D2.8 SESAR Innovation Days 2018 Report

Deliverable 2.8

Engage

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Authoring & Approval

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Name/Beneficiary	Position/Title	Date
N/A		

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01.01.00	22 January 2019	Release	Engage Consortium	Incorporating SJU comments

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THE SESAR KNOWLEDGE TRANSFER NETWORK

Abstract

This report describes the eighth edition of the SESAR Innovation Days, which took place in Salzburg, Austria between 3rd and 7th December 2018.

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Executive summary

The eighth edition of the SESAR Innovation Days took place between 3rd and 7th December 2018 in Salzburg, Austria. The year 2018 marked the first year in which Engage took responsibility of the programmatic, i.e. scientific content of the conference, tightly collaborating with the SJU as main sponsor.

More than 300 participants attended the SIDs which featured technical presentations, plenary talks, panel discussions and numerous networking activities.

1 Introduction

1.1 Engage support for the SESAR Innovation Days

Engage is the SESAR Knowledge Transfer Network (KTN), established to promote and facilitate the development of air traffic management research in Europe. The organisation of the SESAR Innovation Days receives support and expertise from Engage consortium members (led by EUROCONTROL), from initial planning through to post-conference activities.

1.2 Objectives of this document

This document describes the 2018 edition of the SESAR Innovation Days.

1.3 Scope of D2.8

The following sections describe the:

- Programme Committee;

- Call for Contributions;

- Paper selection process;

- Conference programme;

- Website; and

- Results of a participant satisfaction survey.

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2 Programme Committee

The Programme Committee is composed of selected researchers from academia and industry; its main tasks are the review of paper and poster submissions leading to decisions about acceptance and rejection of all submissions. The Programme Committee was supported in the review process by the SESAR Scientific Committee and comprised the following members:

General Chair: David Bowen – SESAR JU

Programme Chair: Dirk Schaefer – EUROCONTROL

Local Organisation Chair: Carl-Herbert Rokitansky – University of Salzburg

Programme Committee:

Rosa Arnaldo – Universidad Politécnica de Madrid

Léa Bodossian – Airport Regions Conference

Marc Bourgois – EUROCONTROL

Lorenzo Castelli – University of Trieste

Andrew Cook – University of Westminster

Francesca De Crescenzio – University of Bologna

Daniel Delahaye – ENAC

Peter Hecker – TU Braunschweig

Jacco Hoekstra – TU Delft

Gokhan Inalhan – ITU Istanbul

Christopher Johnson – University of Glasgow

Radosav Jovanovic – University of Belgrade

Dirk Kuegler – DLR

Bruno Lamiscarre – ONERA

Javier Lopez – Boeing R&T Europe

Guglielmo Lulli – Lancaster University

Alexander Martin – FAU Erlangen

Max Mulder – TU Delft

Eric Nantier – Swiss

David Perez – Innaxis

Hans Plets – Belgocontrol

Simone Pozzi – Deep Blue

Jose Javier Ramasco – IFISC

Damián Rivas – University of Seville

Sander Roosendaal – Honeywell Aerospace

Francisco Javier Saez – Cranfield University

Georg Trausmuth – Frequentis

Additional Reviewers from the SESAR Scientific Committee:

Juan Besada – Universidad Politécnica de Madrid

Henk Blom – NLR

Tatjana Bolic – University of Trieste

Rita Markovits-Somogyi – Hungarocontrol

Patrizia Marti – University of Siena

Vojin Tosic – University of Belgrade

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3 Call for Contributions

The Call for Contributions was published in early May soliciting paper and poster submissions; submissions through SESAR ER and IR projects were encouraged but the Call was by no means limited to SESAR projects but open to all relevant ATM research.

The Call was published via the SIDs website [2], and announced through emails, SESAR Newsletters and the Engage website [3].

The Call for Contributions is depicted below:

Call for contributions to the 8th SESAR Innovation Days
3-7 December 2018

hosted by University of Salzburg, Salzburg, Austria

UNIVERSITÄT SALZBURG

About SESAR Innovation Days

The SESAR Innovation Days (SIDs) are the main vehicle for SESAR Joint Undertaking to share progress and disseminate results of its exploratory research programme. Unlike other scientific events in Air Traffic Management (ATM) research, the SESAR Innovation Days focus explicitly on exploratory research. Now in its eighth year, the SESAR Innovation Days have become a landmark event in the European aviation research calendar. This year's event will be further strengthened with the support of Engage, the new SESAR Knowledge Transfer Network.

This year's SIDs will be hosted by University of Salzburg, Austria, during the week of 3-7 December. The main conference will take place from 4-6 December and will showcase results from European exploratory research. The SIDs are based on an open call soliciting contributions from ATM research. Exhibitions and poster, keynotes and networking events will provide further opportunities to learn about interesting projects and meet like-minded researchers.

On the 7 of December, against the background of the EU Austrian Presidency, we will be hosting site visits to aviation organisations and research institutes within the vicinity of Salzburg. More information on these site visits will be provided in due course. Please note that some of the site-visits may take place in Vienna and therefore, return travel from Vienna airport is recommended.

Call for contributions

Researchers from universities, research institutions, airlines, air traffic service providers and industry are invited to submit papers (up to 8 pages) presenting exploratory research within the areas of interest listed on the other side of the page. Papers will be evaluated based on the innovative nature of the ideas, as well as the approach and methods applied.

All papers (including SESAR contributions) will be peer-reviewed to ensure that high standards are maintained. The proceedings will be available for download in electronic form on both the event website and SJU website prior to the event. All SIDs papers are listed in Elsevier's Scopus database.

Details about how to submit a paper, poster or exhibit can be found on the event website.

Paper submission deadline:
28 September 2018
Notification of acceptance:
09 November 2018

Call for posters and demonstrations

Partners from academia and industry are invited to submit proposals for posters (max 2 posters per subject) and technical exhibits or demonstrations. As well as showing innovative solutions to traditional problems of air traffic management, posters and exhibits may also address wider air transport and air traffic issues. Proposals of one to two pages shall be submitted with a detailed description of the subject.

Posters/demonstrations submission deadline:
28 September 2018
Notification of acceptance:
09 November 2018

Find out how to contribute at
www.sesarinnovationdays.eu

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4 Paper selection process

Two types of submissions were solicited: full paper submissions (up to eight pages) and poster abstracts (up to two pages). In order to raise the profile of posters it was decided that a poster abstract should be made available for download on the website together with the accepted full papers. A paper template based on IEEE conference style was made available for full papers and poster abstracts alike.

Papers and poster abstracts had to be submitted via a dedicated page on the EasyChair conference management website (a professional license was therefore purchased). The paper template was available for download on the EasyChair page in both Word and LaTex format. Papers had to be submitted in pdf format.

A total of 57 full papers and 33 posters were submitted and reviewed by the Programme Committee (including reviewers from the SESAR Scientific Committee). EasyChair's paper bidding function was used which allowed all reviewers to specify which papers they would prefer to review, or not if a conflict of interest, e.g. in cases in which they authored or co-authored a paper. The review assignment was done by the Programme Chair respecting the preferences as much as possible.

The review was based on the following criteria:

- Overall evaluation;
- Innovativeness;
- Technical quality;
- References.

The overall evaluation was based on a score (strong reject; reject; weak reject; borderline paper; weak accept; accept; strong accept) as well as a free text field. The review comments provided in this field were sent to the authors with the notification email. Reviewers were instructed to provide detailed and constructive feedback.

Another free text field allowed committee members to provide confidential remarks for other Programme Committee members – comments provided here were not sent to authors.

Each paper was reviewed by three reviewers who entered their reviews via EasyChair. In cases where reviews came to different conclusions a dialogue between the three reviewers was initiated by the Programme Chair. In most cases this led to a consensus between the reviewers; in the few cases where this was not possible, as decision was taken based on the review comments.

Notification emails were sent to inform authors whether their paper or poster as accepted or rejected. A total of 34 papers and 28 posters were accepted; this corresponds to an acceptance rate of 60% for full papers which is satisfactory and in line with previous SIDs.

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5 Conference programme

All 34 papers were assigned to thematic tracks and integrated as sessions of 2-3 paper presentations into the conference programme. Whilst keynotes, plenary talks and discussion panels took place in plenary sessions, i.e. were attended by the entire audience, technical sessions were conducted in parallel sessions. The conference took place at the Salzburg Congress Centre.

The conference started with the inauguration of the poster exhibition on Monday. Three workshops were organised in association with the SIDs; these were not part of the official programme but co-located seeking synergies with the main conference. GATEMAN and EMPHASIS workshops took place the Salzburg University whilst the ASDA seminar took place at the Congress Centre (more information about the ASDA seminar can be found on www.asda.aero).

Monday, 3 December 2018		
12:00	**Registration opens and will remain open throughout the conference and exhibition**	
12:45 – 17:15	**ASDA Series of Tournaments 2018** **LOCATION:** Salzburg Congress Centre, 4th floor, Room: Doppler Saal	
14:00 – 17:00	**GATEMAN workshop** **LOCATION**: Natural Sciences (NaWi) Faculty, A-5020 SALZBURG, Hellbrunnerstraße 34. Room 413	**EMPHASIS Workshop** **LOCATION**: Natural Sciences (NaWi) Faculty, A-5020 SALZBURG, Hellbrunnerstraße 34, Room 424

Cocktail and official opening of the poster exhibition	
17:30 – 19:00	• Florian Guillermet, Executive Director, SESAR JU • Jeff Poole, Director General, CANSO • Maria Algar Ruiz, UTM - SESAR Coordinator, EASA • Andrew Cook, Coordinator, Engage network **LOCATION:** Salzburg Congress Centre, first floor

Posters were installed in the foyer on the first floor, adjacent to the two halls where the plenary talks as well as the technical sessions took place. Coffee and lunch was also served in this area so as to encourage conference participants to visit the posters and exhibits.

The official opening of the SIDs took place on Tuesday 4th December followed by a number of plenary talks. The first two parallel sessions took place before the morning coffee; all technical sessions were led by a session chair, in most cases a member of the SIDs Programme Committee or the SESAR Scientific Committee. The technical sessions on Tuesday included a poster teaser session in which poster presenters were given the opportunity to briefly explain the topic of their poster in order to stimulate curiosity and encourage visits to the posters.

Tuesday, 4 December 2018	
8:30 – 9:00	**Welcome coffee**
9:00 – 9:20	**Welcome and opening** • Vicerector Ferreira-Briza, University of Salzburg • Elisabeth Landrichter, Director General, Austrian Civil Aviation Authority
9:20 – 10:00	**Keynotes** • Filip Cornelis, Director Aviation, DG MOVE, European Commission • Philippe Merlo, Director ATM, EUROCONTROL • Florian Guillermet, Executive Director, SESAR JU
10:00 – 10:45	**Engage network** • Andrew Cook, Coordinator, Engage network • Paula López, Consortium Member, Engage network • Tatjana Bolic, Consortium Member, Engage network • Dirk Schaefer, SIDs Programme Committee Chair *(The welcome and keynote sessions will take place in the Karajan Hall)*
10:45 – 11:15	**Coffee & Exhibition**
11:15 – 13:00	**Machine Learning I *** Chair: *Jacco Hoekstra, TU Delft* Flight Level Prediction with a Deep Feedforward Network *Matthias Poppe, DFS* Automated Data-Driven Prediction of Aircraft Estimated Time of Arrival *Zhengyi Wang, ENAC* A Boosted Tree Framework for Runway Occupancy and Exit Prediction *Darío Martínez, Innaxis* **(LOCATION:** Karajan Hall) * including 15 min poster teaser session — **Airports *** Chair: *Sara Bagassi, University of Bologna* Identification of Complexity Factors for Remote Towers *Christiane Schmidt, Linköping University* Stochastic Control of Turnarounds at HUB-Airports *Jan Evler, TU Dresden* SESAR 1 Solutions Implementation Key Feature - High Performing Airport Operations *Doroteja Timotic, University of Belgrade* **(LOCATION:** Wolf-Dietrich Hall) * including 15 min poster teaser session

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The afternoon was kicked off with technical sessions, a first plenary took place after the afternoon coffee and was followed by a poster and exhibits cocktail.

Tuesday, 4 December 2018		
13:00 – 14:00	**Lunch and exhibition**	
14:00 – 15:45	**Data-driven Techniques** * *Chair: Marc Bourgois, EUROCONTROL* Smart Data Fusion: Probabilistic Record Linkage adapted to Merge Two Trajectories from Different Sources *Darío Martínez, Innaxis* Visual Analytics of Flight Trajectories for Uncovering Decision Making Strategies *Gennady Andrienko, Fraunhofer Institute IAIS* Aircraft Atypical Approach Detection using Functional Principal Component Analysis *Gabriel Jarry, ENAC* **(LOCATION:** Karajan Hall) * including 15 min poster teaser session	**Economics and Legal** * *Chair: Rita Markovits-Somogyi, HungaroControl* Decision Support for an Optimal Choice of Subsidised Routes in Air Transportation *Alan Kinene, Linköping University* Shared Airspace, Shared Liability? *Ivo Emanuilov, KU Leuven* Introducing Competition through Auctions in the Air Traffic Control Market *Nicole Adler, Hebrew University of Jerusalem* **(LOCATION:** Wolf-Dietrich Hall) * including 15 min poster teaser session
15:45 – 16:15	**Coffee and exhibition**	
16:15 – 17:45	**Plenary session 1: ATM research in the global perspective** • Saulo Da Silva, ICAO • Ho Wei Sean, CAAS, Singapore • Steve Bradford, FAA • Tokuaki Nakajima, ENRI Japan • Parimal Kopardekar, NASA *Moderated by Michael Standar, Chief Strategy & External Affairs, SESAR JU* **(LOCATION:** Karajan Hall)	
17:45 – 19:00	**Posters and Exhibits Cocktail**	

Day 2 started with a plenary session followed by the second panel and a 'Musical Interlude' – a tradition established at the 2013 edition of the SIDs in Stockholm. Two parallel technical sessions took place before lunch.

Wednesday, 5 December 2018

Time		
9:00 – 9:30	**Keynote on the Human Factor in ATM R&D** • Tom Laursen, EVP Europe, IFATCA • Toni Waefler, IFATCA	
9:30 – 11:00	**Plenary session 2: Transport research into implementation** • Carlo Borghini, Executive Director, Shift2Rail • Georg Trausmuth, Head of Corporate Research, Frequentis • Eric Nantier, Director Operations Control Process, Lufthansa Group • Olaf Dlugi, Chairman of the Industry Consultation Body • Tanja Grobotek, CANSO Europe Director *Moderated by Peter Hotham, Deputy Director, SESAR JU*	
11:00 – 11:15	**Artistic Interlude** *(Morning sessions to take place in the Karajan Hall)*	
11:15 – 11:45	**Coffee & exhibition**	
11:45 – 13:00	**UTM and UAS** *Chair: Francisco Saez, Cranfield University* Drone Delivery: Urban Airspace Traffic Density Estimation *Jacco Hoekstra, TU Delft* Drone Information Service Requirements for U-Space *Jacco Hoekstra, TU Delft* **(LOCATION:** Karajan Hall)	**Meteo and Environment** *Chair: Damian Rivas, University of Seville* Optimal Aircraft Path Planning in a Structured Airspace Using Ensemble Weather Forecasts *Antonio Franco, University of Seville* Mitigation potential of environmental optimized aircraft trajectories using climate metrics *Sigrun Matthes, DLR* **(LOCATION:** Wolf-Dietrich Hall)
13:00 – 14:30	**Lunch & exhibition**	

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The afternoon started with technical sessions.

Wednesday, 5 December 2018		
	Machine Learning II *Chair: Fedja Netjasov, University of Belgrade*	**Airspace Design and Management** *Chair: Daniel Delahaye , ENAC*
14:30 – 16:00	Airline Disruption Management with Aircraft Swapping and Reinforcement Learning *Gabriel Hondet, ENAC* Application of Machine Learning for ATM Performance Assessment – Identification of Sources of En-Route Flight Inefficiency *Rodrigo Marcos, Nommon* Detecting Controllers' Actions in Past Mode-S Data by Autoencoder-Based Anomaly Detection *Xavier Olive, ONERA*	Free Route Airspaces in Functional Air Space Blocks *Judith Rosenow, TU Dresden* Tactical Prediction of the Number of Control Positions with Softmax Regression and Tree Search *Judicaël Bedouet, ONERA* The Effects of the Introduction of Free Route in the Hungarian Airspace *Fanni Kling, HungaroControl*
	(LOCATION: Karajan Hall)	(LOCATION: Wolf-Dietrich Hall)

The networking dinner took place at the 'Red Bull Hangar' (Hangar 7) at Salzburg Airport.

NETWORKING DINNER Wednesday, 5 December 2018	
19:00 -22:00	**Hangar 7 Museum** *Wilhelm-Spazier-Straße 7a, 5020 Salzburg* *Please note that there will be participant fee of 35 EUR to be paid in advance on-site during the main event.* **Busses to the Hangar 7 museum will depart at 18:30 from outside the Salzburg Congress Centre**

The programme for Thursday morning incorporated four technical paper sessions, two before morning coffee two thereafter.

Thursday, 6 December 2018		
	Modelling and Simulation *Chair: Lorenzo Castelli, University of Trieste*	**Flow Management** *Chair: Radosav Jovanovic, University of Belgrade*
9:30 – 11:00	Assessment of Future Air Traffic Management System Safety Performances using a Network-based Simulation Model *Fedja Netjasov, University of Belgrade* Towards New Metrics Assessing Air Traffic Network Interactions *Silvia Zaoli, University of Bologna* Aircraft Drag Polar Estimation Based on a Stochastic Hierarchical Model *Junzi Sun, TU Delft*	Occupancy Peak Estimation from Sector Geometry and Traffic Flow data *Luis Basora, ONERA* Coordinated Capacity and Demand Management in the European Core Area: Results of a Large-scale COCTA Case Study *Nikola Ivanov, University of Belgrade* Arrival Trade-offs Considering Total Flight and Passenger Delays and Fairness *Luis Delgado, University of Westminster*
	(LOCATION: Karajan Hall)	**(LOCATION:** Wolf-Dietrich Hall)
11:00 – 11:30	**Coffee & exhibition**	

The programme for Thursday morning incorporated four technical paper sessions, two before morning coffee two thereafter. The third discussion panel took place after lunch. It was followed by the closing session, which included the Young Scientist Award ceremony and the announcement of SIDs 2019.

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Thursday, 6 December 2018		
	Controller Assistance Systems *Chair: Luis Delgado, University of Westminster*	**Performance** *Chair: Dirk Schaefer, EUROCONTROL*
11:30 – 13:00	Building Blocks of Assistant Based Speech Recognition for Air Traffic Management Applications *Matthias Kleinert, DLR*	Open Flight Trajectories for Reproducible ANS Performance Review *Enrico Spinielli, EUROCONTROL*
	Hotspot Resolution with Sliding Window Capacity Constraints using the Path&Cycle Algorithm *Andreas Nakkerud, University of Oslo*	A Multi-layer Model for Long-term KPI Alignment Forecasts *Gérald Gurtner, University of Westminster*
	The Semantic Container Approach: Techniques for Ontology-based Data Description and Discovery in a Decentralized SWIM Knowledge Base *Bernd Neumayr, University of Linz and Eduard Gringinger, Frequentis*	Enhanced Indicators to Monitor ATM Performance in Europe – Main findings of the APACHE Project *Xavier Prats, UPC*
	(LOCATION: Karajan Hall)	(LOCATION: Wolf-Dietrich Hall)
13:00 – 14:00	**Lunch & exhibition**	
14:00 – 15:00	**Panel 3: Women in Aviation Research** • Elisabeth Kotthaus, European Commission, DG MOVE • Rita Markovits-Somogyi, HungaroControl • Alison Roberts, NATS • Sara Bagassi, University of Bologna *Moderated by Tanja Bolic, SJU Scientific Committee*	

Thursday, 6 December 2018	
15:00 – 15:30	**Coffee break & exhibition**
15:30 – 16:00	**Look ahead from the Engage network** • Andrew Cook, Coordinator, Engage network
16:00 – 16:30	**SESAR Young Scientist Award Ceremony**
16:30 – 17:00	**Closing keynote** • Florian Guillermet, Executive Director, SESAR JU

(LOCATION: Karajan Hall)

Three technical tours to Austrian aerospace stakeholders organised by the SJU and Salzburg University were offered to the conference participants upon registration.

<div style="border:1px solid #3ab0e0;">

Friday, 7 December 2018

SITE VISITS

- **TOUR 1: Salzburg Area** *(Salzburg University, Salzburg Airport, Hangar 8, Austrian Airforce)*

- **TOUR 2: Vienna** *(Frequentis, University of Vienna)*

- **TOUR 3: Vienna** *(Austrian Airlines, Austrocontrol)*

(You must be pre-registered to attend these tours, please speak to someone at the SIDS registration desk should you wish to attend)

</div>

6 Website

The following URL was communicated as the official SESAR Innovation Days website: www.sesarinnovationdays.eu. This URL redirected visitors to a dedicated page on the SJU website.

All relevant information including Call for papers, submission instructions, logistical information and, at a later stage, programme and conference registration were available via the SIDs website. All papers are available for download from the website [2], together with the presentations.

The website [2] maintains an archive of all papers and presentations at the SIDs since 2011.

2018	2017	2016	2015	2014	2013	2012	2011

Title & Papers	Presenter	Presentation
AGENDA		
POSTERS		
Pictures from the event		Day1 - Day2 - Day3 - Day4
GATEMAN workshop		Download
EMPHASIS workshop		
Opening session - Keynote speeches and ENGAGE nework		Download
Machine learning		
Flight Level Prediction with a Deep Feedforward Network	Matthias Poppe	Download
Automated Data-Driven Prediction of Aircraft Estimated Time of Arrival	Zhengyi Wang	Download
A Boosted Tree Framework for Runway Occupancy and Exit Prediction	Darío Martínez, Innaxis	Download

Figure 1. Website archive of papers and presentations

A dedicated smart phone application (provided by Whova) was also available which included relevant information and allowed users to comment and engage in dialogue.
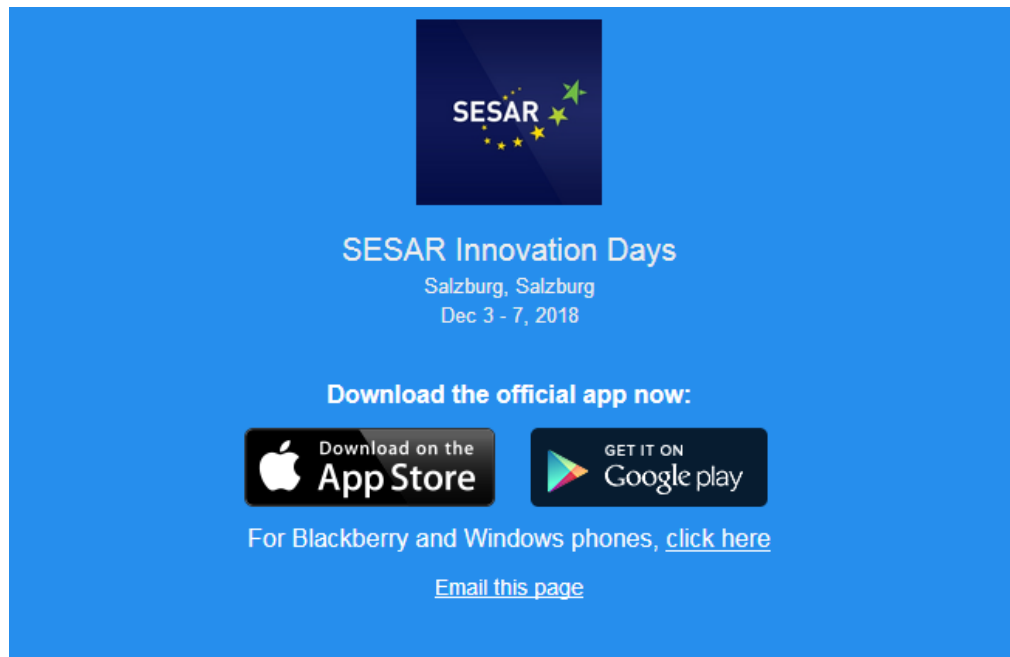
Figure 2. Conference smart phone application available from Whova

7 Participant satisfaction survey

Participants were requested to provide feedback about the 2018 SESAR Innovation Days through an on-line questionnaire. For sake of comparability the questionnaire used in previous years was used which encompassed questions in four categories:

- Before the SIDs;
- Content;
- Logistics;
- Benefits.

In addition to providing their agreement to each question on a four-point Lickert scale (strongly disagree, disagree, agree, strongly agree) a free-text field was provided in each category for explanations and further comments.

Responses from a total of 37 participants were received; the results are provided below compared to the results from previous years.

Before the SIDs

	I received information in a timely manner	Quantity of information was appropriate	The web site worked well	The SESAR Application was useful	The information provided made it easy to organise my trip
■ 2011	87.5%	91.7%	96.0%		83.3%
■ 2012	86.7%	90.0%	96.6%		96.6%
■ 2013	94.3%	94.3%	100.0%		100.0%
■ 2014	94.8%	99.0%	98.9%		95.7%
■ 2015	89.5%	94.7%	100.0%		89.5%
■ 2016	98.4%	100.0%	98.4%	90.0%	96.7%
■ 2017	97.1%	97.1%	100.0%	87.5%	97.1%
■ 2018	100.0%	94.6%	97.3%	85.7%	97.3%

Figure 3. Question: before the SIDs

The following comments were received in this category:

- Great event.

- I think that the information about the format size of the presentation should have been sent to everyone before the conference in order to not have a problem with slides on the day of presentation.

- Everything was perfectly well organised.

- The agenda was known too little in advance and the information to submit a paper was spread among too many pages (e.g., the template was difficult to find).

- Difficult to use the hotel booking if you wanted to stay until Friday.

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	Papers were generally of a high standard	Subject matter was innovative	Presentations were generally of a high standard	Sessions were well run (timing, Q&A)
2011	82.6%	79.2%	80.0%	84.0%
2012	96.3%	92.6%	86.2%	96.7%
2013	100.0%	88.6%	85.3%	82.9%
2014	89.6%	91.7%	88.5%	77.1%
2015	94.4%	88.9%	94.4%	77.8%
2016	93.5%	88.5%	87.1%	95.1%
2017	88.2%	94.1%	90.9%	94.1%
2018	91.9%	94.4%	91.9%	100.0%
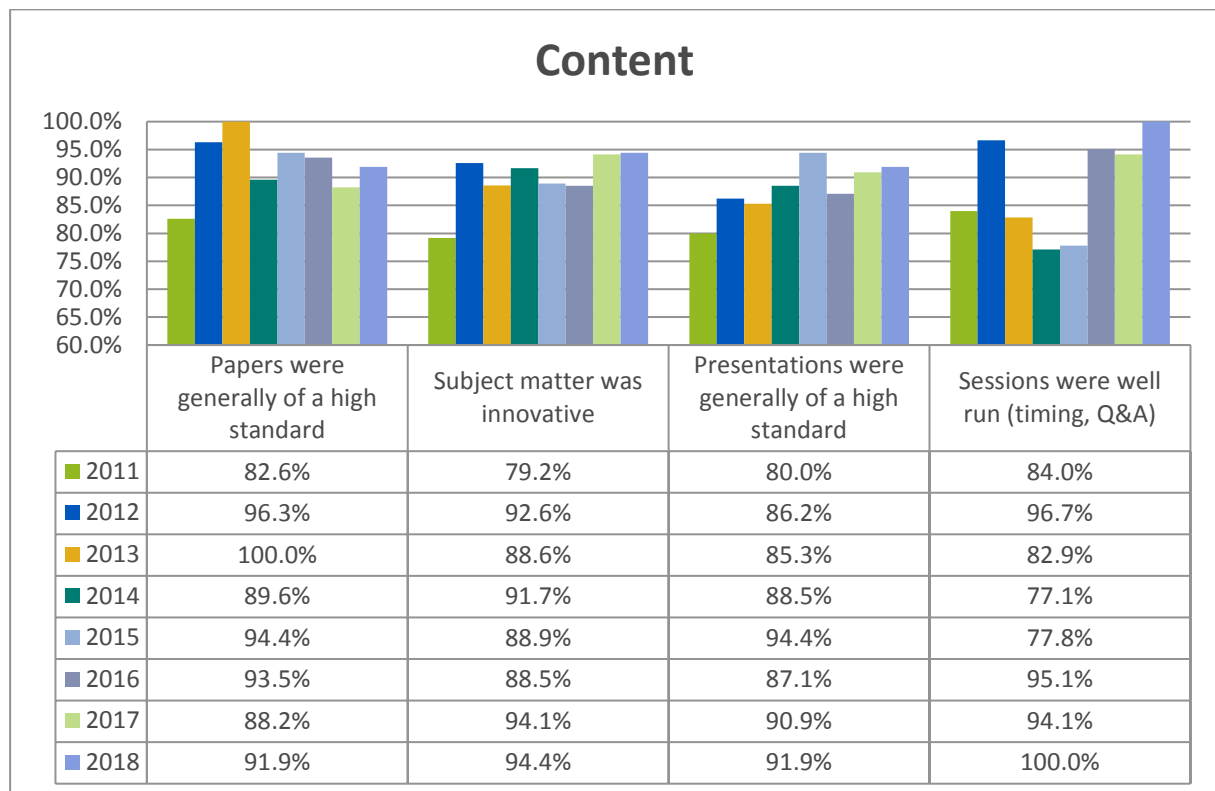
Figure 4. Question: conference content

The following comments were received in this category:

- The two first plenaries did not provide any significant comments or information, too polite and low innovative.

- I did not attend the first two plenary sessions or the poster session, but there is not a "did not attend" option.

- Disagree [discussion panel] session 3 -not the session in itself but the approach to the topic - unfortunately no option to say "no opinion"...

Logistics

	The auditorium was comfortable (size, temperature, visibility)	The catering was of good quality	The registration/information desk was helpful	I appreciated the networking event	I appreciated the poster sessions
2011	69.6%	68.0%	100.0%		
2012	90.0%	88.9%	100.0%		
2013	94.3%	97.1%	94.3%		
2014	77.1%	98.9%	99.0%		
2015	94.4%	88.9%	94.4%	100.0%	82.4%
2016	93.5%	96.8%	100.0%	96.2%	96.7%
2017	85.3%	91.2%	100.0%	100.0%	100.0%
2018	91.7%	86.1%	100.0%	81.5%	84.8%

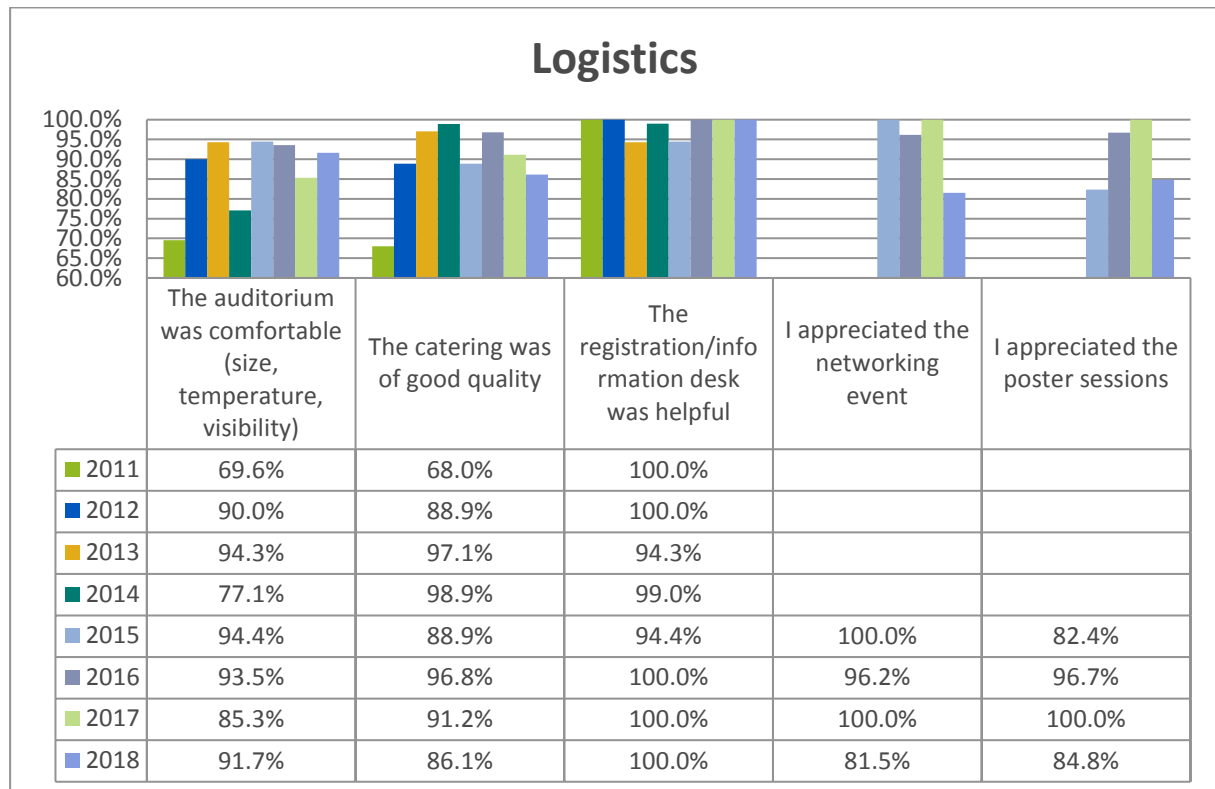**Figure 5. Question: venue logistics**

The following comments were received in this category:

- The networking dinner was scarce and many people left it hungry.

- Location for networking event was great, but food/catering was not at the same level: small portions, quite international-like food (i.e. no local speciality).

- The SESAR application had, in my opinion, too many superfluous and distracting things, which decrease the overall efficiency of the app (Leaderboard, collecting points for "networking activities", really?). Reminiscing a bit of Black mirror (TV show).

- Rooms where too hot.

- The catering of the last day (sandwiches) was not appropriate. The dinner at Hangar 7 was simply non-existing, disappointing.

- There was not a "SESAR Application" as before, but the "whova" app instead, which I suspect is "hoovering up" our data and I would have preferred not to use!

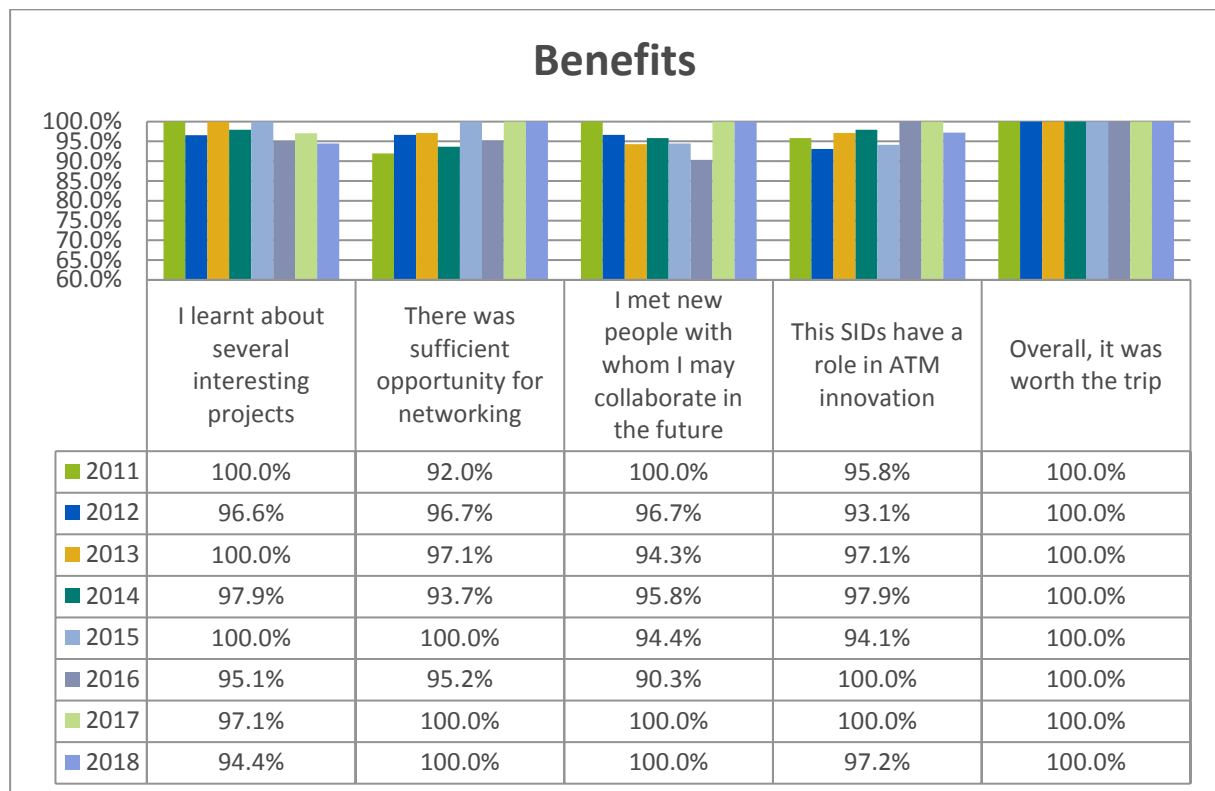- The dinner at Hangar7 was very poor in terms of quantity.

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Benefits

	I learnt about several interesting projects	There was sufficient opportunity for networking	I met new people with whom I may collaborate in the future	This SIDs have a role in ATM innovation	Overall, it was worth the trip
2011	100.0%	92.0%	100.0%	95.8%	100.0%
2012	96.6%	96.7%	96.7%	93.1%	100.0%
2013	100.0%	97.1%	94.3%	97.1%	100.0%
2014	97.9%	93.7%	95.8%	97.9%	100.0%
2015	100.0%	100.0%	94.4%	94.1%	100.0%
2016	95.1%	95.2%	90.3%	100.0%	100.0%
2017	97.1%	100.0%	100.0%	100.0%	100.0%
2018	94.4%	100.0%	100.0%	97.2%	100.0%

Figure 6. Question: benefits of attendance

The following comments were received in this category:

- Political dimension was much larger than expected (but I attended only on Monday evening and Tuesday).

- SIDS are quite a closed-world kind of event and it is sort of self referential, meaning that it gathers mainly contributions from SESAR projects: but innovation is NOT happening within SESAR only. IMHO SJU should look for/attract contributions from the general aviation research community, otherwise SIDS/SESAR projects look like just subsidy.

- No really, the overall quality of the papers is not that great... (though few were very nice!).

- Synchronize the parallel sessions to facilitate switching rooms (there is for example a good tool from MPI: http://cosesy.mpi-inf.mpg.de).

8 Lessons Learned

"The event was a huge success, bringing together more than 300 participants, showcasing 34 research papers and 30 exhibition posters." (SESAR JU e-News on 12th December 2018)

The satisfaction of SIDs participants provides one angle on what went well and what could be improved and this view is presented in the previous section. In addition, the SIDs team reflects about lessons learned and has come to the conclusions presented in the following sub-sections.

8.1 Industry involvement was successful

The 2018 edition of the SIDs has been quite successful in ensuring involvement and presence of representatives of industry and the European Commission, largely thanks to the SESAR JU and the Engage network. In many cases dialogue between industry representatives and researchers has led to very tangible, beneficial outcomes. Future editions of the SIDs should maintain this balance, yet maintaining and emphasising the character of the SIDs as a predominantly scientific event. A greater involvement of the mainstream SESAR projects would appear desirable; inviting IR project coordinators to the SIDs would seem a worthwhile step in this direction.

The presence of the Executive Director of the SESAR JU went a long way in demonstrating the importance the SJU ascribes to the event.

8.2 The SIDs are a scientific event

The SIDs are foremost a scientific conference and attendance is largely composed of researchers. What attracts them to the SIDs are (a) the opportunity to expose their own research results and learn about other research; (b) opportunities for dialogue ideally leading to shared proposals with like-minded researchers; and (c) learning about funding opportunities. Perhaps a bit of fun, too.

In its present form the SIDs seem to cater for these expectations and we must be careful to continue to do so; this includes a high scientific standard of the conference, visibility of the research publications (ISSN, SCOPUS, etc.) and a quality peer-review process.

In order to further strengthen the visibility of scientific contributions to the SIDs a Special Issue in a scientific journal should be considered – similar to the 2014 SIDs which led to a special issue in Elsevier's Journal of Air Transport Management (JATM).

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8.3 Peer-review process works well

The SIDs has established a triple peer-review process (many journals rely on double-review only) through a Programme Committee (PC) with recognised members of the research community. In addition, the SESAR Scientific Committee is involved in the peer review. Thanks to the Engage network, the PC has been reinforced with members of industry and this turned out to be particularly helpful.

As can be expected reviewers do not always have the same view but differences of opinion normally lead to a constructive dialogue and hence a much improved feedback to authors. In this sense a triple-review process is particularly enriching and should be maintained.

8.4 Enliven the plenary sessions

The three panel sessions definitely enriched the programme. The discussions in the panels could become even more engaging if the topics discussed in the panels would be more specific (rather than general) and members selected to represent different points of view.

The idea of having a panel with IR members/project coordinators at next year's SIDs discussing potential ways forward for ER projects was also discussed.

8.5 Going paperless

The SIDs have gradually reduced printed material as much as possible and transitioned to a mobile phone application which, together with the website contained all relevant information. Apart from the conference programme – a specific request of many conference participants – and a range of SESAR publications, no printed material was used.

8.6 Raising the profile of posters

Whereas in previous years posters did not receive quite the same recognitions as papers we decided to raise the profile of posters. For the first time a two-page abstract of the poster was subject to regular peer-review and these abstracts are now available to download from www.sesarju.eu/sesarinnovationdays and hence receive the same recognition as papers in the sense that they are included in ISSN and Scopus reference. We will have to observe in the future whether this leads to the desired effect of making the SIDs more attractive for poster submissions.

In addition, the SJU's decision to print posters on site and in large size was certainly welcome by poster presenters but the SJU might evaluate internally whether the effort and costs of doing so were justified or whether future SIDs should revert to the common practice of leaving the responsibility with poster presenters.

9 Outlook

The 9th edition of the SESAR Innovation Days will take place in Athens between 2nd and 6th December 2019.

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10 References

[1]   Engage project, 2017. Grant Agreement 783287, Ref. Ares(2017)6114946 - 13/12/2017.

[2]   SIDs website, 2018. http://www.sesarju.eu/sesarinnovationdays.

[3]   Engage website, 2018. http://engagektn.com/.

[4]   D Schaefer (Editor): *Proceedings of the Eighth SESAR Innovation Days.* ISSN 0770-1268.

11 Acronyms

ANSP	Air Navigation Service Provider
ASDA	Association for Scientific Development of Air Traffic Management in Europe
ATM	Air traffic management
ER	Exploratory Research (within SESAR JU programme)
IR	Industrial Research (within SESAR JU programme)
KTN	Knowledge Transfer Network
PC	SIDs Programme Committee
SESAR	Single European Sky ATM research
SIDs	SESAR Innovation Days
SJU	SESAR Joint Undertaking

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