



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 4

Novel and more effective allocation markets in ATM



Workshop final programme

Edition 2.1, 09 October 2018

Workshop date: **25 October 2018**

Host: University of Westminster

Address: 309 Regent Street, London, W1B 2HW

Web details for access: <https://www.westminster.ac.uk/about-us/our-locations/maps-and-directions/regent-street>

Abstract

This research explores the design of new allocation markets in ATM, taking into account real stakeholder behaviours. It focuses on designs such as auctions and 'smart' contracts for slot and trajectory allocations. It seeks to better predict the actual behaviour of stakeholders, compared with behaviours predicted by normative models, taking into account that decisions are often made in the context of uncertainty. Which mechanisms are more robust against behavioural biases and likely to reach stable and efficient solutions, equitably building on existing SESAR practices? The research will address better modelling and measurement of these effects in ATM, taking account of 'irrational' agents such as airline 'cultures'. A key objective is to contribute to the development of improved tools to better manage the allocation of resources such as slots and trajectories, and incentivising behaviour that benefits the network - for example by investigating the potential of centralised markets and 'smart' contract enablers.

Programme

0945-1015 Registration, in reception of 309 Regent Street

SESSION 1 **Setting the scene, establishing requirements**

1015-1030 ***Welcome and overview from the Engage KTN***
University of Westminster and SESAR JU

1030-1050 ***Why do we need improved models in ATM?***
Introduction to the thematic challenge and examples from previous studies
Prof Andrew Cook, University of Westminster
Dr Lorenzo Castelli, University of Trieste

1050-1110 ***Prioritisation mechanisms and future potential***
Insights into current ATM slot prioritisation mechanisms and how they may be developed
Dr Nadine Pilon, EUROCONTROL Experimental Centre
Mats Lindholm, ML ATM Consulting

1110-1130 ***Coffee break***

1130-1200 ***Two SESAR Exploratory Research perspectives (COCTA, Vista)***
Building advance trajectory pricing models; accounting for risk aversion in slot management
Dr Radosav Jovanović, University of Belgrade
Dr Gérald Gurtner, University of Westminster

SESSION 2 Expanding horizons, complementary approaches

1200-1230 ***Can behavioural science model 'irrational' (real) agents?***

Introductory insights into the approaches taken, with illustrative examples

Benno Guenther, London School of Economics

1230-1400 ***Complimentary buffet lunch***

1400-1430 ***Market designs and associated challenges***

Key principles and challenges of market design, with a focus on auctions and incentives

Dr Alex Teytelboym, University of Oxford

SESSION 3 Facilitated discussion

1430-1545

Chair: Prof Andrew Cook, University of Westminster

Facilitators: Prof Fabrizio Lillo, University of Bologna

Dr Lorenzo Castelli, University of Trieste

A structured discussion, bringing together perspectives from the fields of ATM, behavioural science and economics, with the speakers and delegates. This will explore ways in which the challenges faced by ATM may be addressed, in moving towards more efficient, yet flexible, mechanisms for the allocation of scarce resources such as slots and trajectories.

Specific questions will include:

- what specific types of follow-up research are likely to be useful to mature the state of the art (especially those that could be addressed by catalyst funding from the Engage KTN)?
- what are the measures of success that could be used to assess the progress of the challenge?
- what are the likely barriers to prevent progress towards maturing the challenge, and how might we overcome them?

SESSION 4 Wrap-up, next steps, networking

1545-1600 ***Wrap-up and next steps***

Conclusions, next steps, opportunities for funding

Prof Andrew Cook, University of Westminster

Formal close

1600-1630 ***Networking coffee – future collaborations***

Request a booking

To request a place:

- please visit: engagektn.com
- go to the “Contacts” page and select “Thematic challenge workshop registration”, clearly stating which workshop you wish to attend



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