Intermediate Communication, Dissemination and Exploitation Plan

Deliverable ID:	**D6.2**
Project Acronym:	**ASTAIR**
Grant:	**101114684**
Call:	**HORIZON-SESAR-2022-DES-ER-01**
Topic:	**HORIZON-SESAR-2022-DES-ER-01-WA1-1**
Consortium Coordinator:	**ENAC**
Edition date:	**16 October 2024**
Edition:	**01.01**
Status:	**Official**
Classification:	**[PU]**

Abstract

This document contains the ASTAIR Intermediate update of the Communication Dissemination and Exploitation activities. Since its initial submission in November 2023, this update provides an overview of the activities conducted over the past months, including updates to our website, increased media presence, and enhanced social media engagement. It also outlines the performance against the defined KPIs and sets the stage for future communication and dissemination efforts as the project progresses.p

EUROPEAN PARTNERSHIP

Co-funded by the European Union

Authoring & Approval

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Organisation name	Date
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DBL	26/08/2024
ADP	26/08/2024
ECTL	26/08/2024
TUD	26/08/2024

Rejected by[1]

Organisation name	Date

Document History

Edition	Date	Status	Company Author	Justification
00.01	22/07/2024	Draft	Deep Blue	Initial draft
00.02	22/07/2024	Draft	All partners	First round of review
01.00	26/08/2024	Final	Deep Blue	Finalisation of the document: update of KPIs and general formatting
01.01	16/10/2024	Second submission, final	Deep Blue	Review version includind contribution from S3JU: **p. 23:** public deliverables will release once approved by reviewers on

[1] Representatives of the beneficiaries involved in the project.

	both the Funding and Tender Portal and STELLAR. **p. 31**: ASTRA corrected with ASTAIR. **p. 36 (Table 7)**: SESAR Annual conference 2025 and future editions addes as future relevant event.

ASTAIR

AUTO-STEER TAXI AT AIRPORT

ASTAIR

This document is part of a project that has received funding from the SESAR 3 Joint Undertaking under grant agreement No 101114684 under European Union's Horizon Europe research and innovation programme.

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List of acronyms

Acronym	Description
AI	Artificial Intelligence
ADP	Aéroport de Paris
ANSP	Air Navigation Service Provider
ASPAG	Airside Simulation and Performance Assesment Group
ATC	Air Traffic Control
CDE	Communication, Dissemination, Exploitation
CDG	Charles de Gaulle airport
CMS	Content Management System
GDPR	General Data Protection Regulation
HMI	Human Machine Interface
ICNS	Integrated Communications, Navigation, and Surveillance (Conference)
IGHC	IATA Ground Handling Conference
M	Month
OPR	Open Peer Review
R&I	Research and Innovation
S3JU	SESAR 3 Joint Undertaking
TOC	Table of Contents
WP	Work Package

1 Introduction

This document contains the first ASTAIR Intermediate Report for the Communication, Dissemination, and Exploitation (CDE) of the activities carried out from the start of the project (September 2023) until M12 (August 2024) and serves as updated internal guidance on the strategies, planned activities and tools for the sharing of the project results. It includes the identification of target stakeholders, the selection of the appropriate communication and dissemination strategy, material for each group of stakeholders and the identification of exploitation target users and partners' exploitation intentions. The deliverable also updates the status of the KPIs defined in the first release of the document and the strategies for communication, dissemination, and exploitation measures.

The ASTAIR CDE Plan details the communication, dissemination and exploitation plan for ASTAIR. It details the communication goals, high-level messages and a short description to be broadcasted in different media with the aim of making the project understandable at first glance.

The communication means include the project's website, the social media and other relevant tools. The deliverable also details the strategy the project will follow to make use of or disseminate the project's results, as a plan of activities including a schedule and metrics to measure its impact and effectiveness.

The exploitation chapter explains the project's approach and strategy to make the best use of the project results.

Major changes, compared to the prior D6.1, concern the following chapters:

- 2.4.1 Website development and release
- 2.4.2 Graphic materials: latest releases
- 2.4.4.1 LinkedIn: state of the art and analysis
- 2.4.4.2 X: proposed changes to the social media strategy
- 2.4.6 Newsletters
- 2.4.7 Videos
- 3.4 Dissemination events
- 3.5 Dissemination activities updates (M1-M11)

KPIs are update in each table at the end of the chapter.

1.1 Applicable reference material

[1] ASTAIR Grant Agreement, number: 101114684

[2] ASTAIR Project Management Plan (D7.1)

[3] ASTAIR, Initial Communication Dissemination Exploitation Plan (D6.1)

[4] European Research Executive Agency, Communication, dissemination & exploitation what is the difference and why they all matter, 16/06/2023

[5] S3JU Communications Strategy (02.00 edition)

[6] S3JU Communications Guidelines (0.03 edition), available on STELLAR

[7] S3JU, Project communication at a glance

[8] S3JU Visual Charter (update 11/2022)

[9] S3JU Project Handbook, Edition 01, April 2022, available on STELLAR

[10] S3JU "Multiannual Work Programme 2022-2031"

[11] Guidance Social media guide for EU funded R&I projects

[12] Project's teaser videos guidelines

[13] EU emblem and guidance on its use

Project introduction

1.2 About ASTAIR

The ASTAIR project envisions a novel advancement in airport ground operations through the strategic interplay between Human and Artificial Intelligence (AI).

The initiative intends to promote a cohesive operational environment that integrates manual and autonomous functionalities, enhancing efficiency, safety, and sustainability in managing engine-off and conventional taxiing operations across major European airports. Through interactive tools and adaptive AI algorithms, ASTAIR aims to augment the capacity of airport ground operations whilst reducing the impacts on human workload and the environment.

The use of a human-centred approach promotes a coordinated collaboration between human-controlled and automated processes, drawing on operators' expertise to control and engage with the automation at varied levels, thereby ensuring the optimization of the collaboration between humans and AI within the complexities of taxi management and control operational tasks

1.3 Project key messages

ASTAIR key messages serve as the basis of all communication and dissemination activities, ensuring consistency, clarity, and impact across all interactions with stakeholders. To this end, the key messages of the ASTAIR project have been thoughtfully divided into two distinct but complementary categories: communication and dissemination.

Communication key messages are designed to foster engagement, build awareness, and create a narrative around the project. These messages are tailored to resonate with a broader audience, including the general public, industry stakeholders, and potential partners. They emphasise the project's goals, its relevance, and its expected impact, aiming to generate interest, foster understanding, and build support for the project.

Dissemination key messages focus on sharing the specific outcomes, results, and findings of the ASTAIR project with a more targeted audience. This audience primarily includes industry experts, academic researchers, and policy makers. The messages in this category are crafted to highlight the project’s achievements, technical innovations, and contributions to the field. They aim to inform, educate, and stimulate discussion and collaboration among professionals and experts who can further utilise and build upon the project's outcomes.

1.3.1 Communication

Key message #1 – Higher autonomy and automation in airport management. ASTAIR aims to transform airport management by increasing autonomy and automation. The project integrates advanced AI and automation to streamline ground operations, reshaping the entire airport management ecosystem. This shift focuses on enhancing efficiency, reliability, and sustainability in airport operations.

Key message #2 – Enhancing sustainability in airports. ASTAIR is not merely about improving operational efficiency but is deeply rooted in sustainability, aiming at enabling green taxiing and

reducing the environmental footprint of airport ground operations, thus contributing significantly to the reduction of emissions in airport operations.

Key message #3 - Human-centred technological advancement. The project emphasises respecting and enhancing the role of human operators within an increasingly automated environment.

Key message #4 – Continuous stakeholder engagement and support. The strategic implementation of the ASTAIR project is constructed around a stakeholder-centric approach, ensuring that from concept design through to validation and demonstration, stakeholder input and engagement are integral, validating the utility and applicability of the project's outcomes across the many facets of airport operations.

1.3.2 Dissemination

Key message #1 - Innovation in ground operations. ASTAIR is pioneering the next wave of airport ground operations, integrating adaptive AI and human expertise to create a seamless and effective management system for both conventional and engine-off taxiing, aiming at minimising the environmental impact and improving operational predictability at Europe's major airports.

Key message #2 - Revolutionising taxi efficiency. ASTAIR streamlines taxi operations, merging engine-off and conventional methods for cost-effective and eco-friendly management. This initiative promises shorter taxi times, reduced costs, and lower carbon emissions, transforming ground handling.

Key message #3 - Collaboration of human and AI. The project stands at the intersection of technology and human expertise, developing human-centred AI algorithms and interactive tools to ensure that the collaboration between humans and AI is optimised. Thus, will ensure safety, efficiency, and logical consistency across all levels of operation.

1.4 Keywords

These keywords and definitions give a comprehensive overview of the core components in the ASTAIR project, providing an understanding for various stakeholders and facilitating further exploration and discourse in relevant contexts.

Keyword	Definition
Automation	The application of technology, programs, robotics, or processes to achieve outcomes with minimal human intervention.
Artificial Intelligence (AI)	The simulation of human intelligence in machines, enabled through programming and algorithms, to perform tasks requiring human-like learning and problem-solving skills.
Taxiing operations	The movement of an aircraft on the ground, under its own power, between the runway and the ramp, or within other designated areas of an airport.
Engine-off Taxiing	The technique of moving aircraft on the ground using tugs or alternative means instead of the

	aircraft's engines to reduce emissions and fuel consumption.
Human-Machine Interface (HMI)	Systems allowing interaction and data exchange between a user and an electronic or mechanical device, facilitating control, and communication between them.
Human-centred design	A design and management framework that develops solutions to problems by involving human perspective and direct input at every stage.

Table 1 ASTAIR keywords

1.5 Focal point for communications, dissemination and exploitation

Name	Role	Email address
Serena Fabbrini	Communication and dissemination manager	serena.fabbrini@dblue.it
Mathieu Cousy	Exploitation manager	mathieu.cousy@enac.fr

Table 2: ASTAIR focal points of contact

1.6 Stakeholders identification

Stakeholder	Content
Airspace community (e.g. airspace users, ANSPs, airport operators, staff associations)	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates
ATCs, airport operators, ground handlers	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates
Academic research community and scientific community	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates
Industry (including associations and Advisory Board members)	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates Technological advancements, business impacts, operational efficiency data, and partnership opportunities
Policy and decision makers (e.g., Eurocontrol, SESAR JU), policy institutions (e.g. EASA; Eurocontrol, ICAO)	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates

	Policy implications, regulatory advancements, strategic project alignment, and advocacy opportunities
	Compliance with regulatory frameworks, impact on policy, and collaborative opportunities for innovation

Table 3: ASTAIR Stakeholders

2 Communication

The ambition of WP6, led by Deep Blue, is to ensure that the results of the ASTAIR project are disseminated to all relevant stakeholders and target organisations, thereby cultivating their engagement with the project, and incorporating their insights into its operational remit.

WP6 sets forth the following distinct objectives:

- To establish the project's visual branding.
- To launch and maintain the project's official website.
- To devise and execute a strategic plan for ASTAIR's dissemination and communication efforts.
- To assess and appraise the impact and efficacy of the communication and dissemination initiatives.
- To create synergies between the ATM industry and the broader aviation sector, connecting them with the project and its network of stakeholders.

This chapter details the devised strategy for the project's communication, predicated on aligning **three foundational pillars:**

1. **Communication objectives**. The articulation of the overarching communicative intentions of the project and the strategies for their realisation.
2. **Target audience**. The classification of ASTAIR's critical stakeholders into distinct segments, each targeted in a tailored manner.
3. **Key messages**. The crafting of core messages intended to be conveyed by the project.

2.1 Communications objectives and strategy

At the project's outset and throughout its lifecycle, the communication efforts aim to achieve four goals:

- **Increase awareness** of the project and its work, leaving a positive impression on the target audience
- **Generate understanding** of the project's activities by conveying core messages to the target audience, ensuring that the messages are correctly received, and generating comprehension of the project itself.
- **Engage the audiences** in utilising project results and discoveries. Facilitate further interaction between stakeholders and demonstrate the relevance of the work to their own practices while obtaining feedback and comments.
- **Ensure lasting impact** of the project's research on the target audience by communicating key messages to relevant decision makers.

Figure 1 ASTAIR Communication goals

To achieve these objectives and ensure effective and efficient communication, we will tailor the information for distinct stakeholder groups. This personalization encompasses not only the information content but also the messaging style and delivery method (e.g., document, website, social media). The ASTAIR communication plan will determine the most suitable means of communication for each stakeholder category.

Moreover, to maintain alignment with SESAR guidelines, ASTAIR Consortium will keep a regular dialogue with the SESAR 3 Joint Undertaking (S3JU) Communications office to:

- Synchronize the project's communication efforts and milestones with the broader communicative framework and strategic planning of the S3JU.
- Evaluate and align strategies, principal messages, intended audiences, and communication materials regarding SESAR solutions to ensure harmony with the foundational goals of the S3JU.
- Initiate collaborative outreach activities, considering the established collaborative frameworks by the S3JU or in conjunction with the European Commission in the realm of SESAR.
- Avail of the S3JU's support for diverse events and symposiums.
- Extend the project's communicative reach by leveraging the S3JU's communication channels and collaborative networks to disseminate pertinent information more widely.

2.2 Communication target audiences

An essential factor for effective communication strategies is identifying the target audience. This enables consideration of the audience's characteristics, needs, and primary interests, allowing tailored communication for each audience segment.

Moreover, each audience category not only relates to one or more communication goals, but also requires specific actions and communication methods for engagement.

ASTAIR target audience can be grouped into three main categories:

1. **General audience**: this cluster includes people and groups interested in the general topics pertaining ASTAIR, such as civil society groups. This kind of audience recognizes the importance of the project topics and the benefits that may derive from the project research. This group includes also “environmental groups”.

2. **Specialised audience**: this audience is composed by people who may directly use or be impacted by the project results, e.g., in their work, study, research, or life. This target audience can be further split into several stakeholders’ segments:

    a. Aircraft operators

    b. Airports

    c. ATCs

    d. Airspace users

    e. Ground handlers

    f. Scientific community

        i. Research community engaging in similar research

        ii. R&I institutes

        iii. Universities

        iv. Private research companies

3. **Institutional bodies**: these comprise entities responsible for aligning the allocation of resources and investments with societal and economic priorities. This category includes:

    a. EASA

    b. EUROCONTROL

    c. ICAO

    d. SESAR 3 Joint Undertaking

    e. EU and EC (CINEA)

Each of these target categories requires a unique communication strategy that aligns with their respective interests and the level of technical detail they require. The activities are designed to engage each group effectively, fostering understanding, support, and collaboration for the ASTAIR project.

Target	Channel/tool	Message	Activities
General public	Visual identity	Raise awareness, generate understanding on the project (e.g., project’s value, aims and	Social media outreach; interactive public

	Website and social media Graphic materials Media relations Presentations at third-party events	outcomes, its future impact for the economy and the environment) Awareness of ASTAIR's efforts to improve efficiency and reduce environmental impact. ASTAIR's contribution to reducing environmental impact of airport operations.	exhibitions demonstrating the project's technology. Sharing of visual and textual material providing key basic information on ASTAIR through different channels
Specialised audience	Visual identity Website & social media Graphic materials Media relations Presentations and posters at third-party events ASTAIR final dissemination event	Raise awareness, generate understanding, engage, ensure impact (promote networking, engage collaborations and exploitation). ASTAIR's role in advancing the aviation industry with AI and automation; how ASTAIR enhances operational efficiency and safety; the benefits of ASTAIR's AI tools in managing airport ground traffic	Publishing articles and case studies in industry publications; hosting workshops to demonstrate the project's impact on operational efficiency. Sharing of visual and textual material providing key basic information on ASTAIR through different channels. Publication of scientific dissemination materials and organisation of face-to-face events
Institutional bodies	Visual identity Website & social media Graphic materials Media relations Presentations and posters at third-party events ASTAIR final dissemination event	Raise awareness, generate understanding, engage, ensure impact. The role of ASTAIR in shaping future regulations for automated ground operations	Sharing of visual and textual material providing key basic information on ASTAIR through different channels. Publication of scientific dissemination materials and organisation of digital and face-to-face events. Presenting papers at conferences; publishing findings in scientific journals.

Table 4: ASTAIR communications target audiences

2.3 Visual identity and acknowledgements

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The establishment of a robust visual identity stands as a cornerstone for clear, compelling, coherent, and impactful communication. It serves not just as an aesthetic beacon but as a communicator of the project's core values and objectives. The visual identity of ASTAIR has been crafted to align with the SESAR 3 JU Visual Charter, ensuring that the project's public face reflects the principles and professional standards of the SESAR initiative.

The key components of ASTAIR's branding are:

- **Brand recognition**. The visual identity of ASTAIR has been conceived with an acute awareness of the need to cultivate and elevate brand recognition. By doing so, we not only enhance the perceived value of the ASTAIR brand but also fortify its standing within the industry as a symbol of innovation and progress.

- **Communication efficiency**. An efficient communication strategy is fundamental to the success of any project. ASTAIR's visual identity has been designed to streamline and optimise both internal and external communication efforts, ensuring messages are delivered succinctly and received with clarity by all stakeholders.

- **Consistent professionalism**. Uniformity in visual representation across all platforms and media is crucial. ASTAIR's branding has been developed to maintain consistency, projecting a professional image that resonates with our audiences, irrespective of the medium through which they engage with the project.

The visual elements that comprise ASTAIR's brand, including the logo, colour schemes, typography, and design templates, have all been curated to work in concert, projecting a unified message of technological advancement and collaborative innovation. These elements are not merely for visual appeal; they are embedded with the essence of ASTAIR's mission to shape the future of airport ground operations through AI and human collaboration.

2.3.1 ASTAIR logo

ASTAIR logo (in Figure 2) has been provided by S3JU. Other key elements of ASTAIR visual identity have been developed provided by S3JU, including the font (Titillium regular) and the colour deep blue (HEX: #00306F) identified for Exploratory research projects.

The logo was also integrated in the Word and PPT templates for deliverables and presentations made available by S3JU on STELLAR.

ASTAIR

Figure 2 ASTAIR logo

2.3.2 Acknowledgements

Any communication and dissemination activity related to the project will acknowledge EU support and display the European flag and funding statement (Figure 3, right), as per Grant Agreement, *chapter 4, section 2, article 17.2* Moreover, to ensure consistent communication and build brand recognition,

ASTAIR will use the SESAR logo (Figure 3, left) in all communications material promoting its project activities, in accordance with S3JU visual branding and toolkit established in 2022.

Figure 3 EU and S3JU logos. For all CDE actions, ASTAIR will acknowledge EU funding by displaying the EU emblem and S3JU logo, in addition to the project logo

2.4 Communication channels

2.4.1 Website development and release

ASTAIR website is a focal component within the project's strategy for communication, dissemination, and exploitation. This digital platform serves as a **repository for comprehensive information about ASTAIR, delineating its goals, activities, and achievements**. Moreover, it offers a host of features, such as updates on latest developments and forthcoming events, a suite of downloadable outreach materials, and pertinent external references. Integrated feeds from the project's social media channels ensures that visitors receive the most current updates regarding project milestones, ongoing endeavours, and other significant announcements.

Developed by Deep Blue, the website is hosted on their server and can be accessed at https://research.dblue.it/astair/ and has been developed starting from the agreed table of contents defined in D6.1 (Chapter 3.4.1 – Website).

From late November 2023, a temporary webpage was created to serve as a placeholder while the full website was being developed. This temporary page, shown in the image below, featured a concise project description and an introduction to all project partners.

Figure 4 Overview of ASTAIR temporary webpage

The ASTAIR project website has been developed using WordPress, a widely-used content management system (CMS) known for its flexibility and user-friendliness. WordPress powers millions of websites around the world, offering a robust platform that supports a wide range of plugins and themes to enhance functionality and design. For the ASTAIR website, we utilized the **Avada theme**, a popular and versatile template that provides extensive customization options and a variety of pre-built layouts. By leveraging the capabilities of WordPress and the Avada theme, we have created a comprehensive and user-friendly website that effectively supports the ASTAIR project's communication and dissemination goals. **Matomo Analytics** is used to measure external interest in the site and the data gathered will be carefully monitored: Matomo Analytics is an open-source web analytics platform designed to provide detailed insights into website traffic and user behavior. Unlike other analytics tools, Matomo emphasizes user privacy and data ownership, allowing organizations to host the platform on their own servers and retain full control over their data.

The website, fully completed, has been released at the beginning of April 2024.

As a classic website, users are immediately directed to the **Home page**, which provides a comprehensive overview of the project. This includes a brief description of ASTAIR, the four main objectives, a call to action for subscribing to the project newsletter, a timeline highlighting the key expected outcomes, a link to the regularly updated news page, and a footer. The footer contains the acknowledgement, contact details of the project coordinator and the communication and dissemination leader, as well as links to the project's social media profiles.

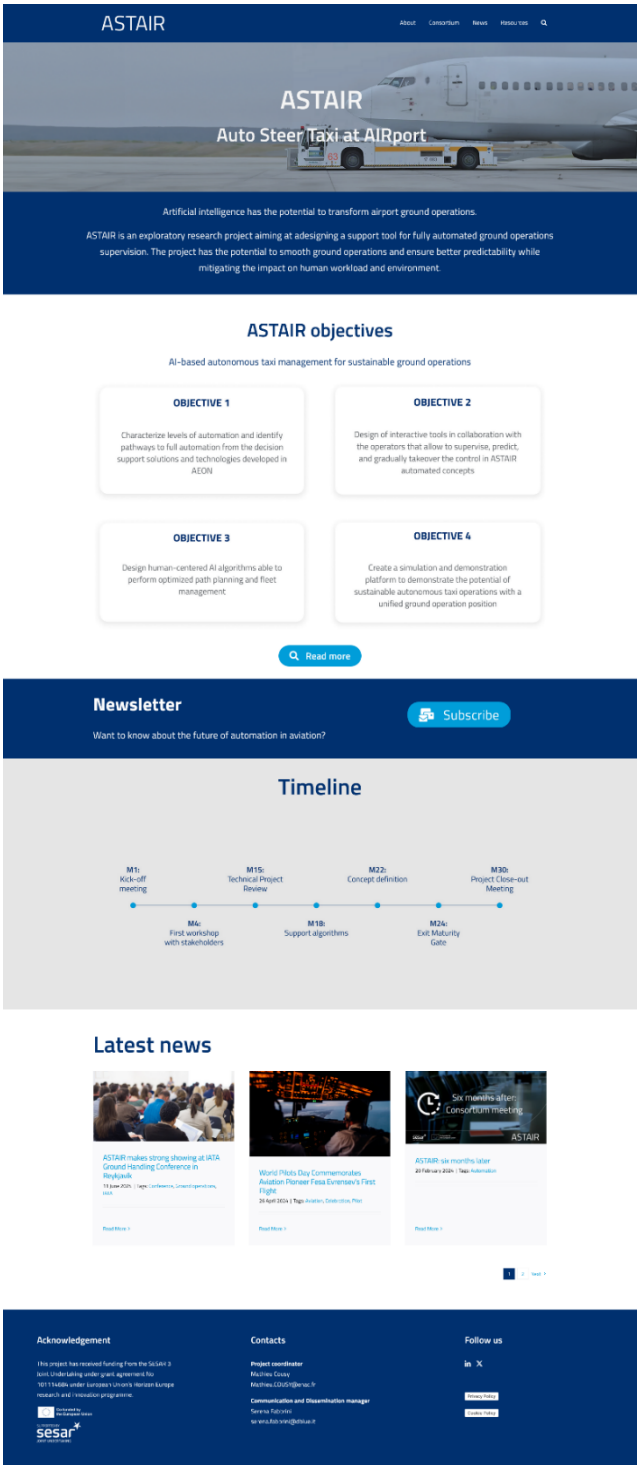

Figure 5 ASTAIR Home page (update August 2024)

The **About page** was designed to provide to users the necessary information regarding the background of ASTAIR, the needs that the Consortium considered while writing the project. An important section of this page is the link with the AEON project, a European project (2020-2022) funded by SESAR Joint Undertaking that aimed at innovating airport ground operations with more environmentally friendly taxiing techniques for the aviation sector. The decision to include this past project is linked to the importance of the outcome of AEON for ASTAIR's implementation.

Moving to the **Consortium page**, like for the temporary webpage, it provides detailed information about all project partners, with a direct link to each organization's website. Each partner is introduced with a brief description, highlighting their role and contributions to the ASTAIR project. This page fosters transparency and showcases the diverse expertise involved in the project.

The **News page** is regularly updated with the latest announcements, achievements, and event summaries related to the ASTAIR project. It serves as a dynamic hub for all project-related news, ensuring stakeholders are kept informed of progress and developments.

The **Resources page** is one of the most important sections of the website from both a development and user perspective. This page hosts all public materials produced by the project, including graphic materials and public deliverables. Public deliverables are release once approved by reviewers on both the Funding and Tender Portal and STELLAR. Utilizing a simple tagging system (e.g. "Communication materials" and "Deliverables"), users can easily find and download the materials they are interested in with just one click. This functionality ensures that resources are accessible and organized, enhancing the user experience and promoting the dissemination of project outputs.

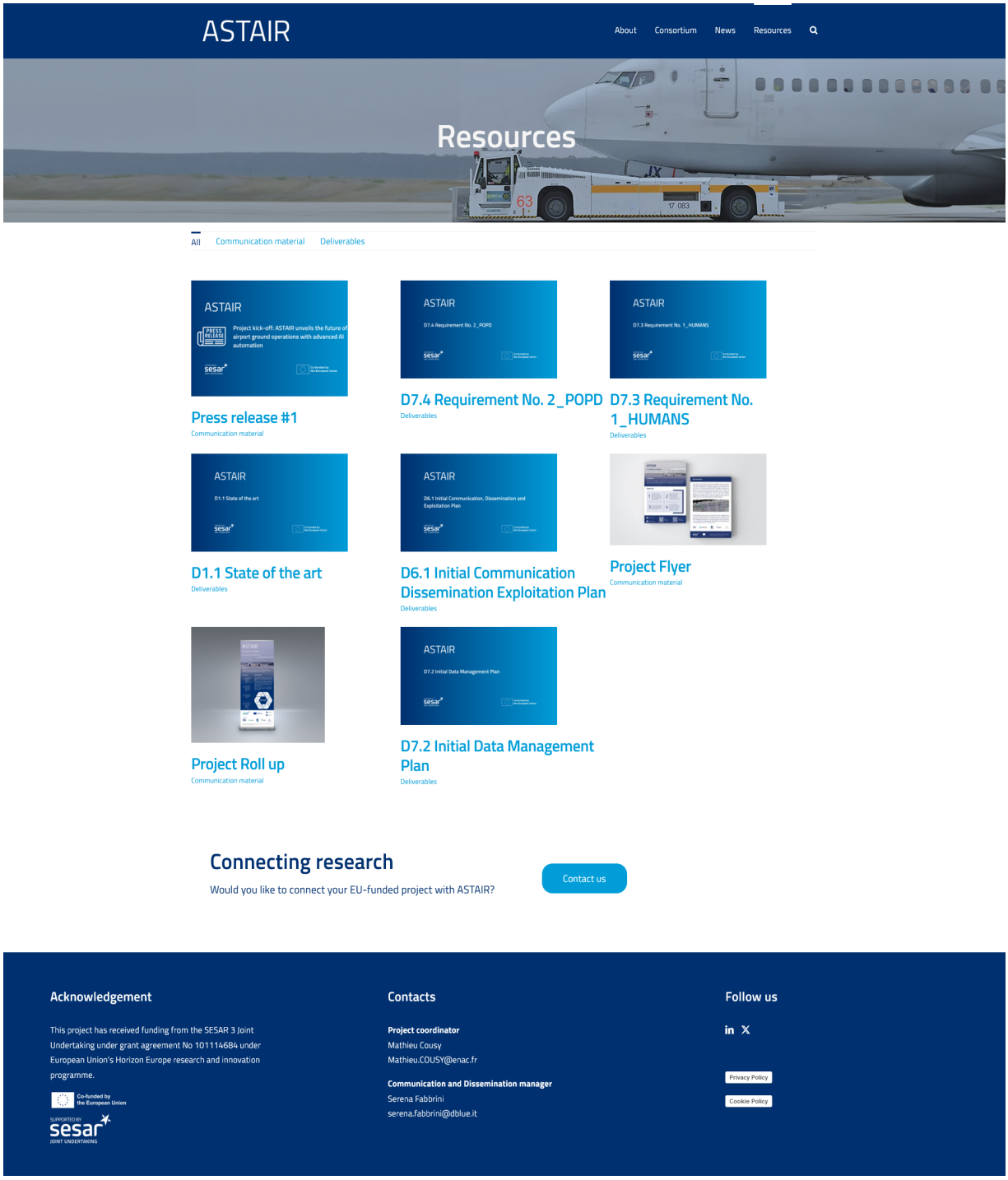

Figure 6 ASTAIR website: "Resources" page (update August 2024)

In addition to the ASTAIR website, SESAR provides a dedicated webpage on SESAR official website, available at this link: https://www.sesarju.eu/projects/ASTAIR. This webpage serves as a vehicle of communication news and updates to a wider public

2.4.1.1 Website analytics

The following graphs and data provide a comprehensive overview of the website analytics for the ASTAIR project. In our analysis, we have shifted our focus from unique visits to total visits as the primary metric for evaluating success. This decision stems from our recognition that total visits offer a more nuanced understanding of user engagement. While unique visits count each visitor only once, total visits capture the frequency and consistency of user interactions with our content. This metric better reflects the sustained interest and repeat engagement of our audience, providing us with deeper insights into the effectiveness of our outreach and the overall impact of our online presence.

Considering also the presence of the dedicated webpage on S3JU website, we need to consider also the following metrics and KPIs achieved since January 2024:

Metrics	Updated data (since January 2024)
Pages views	395
Unique pages views	304
Bounce rate	53%
Average time on page	00:01:21
Exit rate	61%

Table 5 Metrics and data of ASTAIR's webpage on S3JU website, since January 2024

Visits Summary

Visits	213
Actions	555
Maximum actions in one visit	36
Actions per Visit	2.6
Avg. Visit Duration (in seconds)	00:02:18
Bounce Rate	63%
Unique visitors	0

Figure 7 Matomo Analytics: visits summary (last year)

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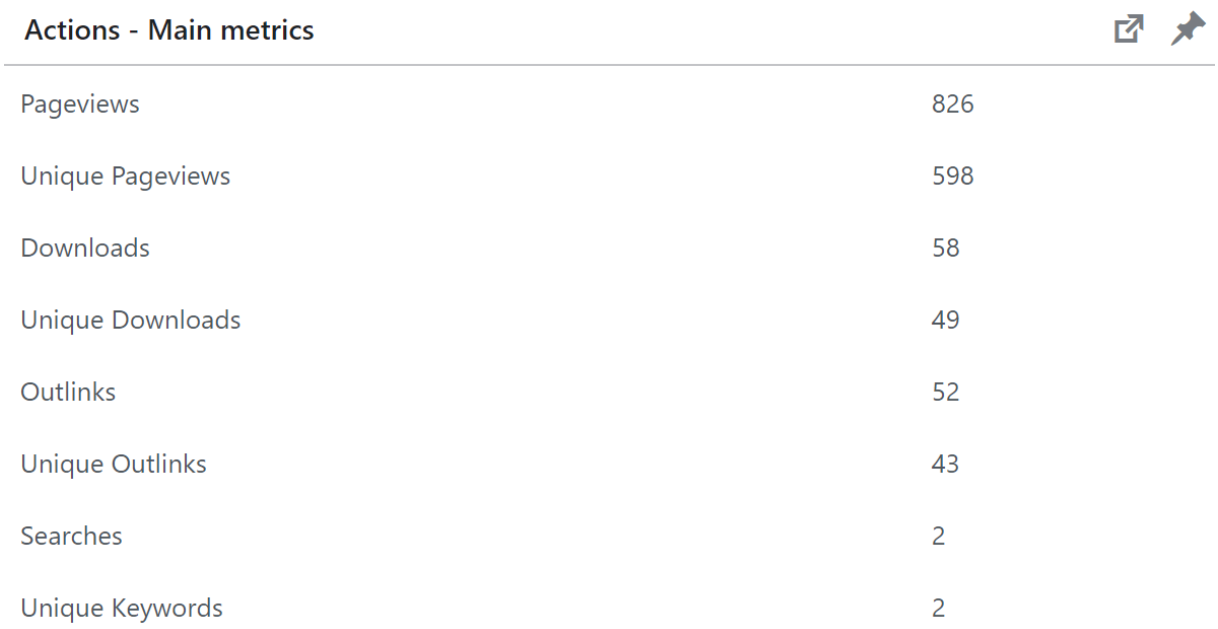

Actions - Main metrics	
Pageviews	826
Unique Pageviews	598
Downloads	58
Unique Downloads	49
Outlinks	52
Unique Outlinks	43
Searches	2
Unique Keywords	2

Figure 8 Matomo Analytics: Actions, main metrics (last year)

2.4.2 Graphics material: latest releases

Communication materials for ASTAIR are and will be tailored across its duration to support partners' specific requirements, such as event participation or digital call-to-action promotions. In the spirit of sustainability, printed materials will only be produced when absolutely necessary, with digital formats being disseminated to partners promptly upon availability.

On-demand printed materials are and will be produced, adhering to the consortium's requisites, and each piece will be crafted in line with the project's visual identity, tailored to its specific requirements, such as promotional flyers for open calls, informational brochures for educational events, or pamphlets showcasing particular outcomes.

As August 2024, we have produces two main graphic materials:

- **Project rollup**: displayed at the SESAR Innovation Days 2023 edition, it provides a comprehensive and visually appealing overview of the project.
- **Project flyer**: it describes the main objectives of the project, as well as the methodology that will be used.

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Figure 9 ASTAIR rollup

Figure 10 ASTAIR flyer

2.4.3 Press and media

The press and media are crucial conduits for disseminating ASTAIR's progress, milestones, and successes to a broad audience, including the general public, industry stakeholders, and institutional bodies. The objective is to build and maintain a positive media presence that reflects the project's innovative spirit and its contributions to improving airport ground operations through automation.

In January 2024, as the dissemination leader, Deep Blue issued a press release in Italian to its contacts in both the general and specialised aviation press, announcing the progress of the ASTAIR project. This initiative was carried out in synergy with another SESAR project, HUCAN. The press action resulted in several noteworthy publications, highlighting the advancements and collaborative efforts of these projects within the aviation sector.

The following table provide an overview of the past contributions achieved.

Media activity	Date	Link
	Past contribution	
ASTAIR has kicked off. Unveiling the future of airport ground operations with AI automation	30/09/2023	Link
Press release: ASTAIR unveils the future of airport ground operations with advanced AI automation	23/10/2023	Link
AI-powered airport ground operations	24/10/2023	Link

Automated operations' scenarios: Charles de Gaulle hosts the ASTAIR's first workshop	30/12/2023	Link
Press release: INTELLIGENZA ARTIFICIALE E AVIAZIONE: AL VIA NUOVI SVILUPPI EUROPEI	31/01/2024	N/A
INTELLIGENZA ARTIFICIALE E AVIAZIONE: AL VIA NUOVI SVILUPPI EUROPEI	31/01/2024	Link
ASTAIR e HUCAN: i progetti di Deep Blue per portare l'IA nel mondo dell'aviazione	01/02/2024	Link
Intelligenza artificiale e aviazione: con l'azienda italiana Deep Blue al via nuovi sviluppi europei ASTAIR e HUCAN	02/02/2024	Link
Intelligenza artificiale e aviazione: al via nuovi sviluppi europei. Dai nuovi standard di certificazione alle operazioni di terra, questi alcuni degli ambiti di intervento per l'introduzione e il potenziamento dell'utilizzo dell'intelligenza artificiale in aviazione.	03/02/2024	Link
ASTAIR: six month later	20/02/2024	Link
Intelligenza artificiale e aviazione: con l'azienda italiana Deep Blue al via nuovi sviluppi europei ASTAIR e HUCAN	20/03/2024	Link

Table 6 Contribution to media

During the implementation phase of ASTAIR, a strategic approach will be taken towards engaging with industry-specific journals and media outlets. This will involve identifying and targeting publications that are most relevant to our project's focus areas, ensuring that updates and developments regarding ASTAIR reach the right audiences within the aviation and air traffic management sectors.

The majority of news and updates will be regularly published on the ASTAIR website, serving as a central hub for information dissemination. However, to amplify our reach and impact, we will also produce and distribute at least two press releases annually. These press releases will be key in communicating significant results and milestones achieved by the project.

The planned schedule for these press releases is set for September of each year, specifically in September 2024 and September 2025. These releases will provide a comprehensive account of the progress made and the outcomes realised over the course of the year. They will highlight key achievements, breakthroughs in research, and any other notable advancements that ASTAIR has accomplished.

Moreover, ASTAIR has actively contributed and will continue to contribute to S3JU publications, ensuring that project-related text and illustrative content are provided as needed. We intend to strengthen this synergy with S3JU publications through the SESAR Solutions Catalogue, results brochures, annual highlights, and SESAR e-news, as we approach a phase of more concrete and shareable results.

2.4.4 Social media

Social media provide a dynamic and interactive way to engage with diverse audiences, disseminate project information, and facilitate networking opportunities. For the ASTAIR project, LinkedIn and Platform X have been chosen for their capabilities and audiences. The strategy for each platform is designed to maximize the impact of the content shared and the engagement with the project.

A major update to our social media strategy concerns the use of X, which has become increasingly difficult to leverage due to the declining audience and the new subscription requirements needed to access the platform's full potential.

Figure 11 ASTAIR social media banner

In the realm of social media, the strategic use of hashtags and handles is crucial for enhancing the visibility and reach of the ASTAIR project's communications. These digital tools will facilitate the creation of a cohesive and recognizable online presence, allowing us to engage effectively with our audience and the broader community. We will employ a combination of project-specific and broader industry-related hashtags and handles to maximise our impact across social media platforms.

Key hashtags

- #ASTAIRProject
- #AviationInnovation
- #SustainableAviation
- #AirTrafficManagement
- #EUResearch
- #SESAR3JU
- #DigitalSky
- #HorizonEurope

2.4.4.1 LinkedIn: state of the art analysis

LinkedIn serves as a critical conduit for ASTAIR to engage with the professional community. It is here that ASTAIR establishes its presence, sharing detailed explorations of the project's advances and its implications for the aviation and environmental sectors. The content on LinkedIn is curated to present ASTAIR as a leader in the discussion on airport operation automation.

The platform's ability to facilitate professional connections is harnessed to expand ASTAIR's network, joining conversations in industry-relevant groups and initiating dialogues on topics of importance. Regular updates, reflective of the project's milestones and insights, are strategically posted to spark meaningful conversations and invite professional collaborations.

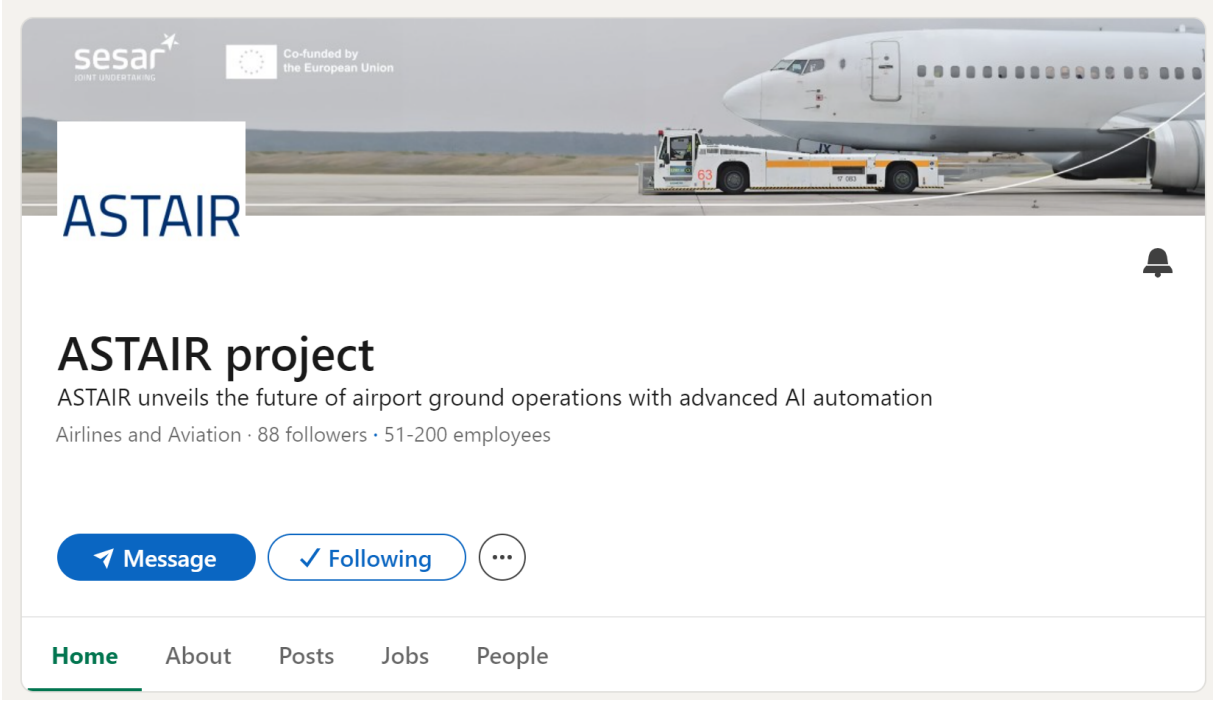

Figure 12 ASTAIR LinkdIn profile (update August 2024)

Interactive engagement forms the core of the LinkedIn presence, aiming to create a dialogue-rich environment where feedback is sought and valued. This engagement is expected to foster a community that is not only informed about ASTAIR but is actively contributing to its narrative.

Moreover, ASTAIR leverages LinkedIn for hosting live webinars and Q&A sessions, providing a direct channel for industry professionals to engage with the project's leaders, seeding potential collaborations and offering a depth of understanding about the project's vision and objectives.

We present some of the most successful examples of our posts showcasing ASTAIR's narrative on the platform:

- **Coverage of events attended by the project**: we have provided detailed accounts of various conferences, workshops, and seminars where our project has been presented. These posts offer insights into our participation, the discussions held, and the key takeaways from these events.

- **Teasing industry events**: our posts have also included previews of upcoming industry events. By highlighting the significance of these events and our involvement, we generate anticipation and interest among our audience.
- **Publication of public project deliverables**: these publications are accessible to our audience and demonstrate the progress and findings of our project, contributing to the broader scientific community.

To provide an overview of the work accomplished so far, this brief paragraph presents the LinkedIn analytics. Understanding our audience plays a crucial role in enhancing our use of this platform, offering insights into what is performing well and what requires adjustments and optimisation. The analytics pertain to the entire LinkedIn page and do not focus on individual content unless specified otherwise.

1. **Followers**. The number of followers reached now is 88, with a positive and organic constant growth.

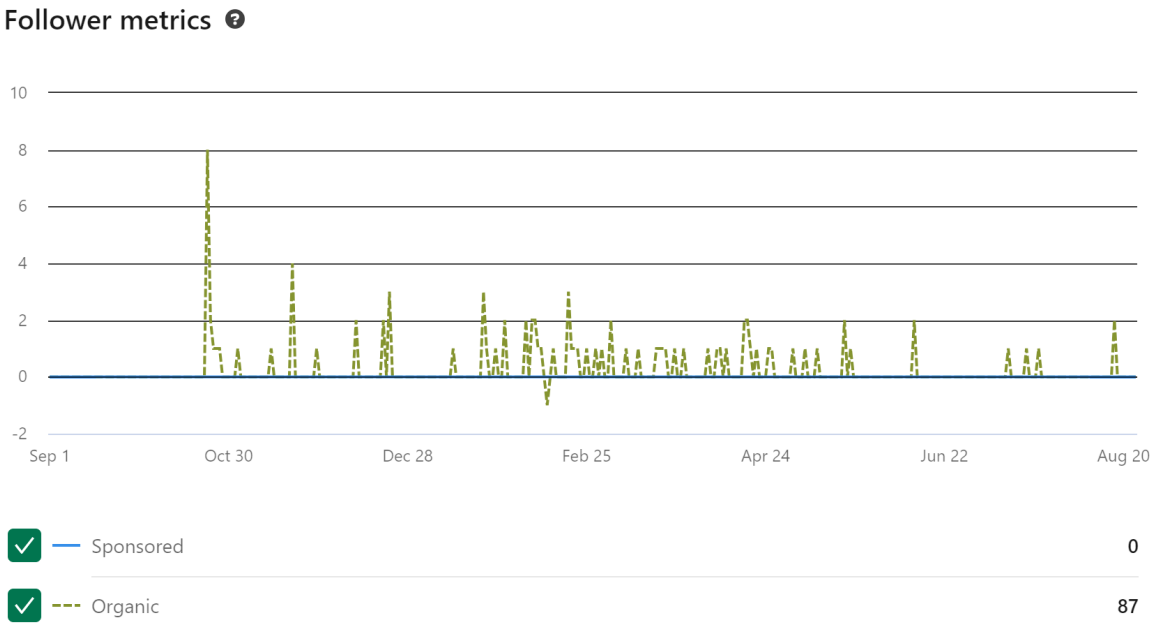

Figure 13 LinkedIn: followers (September 2023-August 2024)

2. **Engagement rate**- Shows the number of interactions plus the number of clicks and followers acquired, divided by the number of impressions. Currently it is 5.975. This number it's stabilising, since it has been very high in the beginning of the project. It is relevant to say that the single posts, for example when a public deliverable is published, reach up to 50%/100% engagement rate, which means the average grows.

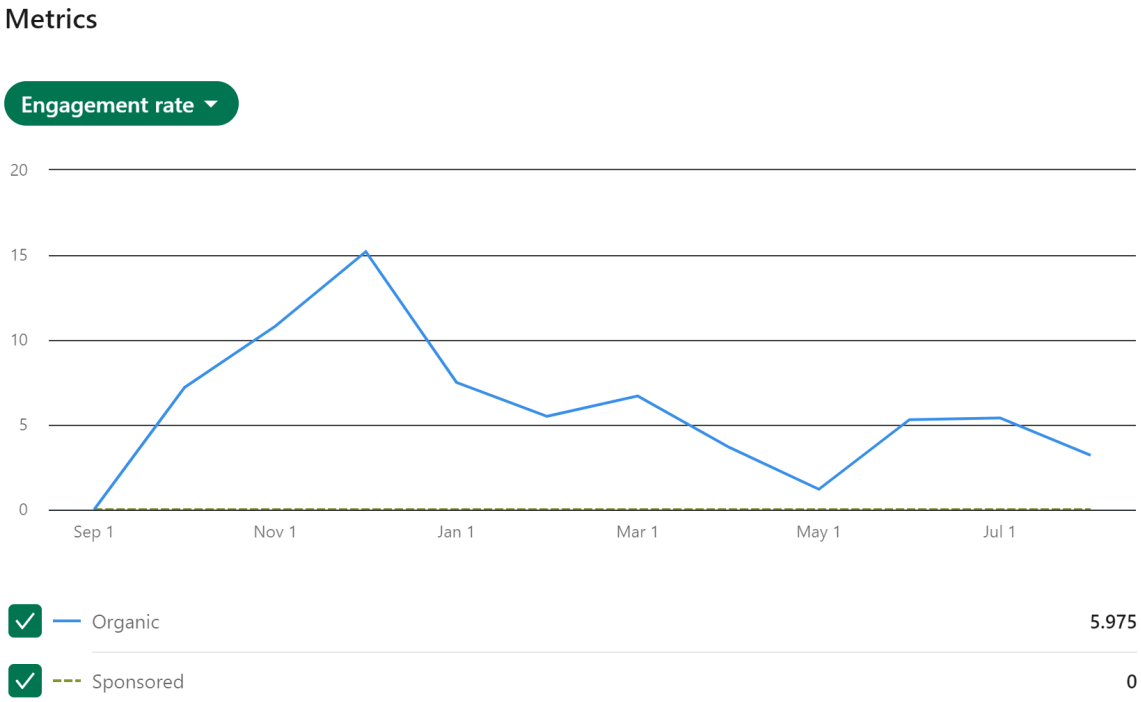

Figure 14 LinkedIn analytics: engagement rate (Sept. 2023- August 2024)

3. **Unique views**. The number of accounts that the posts were displayed to on LinkedIn. Currently 5,202. This means that the recipient of stakeholders that are reached by content is wider.

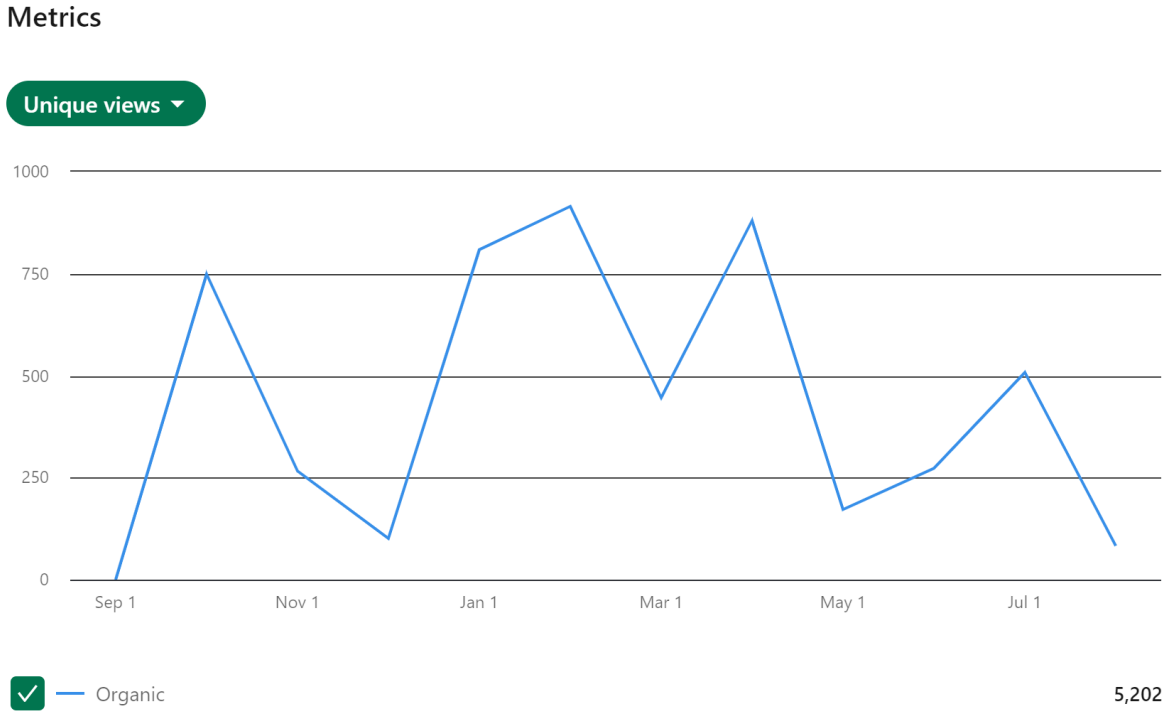

Figure 15 LinkedIn analytics, unique views (Sept. 2023 - August 2024)

4. **Number of posts**. 29 different posts have been published through LinkedIn during these months (from the start of the project to August 2024).

2.4.4.2 X: proposed changes to the social media strategy, close the account

In the continually evolving landscape of social media, maintaining a competitive edge is essential for effective communication and engagement. As part of the ASTAIR project's ongoing efforts to optimise its social media strategy, we are proposing an important change: leaving X (formerly Twitter) and moving entirely to LinkedIn.

This decision is based on a thorough assessment of the platform's performance, which has shown to be consistently low in terms of engagement and reach among our target audiences. We believe that our resources and efforts can be better allocated to other social media platforms, which have proven to be more effective in connecting with our key stakeholders.

This strategic decision is also based on a comprehensive data-driven analysis of X's performance and the shifting trends in research and innovation communication. Recent research indicates a declining use of X for European research projects. The Reuters Institute's Digital News Report 2023[2] highlights a shift in social media engagement, noting that X's overall engagement levels have dipped. This drop of engagement is likely related to the new leadership and policies of X new owner Elon Musk, who have led to increased concerns about misinformation and a decrease in trust, impacting its usage for professional and research communication. Overall, traffic from X to media properties fell by 27% in 2023.

In addition, and most importantly, the recent introduction of paid subscriptions for accessing key analytics tools on X has made it increasingly challenging to effectively track and measure the profile's performance. This limitation further reduces the value of the platform in maintaining a robust and data-driven social media presence for the ASTAIR project.

This trend aligns with broader movements in the digital landscape, where researchers and professionals increasingly prefer LinkedIn and other platforms that foster more focused and professional interactions. LinkedIn's growing popularity as a hub for research and innovation makes it a more attractive option for disseminating research findings and engaging with the academic community.

The **Airspace community** is a key target audience for the project, as they are directly impacted by the research findings and outcomes. However, our X engagement with this community has been consistently low. This is reflected in lower follower growth, lower engagement rates (likes, retweets, comments) and minimal traffic to our website from X.

Regarding the **academic research and scientific communities**, our X reach among these communities has been limited since the beginning. This is due to factors such as the algorithm, which prioritises content from other users with larger followings, and the overall lack of engagement with academic content on X.

Thanks to the analysis defined in the previous paragraph, we have noted that our target audiences are increasingly active on LinkedIn. This platform shift aligns seamlessly with our mission to disseminate

[2] https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2023/dnr-executive-summary

advanced research and foster significant connections within our field, since LinkedIn has proven to be a much more effective platform for reaching our target audiences, well representing academics, researchers, policymakers, and industry professionals. This makes it an ideal platform for disseminating our research findings and engaging with our key stakeholders.

We propose to close the X account by the end of 2024 and adjust the KPIs according to this new strategy, migrate our social media KPIs to LinkedIn.

Overall, the decision to review the strategy of the project's social media profiles is based on a careful assessment of the platform's performance. We believe that our resources and efforts can be better allocated to LinkedIn and we are confident that we will see a significant increase in engagement and reach on LinkedIn compared to X.

2.4.5 Communication events

Communication events are crucial for spreading and publicising project milestones, providing opportunities for direct interaction with stakeholders, potential partners, and the general public. ASTAIR carefully chooses events that correspond with its goals and themes. Table 8 shows important events, selected based on their relevance to the project.

These events are selected for their capacity to provide a forum for presenting ASTAIR's research and developments, to engage with key audiences, and to contribute to the wider discourse on the future of aviation and technology. They are essential for gaining visibility, validating the project's results, and ensuring that ASTAIR remains at the forefront of innovation in airport ground operations.

Event	Date	Place	Information to be shared	Importance for the project
Past events				
SESAR Innovation Days	28-30 November 2023	Seville	Project presentation and future research directions	High - Showcasing SESAR R&D activities
IATA Ground Handling Conference 2023	7-9 May 2024	Reykjavik	Project presentation	High - Showcase advancements and forge new connections within the industry.
Airspace world	18-21 March 2024	Geneva	Innovations in Human-Machine Interface developed by ASTAIR	High - To demonstrate project aims to air traffic management professionals and gather feedback
Future events				
SESAR AI flagship workshop	11 November 2024	Rome	Research findings, prototype demonstrations (future	High - Showcasing SESAR R&D activities

			editions), and future research directions	
EASN – European Aeronautics Science Network	8-11 October 2024	Thessaloniki	Research findings and future research directions	High - Showcasing SESAR R&D activities
SESAR Innovation Days	12-15 November 2024 and future editions	Rome (2024)	Research findings, prototype demonstrations (future editions), and future research directions	High - Showcasing SESAR R&D activities
SESAR annual conference	18 February 2025 and future editions	Brussels (2025)	Research findings and future research directions	High - Showcasing SESAR R&D activities
Airspace world	2025 edition and future edition	Lisboa	Innovations in Human-Machine Interface developed by ASTAIR	High - To demonstrate project aims to air traffic management professionals and gather feedback
Sustainable Aviation Futures Congress	May 2025	Amsterdam	Findings on the environmental impact of engine-off taxiing operations	Medium - To highlight the project's sustainability aspects and its alignment with global environmental goals
European Conference on Artificial Intelligence	October 2025	Bologna	Presentation on ASTAIR's AI advancements in airport ground operations	High - To showcase AI research within industry circles and to network with potential technology partners

Table 7 Events

2.4.6 Newsletters

The first ASTAIR project newsletter is scheduled for release in September 2024, marking the one-year anniversary of the project. This inaugural newsletter will serve as a comprehensive update for our stakeholders, structured to include the following sections:

- **Welcome and presentation of the project**. An introductory message that outlines the goals and objectives of ASTAIR, setting the stage for the progress and achievements to be detailed within the newsletter.
- **Project updates**. A summary of the key milestones and developments that have taken place over the past year, highlighting significant achievements and ongoing work.

- **News & Events**. Information on recent and upcoming events, including conferences, workshops, and other relevant activities where the ASTAIR project has been or will be showcased.

The newsletter will be created using MailerLite, a versatile email marketing tool, and distributed to subscribers in our database through the same platform. To maximize reach and impact, the newsletter will also be shared on LinkedIn, where we will track views as a key performance indicator.

Future newsletters will be scheduled to coincide with the end of each subsequent 12-month period, providing regular updates on the project's progress. Additionally, special editions of the newsletter will be issued as needed to disseminate important news or to invite stakeholders to specific events and workshops

2.4.7 Videos

The use of video as a communication tool provides an effective medium to convey the complexities of a project like ASTAIR in a digestible and engaging format. Given its dynamic and visual nature, a well-produced video can encapsulate the essence of the project, its achievements, and its impact in a way that is accessible to a broad audience.

A **teaser video** was produced and released in M8. This video was subsequently reshared on our LinkedIn profile after the official release of it on SESAR's profiles and website. To date, the video gained 152 impressions on ASTAIR's LinkedIn profile, 11,2% of engagement rate.

From the video release plan outlined in D6.1, we need to consider the right timing for the release of **video #1**, which is expected at the end of the first year of the project. Considering the technical work that the project is carrying out in the other WPs, the consortium agrees to wait for the release of concrete results to create a video that can communicate the results obtained in the right tone and with the right means. This strategy is a logical consequence of the publication of a teaser video in M8, which would have been the basis to produce video #1 defined in D61.

To date, there are no updates regarding the production of **video #2**. This video will serve as a capstone to the project's endeavours, providing a narrative that weaves together the challenges faced, the solutions developed and the results achieved. It will showcase the journey of the project from inception to completion, highlighting key milestones and the collective efforts of the team. This video will be release by the end of the project.

In addition to these two videos, the ASTAIR project will likely produce several videos specifically focusing on HMI interactions, to provide clear demonstrations of these crucial aspects of the project, planned and release as the results with be ready to be shared.

2.5 Communication Key Performance Indicators (KPIs) and success criteria

Action	KPIs	Success criteria	Currently achieved	Last update	Annual growth
Project website	# visits	1100 overall (ASTAIR website and SESAR webpage)	214 (ASTAIR website) 395 (SESAR webpage)	August 2024	+ 609
Press releases	# of press releases & articles (online & printed).	2 4+ articles	2 press releases 9 articles	August 2024	+ 2 press releases + 9 articles
Promotional material #1	# copies distributed (aggregated)	500+	1 rollup (printed) + 11 download of the flyer form the website + 150 flyer distributed	August 2024	+ 1 rollup + 161 flyers
Promotional material #2	# videos produced # video views (aggregated)	2 300	1 61 (SESAR YouTube)	August 2024	+ 1 video
	# newsletters disseminated	3	-		
Social media	# of followers	200+ overall	88 (LinkedIn) + 17 (X) = 105 overall	August 2024N/A	+ 105 followers
	# of post	100+ overall	29 (LinkedIn) + 21 (X) = 48 overall		+ 50 posts
Synergies created	# collaboration with other S3JU/EU funded project	3+	1	August 2024	+1
Events	# of attendees	4+	3	August 2024	+3

Table 8 Communication KPIs and success criteria, update August 2024

3 Dissemination

Dissemination is a critical element of the ASTAIR project, playing a key role in effectively sharing its findings, developments, and knowledge with relevant audiences. This chapter presents the comprehensive dissemination plan, detailing specific goals and approaches to enhance the project's impact and reach.

The dissemination strategy for the ASTAIR project is crafted to meet the unique needs and interests of our stakeholders. It involves several essential steps:

- **Stakeholder analysis**. The project conducts an in-depth analysis of the primary stakeholder groups, which include industry stakeholders, the research community, and policymakers and decision-makers. This analysis is crucial for tailoring the dissemination content to match the distinct characteristics and expectations of these stakeholders.

- **Content definition**. Defining the content for dissemination is an evolving process within the ASTAIR project. The initial phases focus on promoting the project through general information channels like the website and informational posters. As the project progresses, the emphasis shifts to sharing technical findings via specialized channels, such as scientific publications and presentations at conferences and seminars.

- **Strategic matching**. The project employs a strategic matching approach to align the stakeholders' profiles and information needs with the tailored content prepared for dissemination. This ensures the use of appropriate communication methods and styles, aiming for effective engagement with the target audiences.

The expected outcomes from the dissemination activities are diverse. They aim to foster a wider understanding of the ASTAIR project's objectives and progress, and to facilitate the adoption of its findings.

3.1 Dissemination objectives and strategy

Objective	Description
Increase awareness and understanding	Enhance the visibility of the ASTAIR project and its results among the aviation industry, academic community, policy makers, and the general public
Engage stakeholders	Foster engagement with key stakeholders, including airport operators, ATCs, environmental groups, and technology partners, to promote collaboration and adoption of the project's outcomes
Inform policymakers to improve standards	Provide insights and evidence to inform policy discussions and contribute to the development of standards in airport ground operations and automation
Facilitate knowledge exchange	Encourage the exchange of ideas, experiences, and practices within the aviation industry and related sectors

Table 9 Dissemination activities objectives

To achieve these objectives, ASTAIR's dissemination strategy encompasses a multifaceted approach:

- **Targeted communication**: tailor dissemination activities to address the specific interests and needs of different stakeholder groups, utilizing the most effective channels for each audience.
- **Collaborative partnerships**: leverage partnerships with industry and academic institutions to broaden the reach and impact of dissemination efforts.
- **Use of diverse media**: employ a variety of media formats, including publications, online platforms, visual materials, and events, to engage a wide audience spectrum.
- **Consistent and clear messaging**: ensure that all dissemination materials present a consistent and clear message about the project's goals, progress, and results.

3.2 Dissemination target audiences

The dissemination strategy of the ASTAIR project aims to target diverse audiences, each with distinct interests and feedback opportunities. The following table summarises the primary target groups, their preferred communication channels, the project's expected benefits, and the expected feedback type from each group.

Target	Channel	Benefits from the project	Expected feedback
Aviation industry experts	Visual identity Website & social media Graphic materials Media relations Presentations and posters at third-party events ASTAIR workshops ASTAIR final dissemination event	Insights into innovative airport ground operations and AI applications	Expert opinions on technical aspects, potential improvements, and industry applicability
ATCs	Visual identity Website & social media Graphic materials Media relations Presentations and posters at third-party events ASTAIR workshops ASTAIR final dissemination event	Enhanced operational efficiency and safety in ground operations	Feedback on user interface, operational feasibility, and practicality of the solutions
Airport operation managers	Visual identity Website & social media Graphic materials	Improved airport traffic management and environmental sustainability	Insights into implementation challenges, scalability, and operational impact

	Media relations Presentations and posters at third-party events ASTAIR workshops ASTAIR final dissemination event		
Policy makers and regulators	Visual identity Website & social media Graphic materials Media relations Presentations and posters at third-party events ASTAIR workshops ASTAIR final dissemination event	Data to inform policy and regulations for automated airport operations	Input on regulatory implications, public policy alignment, and safety standards
Researchers	Visual identity Website & social media Graphic materials Media relations Presentations and posters at third-party events ASTAIR workshops ASTAIR final dissemination event	Access to cutting-edge research in automation and AI in aviation	Analysis of methodologies, suggestions for future research directions

Table 10 Dissemination target audiences

3.3 Dissemination channels

Channel	Objective	Tools	Link	Information to be shared
Journals	Disseminate insights on the latest update on the research activities Catch a wider academic target Gain prestige and promotion through presence in	scientific publications, technical publications	N/A	Project's development and results Criticality and risk in the research scenario Developments in the research domain

	accredited scientific journals			
Conferences and events	Engage with a wider specialised audience Network with relevant stakeholders from the aviation and AI community	infographics, video, articles, events' presence	N/A	Project's aim and objective Project's life stage Project's results
Website	Inform different target audience	i.e. videos, presentations, scientific publications, infographics		Project's updates Project's networking activities Project's influence in the research field
Workshops	Collect feedback and expertise from AB members	i.e. videos, presentations, scientific publications, infographics	N/A	

Table 11 Dissemination channels

3.4 Dissemination events

The dissemination of the ASTAIR project results will be carried out through a combination of targeted activities and events. Project dissemination events will be organized, if and when possible, as a joint event with other important external one (see the table below for a preliminary list) and focused on presenting the project results to the relevant stakeholders.

The project close-out meeting, planned at M30, could be considered as a dissemination event itself: approaching the date, the Consortium will evaluate the possibility to open at least a session of this meeting of a wider public, in order to showcase the results achieved to specific stakeholders.

Event	Date	Place	Information to be shared	Importance for the project
Achieved				
SESAR Innovation Days 2023	Seville	27-30 November, 2023	Project progress and status, early results	Early disseminate project preliminary results
IATA Ground Handling Conference 2023	Reykjavik	7-9 May 2024	Project presentation	Take part in the discussion on how disruptive technologies can

				impact European aviation.
Airspace world 2024	Genevra	18-21 March 2024	Showcase of the project (at ENAC boost)	Demonstrate project aims to air traffic management professionals and gather feedback
ASTAIR workshops (so far)	18-19/12/2023	Charles de Gaulle airport	Identifying and exploring scenarios for the automation of ground operations	Event organised by the project
	24/05/2024	Online	Given ASTAIR use cases, collect feedback on the concept and achievable levels of automation	
Planned				
SESAR Innovation days 2024 and future editions	12-15 November 2024	Rome	Project progress and status, results	Disseminate project results
ASTAIR Final event	M25-30	TBC	Project progress and status	Event organised by the project

Table 12 Dissemination conferences and workshops (achieved and planned)

3.4.1 Open access to scientific publications

The ASTAIR project, deeply rooted in advancing new technologies in airport operations, recognizes the importance of knowledge sharing as an integral component of its activities. To facilitate this continuous exchange of information both within the project consortium and with the wider aeronautical community, several actions have been identified and implemented:

- **Adoption of Open Research data**. In line with the principle of "as open as possible, as close as necessary," ASTAIR encourages the use of open research data where relevant. This approach will be detailed in the Data Management Plan, outlining the criteria for various activities and demonstrations within ASTAIR.
- **Management of Open Research data**. The open research data produced will adhere to the FAIR (Findable, Accessible, Interoperable, Reusable) principles, ensuring that the data is handled in a manner that maximises its accessibility and usefulness.
- **Production of scientific papers**. ASTAIR encourages the ongoing creation and sharing of scientific papers among partners. These papers will be stored on the project's website for easy access. Adoption of open access modes for peer-reviewed papers, such as Gold or Green open access, is mandatory, and the sharing of pre-prints is strongly encouraged.

- **Open Peer Review (OPR)**. When permissible, the adoption of OPR for scientific papers is encouraged. OPR enhances the transparency and credibility of the research by allowing for the early detection of errors and validation of findings.
- **Participation in scientific awards**. Encouraging participation in internationally recognized scientific awards, typically associated with conferences and journals, to gain broader recognition for the project's achievements.
- **Open-Source Code**. Encouraging the publication of code developed in the ASTAIR project on public repositories. This includes libraries used for Human-Machine Interface (HMI) development and the prototypes and simulation environment developed throughout the project.

Scientific papers/ presentations	Link	Information to be shared
International Journal of Transportation Science and Technology	Link	ASTAIR achievements
Transportation Research	Link	ASTAIR achievements
Journal of Air Transport Management	Link	ASTAIR achievements
ACM International Conference on Human Factors in Computing Systems	N/A	Human Factors findings related to Human-AI teaming
ACM Symposium on User Interface Software and Technology	N/A	Interactions enabling authoring and Control of AI

Table 13 Scientific papers, publications and presentations

3.5 Dissemination activities undertaken (M1-M11)

Since the start of the project, ASTAIR has reached several key dissemination milestones. These achievements include organizing two stakeholder workshops - one in December 2023 and another in May 2024. Additionally, the project's participation, by invitation, in the IATA Conference was a significant highlight.

3.5.1 ASTAIR workshops #1 - Automated operations' scenarios at Charles de Gaulle airport (December 2023)

On 18th and 19th of December 2023 project coordinator ENAC together with Aéroport de Paris (ADP) organized a two-day workshop at Charles de Gaulle (CDG) airport with the aim of identifying and exploring scenarios for the automation of ground operations.

DAY 1 - On the first day, participants were allowed to discover in depth how the main airport of Paris handles procedures and airside adverse situations are managed. This has been possible thanks to a guided tour through different facilities

- the Collaborative Decision Making cell

- the Airside Operation Center (airside part of CDG APOC) and
- the monitoring tools

This led to the definition of different scenarios in which the automation of ground operations would benefit CDG airport operation timing and reliability.

Figure 16 Workshop held at Charles de Gaulle airport (December 2023)

DAY 2 - The second and last day gave the opportunity to project members to interview Sofiane Jaber, part-time ground Air Traffic Controller at CDG airport and part-time in the ANSP administration on procedures definition. The discussion focused on the important topic of arrival flights parking waiting for parking to be available, which have led to incidents on the taxiway. The discussion on scenarios where automation could help smooth traffic and avoid accident-prone situations, has been prompted by this recurring issue.

Last part of the experience was dedicated to the observation of Air France station and Vigie Traffic workstations and tools, permitting the acknowledgement of the standard procedures used by Air France employees both during ordinary and emergency situations.

3.5.2 ASTAIR workshop #2 – Gathering feedback from the Expert Group (May 2025)

On 24th May 2024, the ASTAIR project organized a workshop for Expert Group members to gather feedback on the concept and achievable levels of automation. During the workshop, the project's use cases and methodology were first presented and then participants started to work on different topics like:

- Applicability / Technical feasibility
- Constraints / Assumptions
- Situation awareness (pilots and operators) versus AI autonomy
- Liability versus AI autonomy

Co-funded by the European Union

- Characterize data quality required

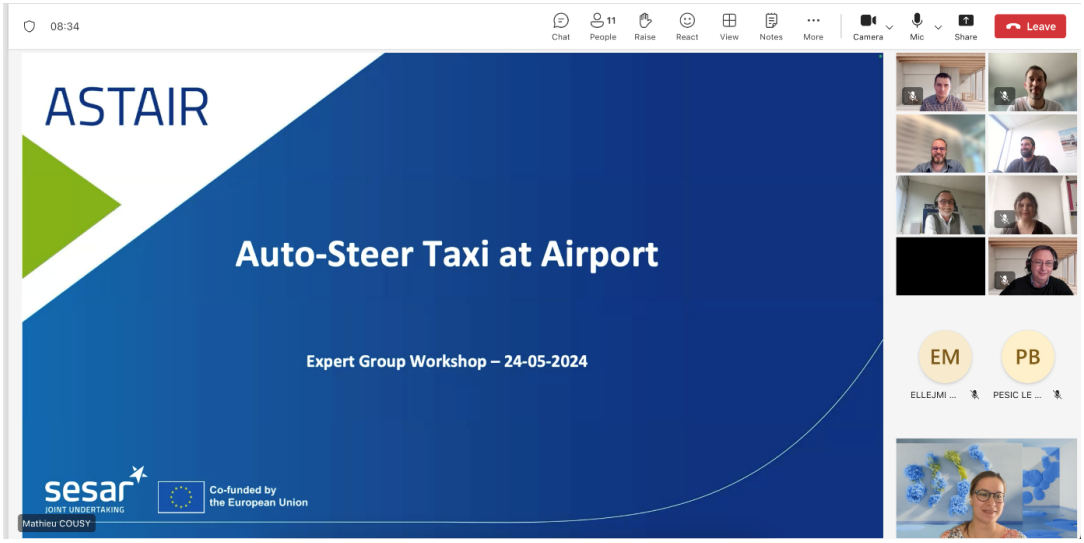

Figure 17 Expert Group workshop (24 May 2024)

3.5.3 Participation at ASPAG meeting

Airside Simulation and Performance Assesment Group held its 14th meeting at ENAC in Toulouse, on 18 and 19 April 2024. Airport simulation and Multi Agent System development undergone in ASTAIR project were presented.

3.5.4 Participation at IATA Ground Handling Conference (May 2024)

Following IATA's interest sparked by our press release, the project was invited to participate at the Ground Handling Conference (IGHC) by IATA itself. The conference, with its focus on integrating sustainable practices into ground handling operations, proved to be a valuable platform for ASTAIR to showcase its advancements and forge new connections within the industry.

Our project coordinator had the chance to present the project with its goals and methodology during the first technical session, setting the stage for a week of fruitful discussions.

Figure 18 ASTAIR Project Coordinator, Mathieu Cousy (ENAC) at the IGHC

Discussions with representatives from Airbus and airport operations departments revealed a strong interest in ASTAIR's ability to enhance predictability, a benefit that resonated more deeply than just the environmental impact (potentially reducing "greenwashing" concerns).

The IGHC proved to be a resounding success for the ASTAIR project. By actively participating and engaging with key industry players, ASTAIR has positioned itself at the forefront of ground handling automation advancements. The conference not only solidified existing concepts but also opened doors for exciting collaborations and the potential integration of groundbreaking technologies. With this momentum, ASTAIR is well-positioned to revolutionize ground handling operations and create a more efficient and sustainable future for air travel.

3.6 Dissemination KPIs and success criteria

This set of KPIs indicated in the following table must be included in the overall KPIs for the communication actions of the ASTAIR project. In this regard you get an overall view of the KPIs that the project aims to achieve in table 8. In the upcoming updates to the plan, they will be updated and new KPIs will be added

Action	KPIs	Success criteria	Currently achieved	Last update	Annual growth
Academic publications	# of published scientific publications	2	N/A	August 2024	N/A
Events organised	# of organised workshops/events	2	2 workshops	August 2024	+2
	# of participation in external events and seminar	3	1		+1

Table 14 Dissemination KPIs and success criteria

4 Exploitation

Exploitation is referred to by the European Commission as:

The utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities.

In this framework, the meaning of the word "results" is broad and refers to "any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights".

Exploitation of results is considered as important by the European Commission as to impose it as a compulsory activity for the research projects. The expected impact of the exploitation activity is not limited to economic or commercial aspects, but can also be societal, environmental, technical, educational, or scientific.

This section provides an initial outline of the strategy for the exploitation of the ASTAIR results. It identifies an initial set of potentially exploitable results, a description of each of them, and defines some preliminary lines of action for each partner

4.1 Project exploitable results

The following list presents the project results that the ASTAIR Consortium has identified as worth being exploited during the project and after its completion.

The definition of key exploitable results provided in the below is preliminary: this list will depend heavily on what ASTAIR will achieve; therefore, it will change throughout the duration of the project to reflect additional or different achievements and lessons learned.

An update to this list, together with the period when each result is expected to be available to the S3JU, and after the approval, for the exploitation, will be provided in the intermediate CDE report due at M12.

Key Exploitable Results	Partners involved
Multiagent path and motion planning methods, extended with spatiotemporal constraints of air traffic controllers	TU Delft

Table 15 Project exploitable results

4.2 Exploitation strategy and objectives

The effective exploitation of the results obtained from the ASTAIR project is vital to ensure its innovations and findings have a durable and applicable influence on the aviation field. The exploitation strategy specifies the optimal means of utilising the project outcomes for maximum advantage, while the objectives present well-defined targets for such endeavours. Table 16 and Table 17 show respectively a preliminary list objectives and strategy relayed to exploitation activities.

Strategy element	Description
Identification of exploitable results	Identifying practical applications from ASTAIR, including technologies, processes, methodologies, or intellectual property
Stakeholder engagement	Engaging with airport authorities, air traffic control, environmental agencies, and technology providers to align project outcomes with their needs
Collaboration	Establishing industry and academic partnerships to support application and development of project results
Knowledge Transfer Activities	Implementing activities like workshops and training to disseminate ASTAIR's skills, methodologies, and technologies
Sustainability and long-term viability	Ensuring long-term sustainability and viability of the implemented technologies or processes, including maintenance and support

Table 16 ASTAIR strategy elements

Objective	Target impact
Maximise the impact of ASTAIR outcomes	Utilising results to their full potential, contributing to advancements in airport operations and AI in aviation
Enhance operational efficiency and safety	Facilitating the adoption of ASTAIR technologies and methodologies in airports to improve efficiency and safety
Drive environmental sustainability	Promoting ASTAIR's results to reduce environmental impact, focusing on engine-off taxiing and efficient ground handling
Support policy and regulatory development	Providing data and insights for policy and regulatory development related to aviation automation

Table 17 ASTAIR exploitation objectives

4.3 Data protection strategy

A description of the strategy to ensure the protection of the results and the data generated is covered in the Data Management Plan (DMP), submitted at the end of October 2023.

ASTAIR plans to organise web questionnaire or surveys, interviews, workshop events and validation activities. ASTAIR project foresees:

- Web questionnaire and interviews to airport ground operations actors,
- Workshops involving Advisory Board participants and other identified stakeholders,
- Validation activities involving end users and other identified stakeholders.

Identified/Recruited personnel will be healthy adults (no vulnerable adults) and allocated on a voluntary basis. Participants will be identified and allocated in a timely manner. To ensure that participants are aware of the purpose of the questionnaire/workshop/validation exercise and their rights, they will be given an information sheet and inform consent form to sign prior to the activity.

All ASTAIR's activities are compliant with the European General Data Protection Regulation (GDPR).

The data protection strategy is integral to the responsible and ethical management of data within the ASTAIR project, ensuring that all data-related activities are conducted securely, lawfully, and with respect for individual privacy

4.4 IPR management

IPR related questions are handled in the consortium agreement signed between the partners.

5 Overview of communication and dissemination activities

Activity	Channel	Objective	Target audience	KPIs	Success criteria	Growth
Academic publications	Papers, specialised journals	Disseminate, ensure impact	Specialised audience	# of published scientific publications	2	N/A
Events organised	Online offline	Disseminate, ensure impact, engage, network	Specialised audience, media	# of organised workshops/events # of participation in external events and seminar	2 3	+2 +1
Project website	DBL domain	Inform, spread awareness	All targets	# unique visitors	1100 overall	+609
Press releases	Press, Journals, website	Inform, spread awareness	Specialised audience, media	# of press releases & articles (online & printed)	2 4+ articles	+2 +9
Promotional material	brochures, poster, roll up, flyer, video	inform, raise awareness	all targets	# copies distributed (aggregated) # videos produced # video views (aggregated) # newsletters disseminated	500+ 2 200 3	+161 +1 +70 N/A
Social Media[3]	LinkedIn and X	inform, raise awareness	all targets	# of followers # of post	250+ overall 120+ overall	+105 +50
Synergies created	social media, workshop, events	engage, promote	specialised audience	# collaboration with other S3JU/EU funded project	3+	+1
Events attended	Offline events	Engage, network	Specialised audience, media	# of attendees	4+	+4

Table 18 Overview of communication and dissemination activities, update August 2024

[3] *Guidance Social media guide for EU funded R&I projects.*