Initial Communication, Dissemination and Exploitation Plan

Deliverable ID:	**D6.1**
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:	**19 December 2023**
Edition:	**01.01**
Status:	**Release**
Classification:	**[PU]**

Abstract

This document contains the ASTAIR Plan for the Communication, Dissemination, and Exploitation of results. It includes the identification of target stakeholders, the selection of the communication and dissemination strategy and material for each group of stakeholders, and the identification of exploitation target users and partners' exploitation intentions. The deliverable also defines KPIs and strategies for communication, dissemination, and exploitation measures. This first release will be periodically refined and updated as the project progresses.

Authoring & Approval

Author(s) of the document

Organisation name	Date
Serena Fabbrini (Deep Blue)	23/11/2023

Reviewed by

Organisation name	Date
Deep Blue	14/11/2023
ENAC	16/11/2023
TU Delft	16/11/2023

Approved for submission to the SESAR 3 JU by[1]

Organisation name	Date
ENAC	23/11/2023
TU Delft	23/11/2023
Deep Blue	23/11/2023
ADP	23/11/2023
Eurocontrol	23/11/2023

Rejected by[2]

Organisation name	Date

Document History

Edition	Date	Status	Company Author	Justification
00.01	13/10/2023	Draft	Serena Fabbrini (Deep Blue)	Initial draft

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

[2] Representatives of the beneficiaries involved in the project

Co-funded by the European Union

00.02	14/11/2023	Draft	Serena Fabbrini (Deep Blue) Paola Lanzi (Deep Blue)	First consolidated draft
00.02	16/11/2023	Draft	All partners	Review
01.00	22/11/2023	Final draft	Serena Fabbrini (Deep Blue)	Implementation, version sent to the coordinator for the official submission
01.01	19/12/2023	Second release	Serena Fabbrini (Deep Blue)	Reviewed version including contributions from SESAR. **p. 23**: description of future "Press and media" activities. **p. 24**: hashtags and handles to be used in social media added. **p. 30**: chapter 4.6.3 Videos edit accordingly, a first video to be released in 2024 added.

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.

Table of Contents

List of Figures

List of Tables

List of acronyms

Acronym	Description
AI	Artificial Intelligence
ANSP	Air Navigation Service Provider
ATC	Air Traffic Controller
CDE	Communication, Dissemination, Exploitation
HMI	Human Machine Interface
OPR	Open Peer Review
R&I	Research and Innovation
S3JU	SESAR 3 Joint Undertaking
TOC	Table of Contents
WP	Work Package

Table 1: List of acronyms

1 Introduction

The present deliverable 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 a first glance.

The communication means include the project's website, the social media and other relevant materials and tools developed. The deliverable also details the strategy the project will follow to make use of or disseminate the project's results, as well as a plan of communication dissemination and exploitation activities including a schedule and a set of 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.

1.1 Definitions

Before getting started, it is important to note the difference between communications and dissemination - see Figure 1. It is important to note that the guidance in this document refers to external communications and not internal communications between project consortium members.

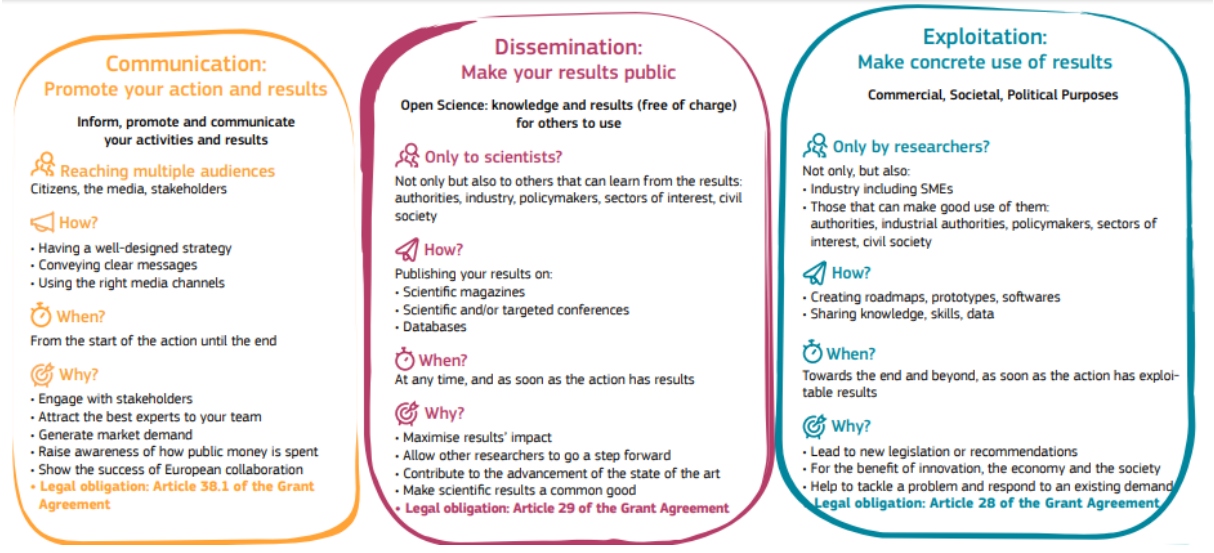

Figure 1:Definitions of communication, dissemination and exploitation in Horizon Europe

1.2 Applicable reference material

1. ASTAIR Grant Agreement, number: 101114684
2. ASTAIR Project Management Plan (D7.1)
3. European Research Executive Agency, Communication, dissemination & exploitation what is the difference and why they all matter, 16/06/2023

4. S3JU Communications Strategy (02.00 edition)
5. S3JU Communications Guidelines (0.03 edition), available on STELLAR
6. S3JU, Project communication at a glance
7. S3JU Visual Charter (update 11/2022)
8. S3JU Project Handbook, Edition 01, April 2022, available on STELLAR
9. S3JU "Multiannual Work Programme 2022-2031"
10. Guidance Social media guide for EU funded R&I projects
11. Project's teaser videos guidelines
12. EU emblem and guidance on its use
13. DES DSD CDE Plan - Annex I - Press releases, available on STELLAR
14. DES DSD CDE Plan - Annex II – Events, available on STELLAR
15. DES DSD CDE Plan - Annex III – Web presence, available on STELLAR

2 Project introduction

2.1 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.

2.2 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.

2.2.1 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.

2.2.2 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.

2.3 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 2: ASTAIR Keywords

2.4 Focal point for communications, dissemination and exploitation

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

Table 3: ASTAIR focal points of contact

2.5 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 Implementation practices, operational benefits, performance metrics, user experiences, and feedback channels
ATCs, airport operators, ground handlers	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates User interface developments, system integration guidelines, operational feedback, and efficacy studies Best practices for automation, efficiency gains, resource allocation, and case studies Operational efficiencies, predictive management tools, and environmental impact studies.
Academic research community and scientific community	Project goals and impacts, sustainability benefits, advances in airport operations, and general progress updates Detailed research findings, technical papers, and methodologies Research data, algorithm efficacy, technical insights, and future research opportunities
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 4: ASTAIR Stakeholders

3 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.

3.1 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 2 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.

3.2 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:

    - Aircraft operators
    - Airports
    - ATCs
    - Airspace users
    - Ground handlers
    - Scientific community
        a. Research community engaging in similar research.
        b. R&I institutes
        c. Universities
        d. 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:

    - EASA
    - EUROCONTROL
    - ICAO
    - SESAR 3 Joint Undertaking
    - 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	Message	Activities
General public	Visual identity Website and social media Graphic materials Media relations Presentations at third-party events	Raise awareness, generate understanding on the project (e.g., project's value, aims and 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.	Social media outreach; interactive public 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 5: ASTAIR Communications target audiences

3.3 Visual identity and acknowledgements

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 meticulously 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.

3.3.1 ASTAIR Logo

ASTAIR logo (in Figure 3) 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 3: ASTAIR logo

3.3.2 Acknowledgements

Any communication and dissemination activity related to the project will acknowledge EU support and display the European flag and funding statement (Figure 4, 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 4, left) in all communications material promoting its project activities, in accordance with S3JU visual branding and toolkit established in 2022.

Figure 4: 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

3.3.3 Graphic materials

Communication materials for ASTAIR 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.

These graphical assets will share a dedication to the project's visual identity, characterised by succinct texts that encapsulate the project's methodology, aims, outcomes, and pivotal information in a succinct manner.

A suite of bespoke graphic materials will be devised, each aligned with particular facets of the project and will include:

- A general project flyer
- Event-specific flyer templates
- Business cards featuring a QR code for swift website access
- Generic templates for social media posts
- Event-focused social media templates

- "Save the date" cards and banner templates
- Templates for agendas pertaining to events and meetings

On-demand printed materials 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.

3.3.4 ASTAIR mood board

A mood board is a visual tool that compiles images, text, and sample objects in a composition. It is often used by project teams to convey a general idea or feel of a project in its conceptual stage. For ASTAIR, the mood board serves as a creative springboard, providing visual inspiration and direction that encapsulates the project's ethos and objectives.

The ASTAIR mood board has been meticulously crafted, considering the project's central keywords which are pivotal to its identity and mission. Each element selected for inclusion reflects the nuances and intersections of these concepts:

- **Automation.** Images and patterns that evoke the seamless flow and precision of automated processes are prominent. Graphics depict interconnected systems and advanced technological networks, symbolizing the sophisticated automation ASTAIR aims to achieve.
- **Artificial Intelligence.** The mood board integrates representations of AI, including neural networks, data visualization, and intelligent system icons, to illustrate the project's cutting-edge approach to machine learning and smart algorithms.
- **Taxiing Operations**. Visuals of aircraft in various stages of ground movement provide a concrete depiction of the taxiing operations that ASTAIR seeks to optimize. These are complemented by flow diagrams and movement patterns that represent the streamlined processes under development.
- **Engine-off Taxiing.** To convey the environmental aspect of the project, the mood board includes elements that suggest sustainability and efficiency, such as images of green technology and low-emission systems, reflecting the project’s commitment to reducing the environmental impact of taxiing operations.
- **Human-machine interface**. The interface between humans and machines is highlighted through visuals that demonstrate interaction, such as touchscreens, augmented reality displays, and cockpit views, emphasizing the project's focus on intuitive design.
- **Human-centered design.** To embody this approach, the mood board presents elements that illustrate ergonomics, user-friendly environments, and inclusive design practices, ensuring the project’s outcomes are tailored to the needs and capabilities of human operators.

Together, these elements form a cohesive visual narrative that brings the essence of ASTAIR to life, providing a source of inspiration and a tangible representation of the project's vision. The mood board serves a distinct role, separate from the creation of a concept image. While the concept image will provide a specific visual representation of the project’s end goal or product, the mood board is a broader, inspirational tool. It's used primarily to guide and influence the project’s aesthetic and thematic direction, ensuring that all visual and conceptual elements developed throughout the project

are aligned and cohesive. The mood board acts as a visual reference point for the project team, helping to maintain a consistent style and mood in all communications, designs, and implementations related to ASTAIR.

Figure 5 shows the final ASTAIR mood board.

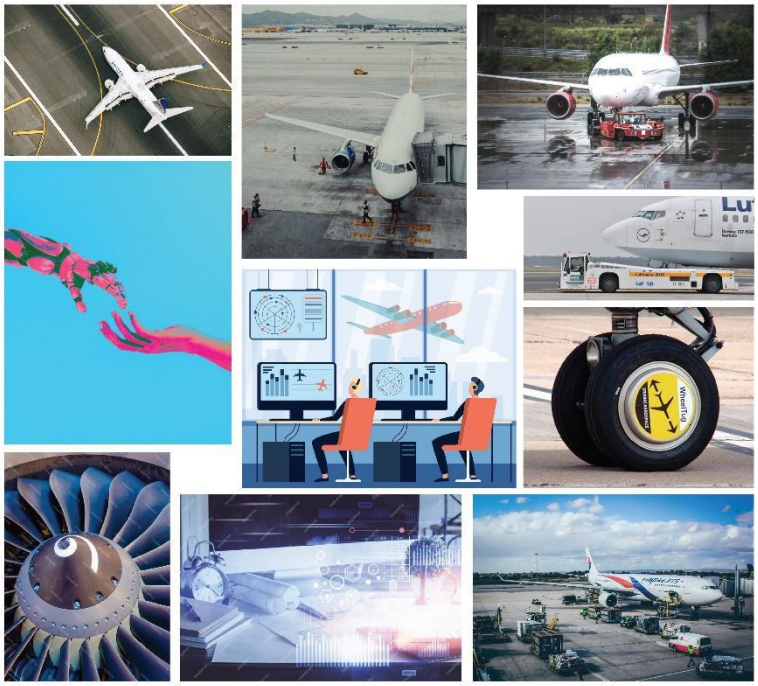

Figure 5: ASTAIR mood board

3.4 Communication channels

3.4.1 Website

ASTAIR website (under construction, scheduled for launch in M5), is a focal component within the project's strategy for communication, dissemination, and exploitation. This digital platform will serve as a repository for comprehensive information about ASTAIR, delineating its goals, activities, and achievements. Moreover, it will offer 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 will ensure that visitors receive the most current updates regarding project milestones, ongoing endeavours, and other significant announcements.

Regular maintenance will ensure the website accurately reflects the project's evolution. Visitor engagement and interest will be quantified using Google Analytics, with the insights obtained being subjected to close scrutiny. Key Performance Indicators (KPIs) for the website will be detailed in chapter 3.5. The website will be underpinned by the Deep Blue Server (www.dblue.it) infrastructure.

In addition to the ASTAIR website, SESAR provides a dedicated webpage on SESAR official website: this webpage serves as a vehicle of communication news and updates to a wider public. The communication and dissemination leader will keep informed the SESAR Communication office to maintain updated this webpage with the latest news.

A preliminary version of the ASTAIR website ToC is provided:

Page	Content
Home Page	Header with logo and menu Banner with title and picture Project description Project objectives Timeline Carousel with latest news Footer with funding acknowledgments, contacts, social media links
About page	Context Objectives and methodology Expected outcomes Related activities/projects Advisory board
Consortium	Logos and description
Products	PU Deliverables Scientific Publications Communication and dissemination material
News & events	News & events Archive
Gallery	Photographs Videos

Table 6: ASTAIR preliminary website TOC

3.4.2 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.

Media activity	Date	Link
	Past contribution	
Press release: ASTAIR unveils the future of airport ground operations with advanced AI automation	23/10/2023	N/A
AI-powered airport ground operations	24/10/2023	https://www.sesarju.eu/news/ai-powered-airport-ground-operations

Table 7: Contribution to external 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.

By strategically timing these press releases, we aim to capture the attention of industry stakeholders, researchers, and other interested parties at a time when they are most receptive to reflecting on annual progress and innovations in the field. This approach will not only keep our stakeholders informed but also help maintain a steady presence of ASTAIR in the industry discourse, thereby enhancing the visibility and impact of the project's work.

In addition to these scheduled press releases, we will remain open to opportunities for additional media engagement, such as interviews, feature articles, and participation in industry forums, to further promote the project's activities and achievements.

3.4.3 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 unique capabilities and audiences. The strategy for each platform is designed to maximize the impact of the content shared and the engagement with the project.

Figure 6: 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

3.4.3.1 LinkedIn: hub of professional engagement

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.

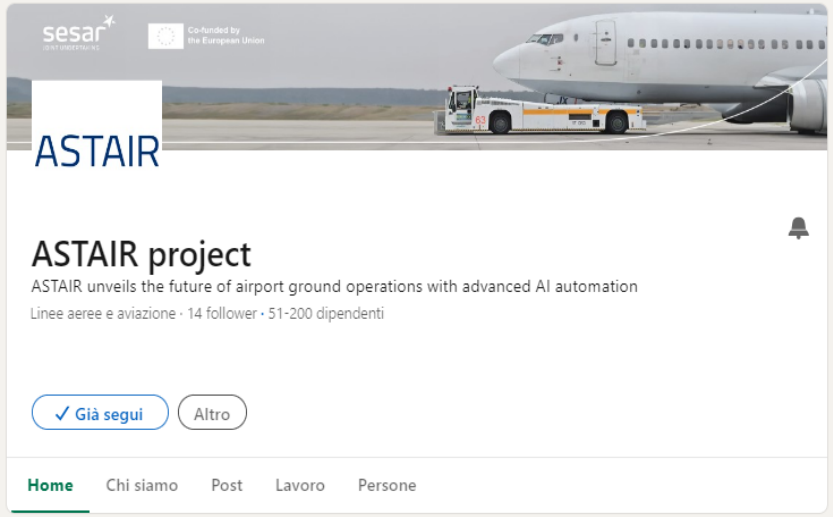

Figure 7:ASTAIR LinkedIn profile (update, November 2023)

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.

3.4.3.2 X: instant communication

X (former Twitter) is identified as ASTAIR's platform of choice for instantaneous communication. It is the digital arena where the project shares timely updates, making information accessible almost in real-time. This platform is especially suited for sharing concise, high-impact content that captures immediate attention and interest.

Visual content on X, from ASTAIR, is tailored to be engaging and succinct, allowing followers to grasp key messages at a glance. This includes infographics, short videos, and snapshots of progress that convey complex information in an easily consumable format.

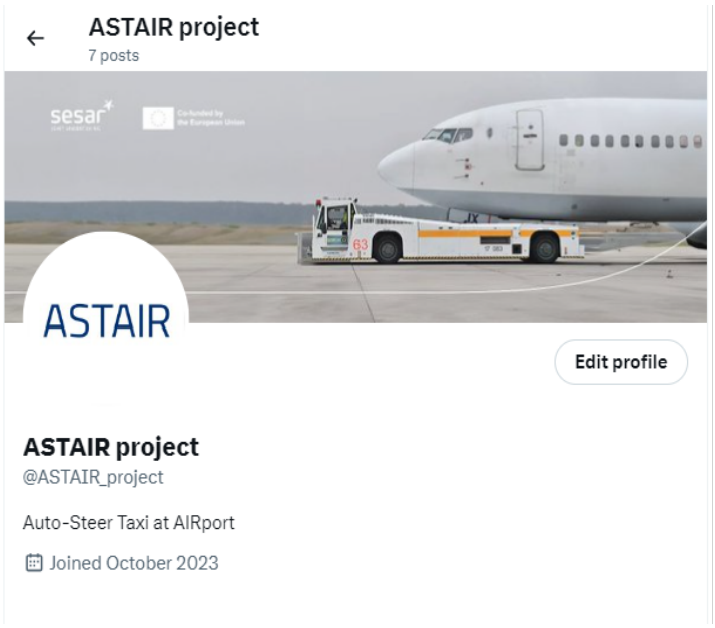

Figure 8: ASTAIR X profile (update November 2023)

Interactive elements such as polls and quick posts on X are utilized by ASTAIR to foster user engagement and gather instant feedback. These features provide a snapshot of public sentiment and engagement with the project's initiatives.

In addition to serving as a beacon for rapid updates, X is also a strategic tool for cross-promotion, directing followers to ASTAIR's more detailed content hosted on the official website and LinkedIn. It acts as a gateway, enticing the audience to explore the depths of ASTAIR's innovations and contributions to automated airport operations.

Figure 9: Example of ASTAIR social media cards

3.4.4 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
SESAR Innovation Days	28-30 November 2023 2024 edition	Seville TBC	Research findings, prototype demonstrations (future editions), and future research directions	High - Showcasing SESAR R&D activities
European Conference on Artificial Intelligence	October 2024 October 2025	Santiago de Compostela 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
Sustainable Aviation Futures Congress	2024	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
Airspace world	March 2024 2025 edition	Genevra Lisboa	Innovations in Human-Machine Interface developed by ASTAIR	High - To demonstrate project aims to air traffic management professionals and gather feedback

Table 8: Events

3.4.5 Publications and newsletters

Publications/newsletters/printed material	Description	Date	Link
	Past contributions		
News: AI-powered airport ground operations	News on SESAR website	24/10/2023	Link
Poster for SIDs 2023	Rollup for the exhibition at SIDs 2023	November 2023	N/A, (see Figure 10)
	Forecasted contributions		
Newsletter	To inform on project activities, results etc	When results are available, to announce participation/organization of events	N/A
Other online contents (leaflets, factsheets, flyers, brochures	To inform on project activities, outcomes etc	When needed (e.g., organization of events or participation to events)	N/A

Table 9: Printed material and publications

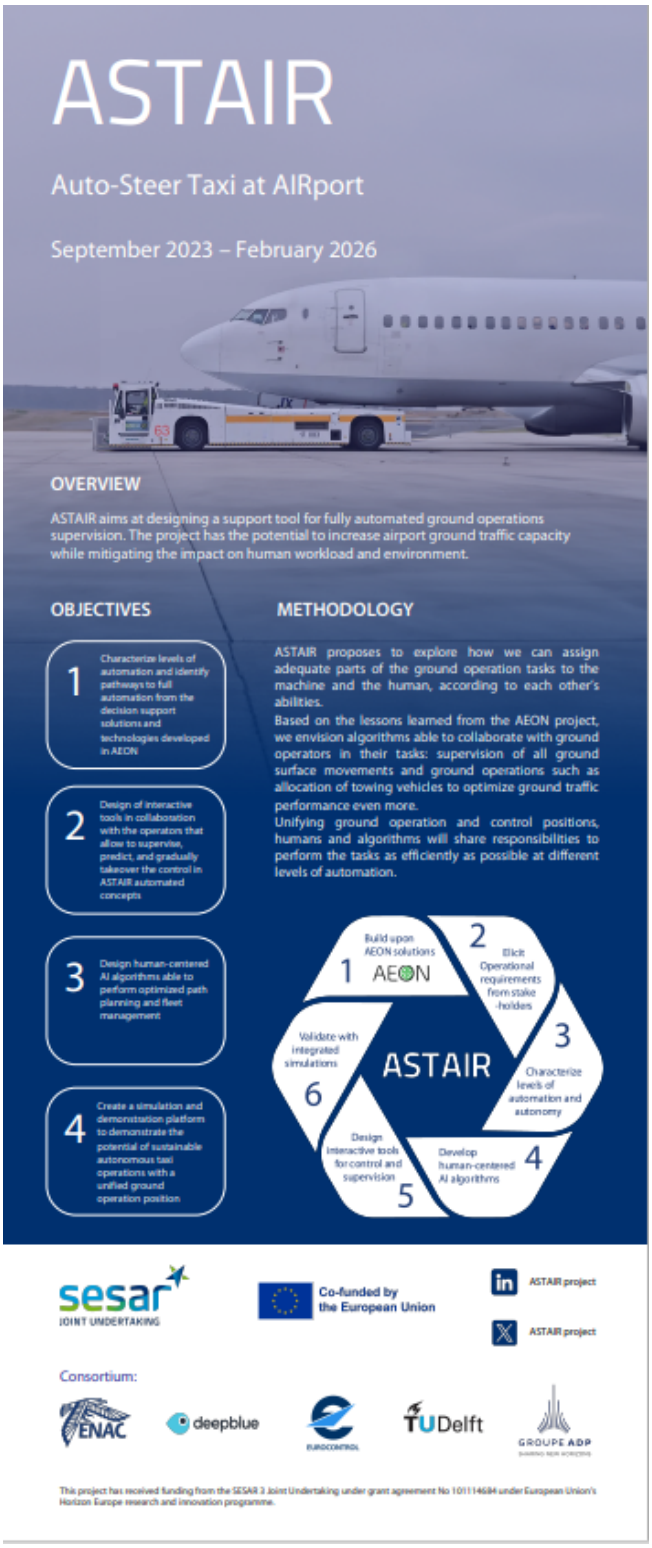

Figure 10: Rollup developed for ASTAIR's participation at SIDs 2023

3.4.6 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.

For ASTAIR, two main videos will be produced.

The **first one** will be a short teaser that will encapsulate the core objectives, the challenges we aim to overcome, and the significant benefits that the ASTAIR project promises to deliver. The intent is to craft a visually engaging and informative piece that effectively communicates the essence of our project to a broad audience.

Scheduled for release by the end of the first project year, in September 2024, this teaser will serve as a compelling introduction to ASTAIR, sparking interest and understanding among viewers. The video will be strategically designed to be short and dynamic, ensuring it is suitable for a wide range of social media platforms where brevity and engagement are key.

The **second 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. Producing a video at the project's end amplifies the dissemination of its results, reaching audiences who may not be inclined to read detailed reports or publications. It serves as a lasting artifact of ASTAIR's work, a tool for stakeholders to understand and appreciate the project's contributions, and a beacon for potential future funding and partnership opportunities.

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.

Upon completion, the videos will be disseminated through ASTAIR's official communication channels, including our social media accounts and the project website. Additionally, it will be featured on the SESAR webpage, thereby ensuring wide visibility within the SESAR community and beyond. This multifaceted approach in distribution will maximize the reach of the video, drawing in a diverse audience from various sectors and backgrounds.

Overall, the production of these videos will be carefully planned to align with the project’s visual identity and messaging, ensuring consistency across all our communication efforts. This teaser will not only serve as an introduction to ASTAIR but also as a foundational piece in our ongoing engagement and outreach efforts.

3.5 Communication key performance indicators (KPIs) and success criteria

Action	KPIs	Success criteria	Currently achieved	Last update	Annual growth
Project website	# unique visitors	1500 overall	To be determined once the analytics are available	N/A	N/A
Press releases	# of press releases & articles (online & printed).	2 4+ articles	N/A	N/A	N/A
Promotional material	# copies distributed (aggregated) # videos produced # video views (aggregated) # newsletters disseminated	1000 2 500 3	N/A N/A N/A N/A	N/A	N/A
Social Media[3]	# of followers # of post	250+ overall 100+ overall	19 7	N/A	N/A
Citizens informed about ASTAIR	# people informed	2500+	N/A	N/A	N/A
Synergies created	# collaboration with other S3JU/EU funded project	3+	N/A	N/A	N/A
Events	# of attendees	4+	1	N/A	N/A

Table 10: Communication KPIs and success criteria

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

4 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.

4.1 Dissemination objectives and strategy

Table below shows the primary **objectives** of ASTAIR's dissemination activities.

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 11: 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.

4.2 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 accredited scientific journals	scientific publications, technical publications	N/A	Project's development and results Criticality and risk in the research scenario Developments in the research domain
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 12: Dissemination channels

4.3 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

4.4 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
SESAR Innovation Days	Seville, Spain (2023 edition)	27-30 November, 2023	Project progress and status, early results	Early disseminate project preliminary results
SESAR 3 JU Annual Conference	Brussels, Belgium	TBC	Project progress and status	Take part in the discussion on how disruptive technologies can impact European aviation.
ASTAIR workshops	TBC	TBC	Project progress and status	Event organised by the project
ASTAIR Final event	TBC	TBC	Project progress and status	Event organised by the project

Table 14: Dissemination conferences and workshops

4.5 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 Media relations Presentations and posters at third-party events ASTAIR workshops ASTAIR final dissemination event	Improved airport traffic management and environmental sustainability	Insights into implementation challenges, scalability, and operational impact

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 15: Dissemination target audiences

4.6 Dissemination KPIs and success criteria

This set of KPIs indicated in Table 16 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 21. 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	N/A	N/A
Events organised	# of organised workshops/events	2	N/A	N/A	N/A
	# of participation in external events and seminar	3			

Table 16: Dissemination KPIs and success criteria

5 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.

5.1 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 17: Project exploitable results

5.2 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 18 and Table 19 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 18: 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 19: ASTAIR exploitation objectives

5.3 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.

5.4 IPR management

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

6 Overview of communication and dissemination activities

Activity	Channel	Objective	Target audience	KPIs	Success criteria	Frequency/ date
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	N/A
Project website	DBL domain	Inform, spread awareness	All targets	# unique visitors	1500 overall	N/A
Press releases	Press, Journals, website	Inform, spread awareness	specialised audience, media	# of press releases & articles (online & printed)	2 4+ articles	N/A
Promotional material	brochures, poster, roll up, flyer, video	inform, raise awareness	all targets	# copies distributed (aggregated) # videos produced # video views (aggregated) # newsletters disseminated	1000 2 500 3	N/A
Social Media[4]	LinkedIn and X	inform, raise awareness	all targets	# of followers # of post	250+ overall 100+ overall	N/A
Citizens informed	Social media, website,	inform	Non-specialised audience	# people informed	2500+	N/A

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

about ASTAIR	promotional material					
Synergies created	social media, workshop, events	engage, promote	specialised audience	# collaboration with other S3JU/EU funded project	3+	N/A
Events attended	Offline events	Engage, network	Specialised audience, media	# of attendees	4+	N/A

Table 20: Overview of communication and dissemination Activities