emerging civil aviation surveillance technologies and operational applications. ESAVS 2018 will take place in Berlin and will carry forward this momentum. It will focus on international implementation and operational use of surveillance technologies and applications as well as on research and development, deployment and certification.

ESAVS 2018 is dedicated to providing up-to-date information to experts and decision-makers in the world of sensor development, tracking, data fusion, avionics and airport operations as well as air traffic control procedures and technology.

Main topics

The Symposium will focus on:

- Unmanned aerial systems (UAS) and drone surveillance
- Wide area multilateration (WAM) and airport multilateration (MLAT)
- Satellite-based ADS-B
- Augmentation of cooperative surveillance by means of non-cooperative surveillance techniques
- Guidance and control functionalities on airport surface (A-SMGCS, CDM, etc.)
- Multi-sensor data fusion and tracking
- Remote tower operations using visual sensors in addition to surveillance augmentation.
- Video surveillance
- Multi-static primary surveillance
- Evolution of data processing technologies
- Composite surveillance ADS-B/WAM
- Cyber security
- Evolution of system architecture (e.g. virtualisation)
- Airport safety nets
- Frequency spectrum management (e.g. incl. jamming, spoofing)

Language

The Symposium language will be **English**.

Contributions

Authors are invited to submit papers on any of the main topics.

Abstracts shall contain about 500 words/minimum one page, show a main item or result of the topic (photo, table, illustration, etc.) and shall be submitted electronically by

30th June 2018

Please use the electronic submission system: **http://www.dgon-esavs.org**

The cover page of submitted abstracts shall include:
- Title of paper / contribution
- Name(s) of author(s)
- Organisation / company (if applicable)
- Mailing address
- Phone and fax numbers
- E-mail address
- Identification of presenting author

Authors will be notified of accepted / rejected papers by **24th August 2018**.

Deadlines

Submission of abstracts:	30th June 2018
Notification of authors:	24th August 2018
Distribution of programme:	24th August 2018
Submission of presentations and full papers for symposium proceedings:	05th October 2018

Conference Location

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