



# ASTAIR

## **ASTAIR unveils the future of airport ground operations with advanced AI automation**

*The new SESAR project offers a glimpse into a new era of sustainable and efficient airport ground traffic management*

**[Rome, Italy, 23/10/2023]** – ASTAIR has officially started. The kick-off meeting took place in the heart of Europe, at the EUROCONTROL offices in Brussels, on 20th September 2023 and gathered representatives of all the partners involved.

**ASTAIR** – acronym of **Auto-Steer Taxi at AIRport** – is an initiative supported by **SESAR 3 Joint Undertaking** under the Horizon Europe research and innovation programme and promises a significant leap in airport ground operations through the utilisation of advanced automation and AI technology.

ASTAIR aims to **engineer a support tool that will oversee fully automated ground operations at airports**, unlocking new dimensions of efficiency and sustainability in the aviation sector. Automation stands out as a pivotal factor with the potency to augment airport ground traffic capacity whilst attenuating impacts on human workload and the environment.

- **Unlock the potential of AI to fully automate the supervision of airport ground operations**

The project envisions utilising Artificial Intelligence (AI) to implement prompt actions, such as **providing clearances to vehicles on the airport aprons and taxiways according to optimal routes** and **managing fleets of autonomous tugs to further enhance ground capacity**. While automation will be at the forefront, **human-centred tools** are requisite to supervise, predict, and seamlessly integrate human intervention whenever necessary to fully harness its potential.



The key to ASTAIR's approach lies in **optimizing the symbiosis between humans and AI by tailoring intelligent systems to operators' modus operandi, ensuring logical consistency across manual and automated control.**

The initiative will introduce **interactive tools and adaptive AI algorithms** that leverage operators' expertise for controlling and engaging with automation at various levels, ensuring that automation doesn't just replace, but also collaborates and adapts.

- **Embracing HORIZON 2020 AEON legacy**

ASTAIR builds on the achievements of the Horizon 2020 funded project, AEON. The [AEON project - Advanced Engine Off Navigation](#), led by ENAC, in collaboration with Deep Blue and TU Delft, explored a **new concept of operation to support engine-off taxiing**. It introduces the role of a fleet manager to supervise and allocate a fleet of towing vehicles to aircraft with dedicated algorithms and interfaces.

The operational concept developed by AEON is based on the belief that taxiing techniques may become robust solutions and technologies in the future and **there will be a need for them to coexist in the airport environment and to be used in a coordinated way.**

- **About SESAR 3 Joint Undertaking**

[The SESAR 3 Joint Undertaking](#) is an institutionalized European private-public partnership set up to accelerate through research and innovation the delivery of the Digital European Sky. The partnership is developing cutting-edge technological solutions to manage conventional aircraft, drones, air taxis and vehicles flying at higher altitudes.

The SESAR 3 JU partnership brings together the EU, Eurocontrol, and more than 50 organizations covering the entire aviation value chain, from airports, airspace users of all categories, air navigation service providers, drone operators and service providers, the manufacturing industry and scientific community. The partnership also works closely with the regulatory and standardization bodies, notably EASA and Eurocae, as well as key



stakeholders, such as professional staff organizations, the space and military communities and global partners.

- **About individual partners**

ASTAIR is a **collaborative project** involving the following organizations:

1. [ENAC - Ecole Nationale de l'Aviation Civile](#) (Project Coordinator, France)
2. [Delft University of Technology](#) (Netherlands)
3. [Deep Blue](#) (Italy)
4. [EUROCONTROL](#) (Belgium)
5. [Groupe ADP - Aéroports de Paris](#) (France)

**Quote** – Mathieu Cousy (ENAC, Project Coordinator): *Integrating more closely existing processes in an automated supervision system will facilitate global optimisation. The objective of project ASTAIR is to make it 'human readable' and easy to handle by the operator.*

## CONTACTS

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## LINKS

[ASTAIR SESAR webpage](#)

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