

PROJECT

PACAS

Participatory Architectural Change Management in ATM Systems

Funding: European (Horizon 2020)

Duration: Mar 2016 - Feb 2018

Status: Complete

Total project cost: €998,355

EU contribution: €998,355



Call for proposal: H2020-SESAR-2015-1

[CORDIS RCN : 200394](#)

Background & policy context:

Air Traffic Management (ATM) systems are large systems-of-systems that are managed via multiple layers (e.g., operational, organizational, technical) to better handle their complexity. Due to their tight interdependencies, any change introduced in either of these layers triggers changes in other layers. As such, change management in ATM systems is a difficult task and requires to know the full implications of change(s) over the whole system and support decision-making so that the ATM system does not suffer any issues with respect to functionality, safety, security, performance, cost efficiency, or other desired characteristics for a well-functioning ATM system.

Objectives:

The main objective of PACAS is to better understand, model and analyze changes at different layers of the ATM system to support change management, while capturing how architectural and design choices influence the overall system. PACAS will deliver an innovative participatory change management process where stakeholders will actively participate to the architectural evolution of the ATM system. The key elements of PACAS are:

1. domain-specific modeling languages to express heterogeneous perspectives of ATM domain experts;
2. impact propagation techniques to align multiple perspectives;
3. a gamified platform as key driver for collaboration.

Methodology:

The PACAS consortium will leverage state-of-art multi-view modeling methods, multi-objective reasoning techniques, and gamification approaches to develop and evaluate an innovative ATM participatory change management process. The validation will be assisted an external advisory board, composed of ATM domain experts, focusing on a limited number of strategic objectives concerning economical, organizational, security and safety aspects. The validation aims to demonstrate the generality of the PACAS concept and the potential for extended versions that support additional strategic perspectives that affect ATM change management.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Universita Degli Studi Di Trento**Address:**

Via Belenzani
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Italy

EU Contribution: €283,950

Partner Organisations:**Stiftelsen Sintef****Address:**

Strindveien
7034 Trondheim
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Organisation Website:

<http://www.sintef.no>

EU Contribution: €186,405

Deep Blue Srl**Address:**

Via Ennio Quirino Visconti 8
193 Roma
Italy

EU Contribution: €226,500

Sintef**Address:**

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7034 TRONDHEIM
Norway

Organisation Website:

<http://www.sintef.no>

EU Contribution: €53,750

Universiteit Utrecht**Address:**

Heidelberglaan 8
3584 CS Utrecht
Netherlands

Organisation Website:

<http://www.vet.uu.nl>

EU Contribution: €247,750

Technologies:

Information systems
Game theory for air traffic management

Development phase: Research/Invention

STRIA Roadmaps: Network and traffic management systems

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Geo-spatial type: Other