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<i>Written by</i>	FHG, Sabrina Geist	31/05/2023
<i>Checked by</i>	SNBV, Franciska Faber	30/06/2023
<i>Approved by</i>	SNBV, Fokko Kroesen	10/07/2023



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Abstract

The following document describes the second release of the communication and dissemination plan of the TULIPS project. The plan gives an update on the advanced strategy after the first completed project year. Apart from covering the basics of the TULIPS communication strategy, this document provides details of the progress made in the communication strategy after the first year of the project. Furthermore, the plan determines the communication and dissemination channels used to implement the TULIPS communication and dissemination strategy and defines and updates the expected results for the target audiences, as well as types of dissemination activities, types of dissemination materials, and key performance indicators (KPIs) to track and monitor communication/dissemination activities throughout the project.

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VI. LIST OF ACRONYMS

Acronym	Meaning
ACI	Airports Council International Europe
ACN	Air Cargo Netherlands
ALIGHT	A LIGHThouse for the introduction of sustainable aviation solutions for the future
AMS	Amsterdam Airport Schiphol
BARIN	Board of Airline Representatives in the Netherlands
BR&TE	Boeing Research and Technology Europe
CD	Corporate Design
C&D	Communication and Dissemination
CI	Corporate Identity
CINEA	European Climate, Infrastructure and Environment Executive Agency
CPH	Copenhagen Airports
D	Deliverable
EASA	European Union Aviation Safety Agency
EC	European Commission
EME	Excess Materials Exchange
EU	European Union
EUBCE	European Biomass Conference & Exhibition
FHG	Fraunhofer Society
GA	General Assembly/Grant Agreement
GDPSO	Green Deal Projects Support Office
GHG	Greenhouse Gases
H ₂	Hydrogen
H2020	Horizon 2020
HEU	Horizon Europe
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IML	Fraunhofer Institute for Material Flow and Logistics
i.a.	Inter Alia (Among Other Things)
IEEE	Institute of Electrical and Electronics Engineers
IST-ID	University of Lisbon, Higher Technical Institute
KES	KLM Equipment Services
KLM	Royal Dutch Airlines
KPI	Key Performance Indicator

LVNL	Air Traffic Control the Netherlands
M	Month
MaaS	Mobility-as-a-Service
MAGPIE	sMArt Green Ports as Integrated Efficient multimodal hubs
MMU	The Manchester Metropolitan University
MOBCON	Mobility Concept
MS	Member States
NDA	Non-Disclosure Agreement
NLR	Netherlands Aerospace Center
No.	Number
NS	Dutch Railways
OA	Open Access
OECD	Organisation for Economic Co-operation and Development
OLGA	hOListic Green Airport
OTM	Operational Team Meeting
PIONEERS	Portable Innovation Open Network for Efficiency and Emissions Reduction Solutions
POA	Port of Amsterdam
POLITO	Politechnic University of Turin
Probono	The Integrator-centric approach for realising innovative energy efficient buildings in connected sustainable green neighbourhoods
RSB	Roundtable of Sustainable Biomaterials
SAGAT	Turin Airport Management Company
SAF	Sustainable Aviation Fuel
S.A.S.	Simplified Joint-Stock Company
SEO	Search Engine Optimisation
SIN-EN	SINTEF Energy Research
SNBV	Schiphol Nederland B.V. (Royal Schiphol Group)
Stargate	SusTainable AiRports, the Green heArT of Europe
T	Task
TEAB	TULIPS External Advisory Board
TRL	Technology Readiness Level
TUD	Delft University of Technology
TULIPS	demonstrating lower polluting solutions for sustainable airPorts across Europe
UANTW	University of Antwerp
V	Version
WIP	Work in progress
WP	Work Package

1 Executive Summary

The following document describes the TULIPS communication and dissemination plan for the period of M18–M30. The purpose of this document is to measure the C&D activities achieved within the TULIPS project against its strategic objectives and give direction for the period ahead. The document is divided into **six core sections** starting with an introduction in chapter two.

- The introduction informs about the general ambitions of the project, its relevance to the European Green Deal and the role of communication and dissemination towards achieving the project's strategic objectives. It also defines the terms communication as broader information and dissemination as a more targeted promotion of project outputs and results.
- Chapter three defines the different target audiences to be addressed by the project's C&D activities with European airport operators (users) as the project's key target group. The chapter further emphasizes the project's External Advisory Board which aims to establish a permanent representation of the different key stakeholder groups of the project.
- In chapter four the C&D channels are defined including general tools like the C&D kits, the project website (incl. blog post area), the presence in social networks (LinkedIn, Twitter), Publications as well as events, conferences and workshops.
- At the core of the document, chapter five presents the TULIPS C&D strategy which includes the C&D objectives and the related measures to reach them. The strategy is following three phases starting with the **initial awareness phase** in which the concept of '**green airports**' and the ambitions of the project are conveyed to the entire group of stakeholders. The second phase is the **strategic phase** in which communication and dissemination of (expected) results become work package-specific and more user-centric supporting the ongoing project activities by provoking two-way communication and early adaptation. Finally, the **exploitation phase** in which the project will promote its key exploitable results for take up. At the time of the report, the project is at the beginning of the second phase of its C&D strategy. The section further informs about the key messages and KPIs required to measure the progress towards the communication and dissemination objectives.
- Chapter six evaluates the achieved C&D achievements alongside different categories of C&D as defined in chapter four by listing the different events followed by a descriptive evaluation and key takeaways to be addressed during the coming reporting period. Attached to this section is also a chapter on the planned communication and dissemination events until M30 as an outlook.
- The document ends with the conclusion that the project has successfully raised awareness about its ambitions and is now at the beginning of the second phase where it needs to move closer to the WP level to accelerate the use-case-related promotion for specific solutions to reduce pollutants at European airports.

2 Introduction

This chapter will shortly introduce TULIPS and the European Green Deal, followed by an explanation of the purpose of this document. The chapter contains definitions of the terms ‘communication’ and ‘dissemination’, as well as a description of the main responsibilities for the activities in the scope of this plan.

2.1 TULIPS and the European Green Deal

Europe is in the middle of a socio-economic transformation with the ambition of becoming the first climate-neutral continent by 2050. The overall guidance for this ambitious goal is provided through the European Green Deal (EGD) framework and the European Climate Law that came into force on 29 July 2021. Despite its climate change-centric interpretation, the Green Deal factually resembles a growth strategy that aims to preserve well-being and prosperity in Europe at a zero-climate change contribution. Completing the transition in time and at little economic loss, therefore, means that some of the privileges gained throughout the past centuries of modern development need to be reengineered. The most desirable outcome is to maintain the societal benefits whilst being able to drastically reduced their external costs predominantly their impact of climate change. In the transport sector, this means an urgent and holistic approach to reducing greenhouse gas emissions (GHG) and the inclusion of environmental benefits from a renewable energy-based economy. With aviation generating 14% of the EU’s GHG emissions in the transport sector, the Green Deal assigns aviation a key role in contributing to significant reductions in these emissions.

Airport operations play a major role in the transition towards a climate-neutral aviation sector, yet they have received comparatively little attention until recent. Sustainable energy production and use at the airport landside and airside operations, as well as a multi-modal shift to greener transport modes from and to airports can significantly reduce the airport’s carbon footprint and improve the local air quality. TULIPS will **accelerate emission reduction and efficient resource use at airports** as a direct contribution to the EGD by providing roadmaps for decarbonisation and increased resource efficiency at European airports. These roadmaps will be based on innovative technologies and concepts which are implemented and demonstrated at a lighthouse airport and validated at three fellow airports.

To make sure that the ongoing project activities are recognised, discussed and adapted by key stakeholders, communication and dissemination activities become a vital accelerator for the relevance of the project’s outputs to the overall implementation of the European Green Deal. Communication and dissemination will decide how well the concept of ‘**green airports**’ is understood and internalised and how well the innovations and results from use-cases are considered by experts. Ultimately dissemination will decide on the uptake of the pan-European decarbonisation roadmaps as the primary output of the TULIPS project.

2.2 Purpose of this document

As communication and dissemination activities are a core part of the TULIPS project, clear, specific and measurable dissemination and communication objectives are the key to success. They are aligned with major project milestones to maximise the impact of TULIPS in strong interaction with all the work packages, as well as external parties. These are defined in the communication and dissemination strategy in [Chapter 5](#) of the document. The main objectives of the present plan are:

- Definition of the project's communication and dissemination objectives and ambitions.
- Definition of the project's communication and dissemination channels and target audiences.
- Definition of the key messages to be communicated and disseminated throughout the project's lifetime.
- Definition of the communication and dissemination strategy (the right mix of channels and target audiences to reach the communication and dissemination objectives).
- Definition of KPIs by which the successful implementation can be measured.
- Evaluation of the communication and dissemination actions achieved against the objectives.
- Definition of relevant steps for future dissemination and communication actions based on the objectives, strategy and feedback/results from the achieved communication and dissemination activities.
- Guarantee an effective communication of the project messages and activities at local, national, EU and international level.

2.3 Definition of communication and dissemination

Within the scope of TULIPS, the term **communication** refers to a process of promoting the project's activities and their results in a generally understandable way. It requires strategic and targeted measures for communicating about activities and their results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange. In this context, a one-way exchange is defined as communication without the possibility and/or expectation of a response or feedback from the receiver, while two-way communication includes such a response or feedback function, resulting in a higher level of participation (European Commission, 2019). Therefore, in TULIPS communication activities are defined as actions that:

- Create public awareness and enhance the visibility of the project, its results, the consortium, and the research program itself.
- Encourage the stakeholders and target audience to use the project results, increasing the chances that research will make an impact. This is connected to dissemination support.
- Can create immediate, short/medium-term commercial impact. This is connected to exploitation support.
- Contributes to mutual understanding and the consistent workflow amongst the consortium partners and commission services.

Dissemination is understood as the stakeholder-oriented promotion and lobbying of the project results. It includes all activities that facilitate the knowledge transfer and reuse of the results for the

benefit of their long-term scientific and commercial impact. It propagates and positions the project's expected outcome with potential end users and addresses i.a. scientists, industry stakeholders, policy makers and practitioners as experts to review, validate and use the results. During the course of the project, dissemination is implemented as an ongoing dialogue with potential users. By sharing the research results with the scientific community, a contribution to the progress of science, in general, can be achieved (European Commission, 2019).

To summarise, **communication** aims at promoting the whole project to a much wider audience in a less-technical and non-specialised way, while **dissemination** aims at public disclosure of the project results to the target groups using scientific language.

2.4 TULIPS approach to communication and dissemination

In TULIPS communication and dissemination are understood as a collective effort for the promotion and distribution of the project's outputs generated in the core work packages 1–7. Both communication and dissemination start from M1 and continuously support the core WPs until the project's lifetime in M48. Further, dissemination investments will be organised during the project's lifetime to ensure that established channels (i.e. website) and content will remain accessible to relevant stakeholders after the project was concluded. The project works against a detailed plan for communication and dissemination, which includes the communication and dissemination strategy and is regularly updated and adjusted in line with the project's outputs and needs. The project wants to achieve the maximum contribution towards the general acceptance and the operational implementation of the concept of '**green airports**' as the new leading paradigm for European airport operations. Demonstration events will be exploited to maximise the impact of intermediate and final demonstration results for professional target audiences. Momentum will be built through the active integration of the TULIPS External Advisory Board (TEAB) and community development with stakeholder network(s). The use of EC online tools (magazines, project stories, newsletters, etc.) and EU platforms as well as other EU projects/initiatives will be utilised to maintain a policy-oriented dialogue. All partners will represent TULIPS in workshops and conferences and publish the results of individual or common research in relevant journals, magazines, and reviews. Joint publications are foreseen for exploitation purposes.

Communication and dissemination must:

- Raise awareness for the project, its results/outputs and the concept of '**green airports**'.
- Create visibility of the TULIPS project and its link to the European Green Deal.
- Generate support for/trigger involvement with the TULIPS project.
- Generate mutual understanding and the uptake of the TULIPS methods and tools.
- Support internal community building.

2.5 Communication and dissemination responsibilities

Every partner that has received a budget for communication and dissemination has a responsibility to support the communication and dissemination activities of the project in line with the communication and dissemination strategy as reflected in [Chapter 5](#).

The overall WP12 ‘Dissemination & Communication’ is coordinated by Fraunhofer (FHG), who is managing the communication/dissemination strategy development in Task 12.1 in close exchange and cooperation with SNBV (and the other partners). Weekly meetings help to coordinate and process individual tasks in connection to this task. FHG is further responsible for the provision, monitoring and evaluation of the communication and dissemination plan in Task 12.2, which can be understood as the main guideline for the strategy’s implementation.

The lead of the three remaining tasks in WP12 is with EGIS. FHG maintains a supporting role e.g. the organisation of the TEAB and/or the preparation of events but also to ensure that the actions in T12.3–12.4 are in line with the overall communication and dissemination strategy. Monthly operational team meetings (OTM) are held for the regular exchange of information between all WP12 members. For an overview of the WP12 subtasks and related responsibilities see Table 1 below.

Responsibilities for ongoing and frequently recurring communication activities and main thematic areas such as social media and blogposts are supported by the responsible partners according to their experience, expertise and capacity. The general contact point for FHG and EGIS for communication and dissemination activities are the WP leads.

Table 1 Partners involved in WP12¹

Task	Description	Partner(s)
12.1	Communication and dissemination strategy development	Lead: FHG Support: SNBV, all partners
12.2	Communication and dissemination plan and activities	Lead: FHG Support: SNBV, all partners
12.3	Community building	Lead: EGIS Support: FHG
12.4	Standardisation activities	Lead: EGIS Support: all partners
12.5	Collaboration with existing initiatives and clustering with other EU projects	Lead: EGIS Support: FHG, all partners

¹ In the previous version of the plan, the TULIPS project partner NLR was listed in the Table 1. The partner was removed as it was originally planned to have a much more active and leading role with a larger amount of person months, which was already corrected by mutual agreement during the proposal phase but not adjusted accordingly at all points of the GA. NLR have not taken on any particular role in the communication and dissemination strategy from the beginning and contribute a comparable number of hours for WP12 like other TULIPS partners.

3 Stakeholders and main target audience

The TULIPS consortium and stakeholder ecosystem (Figure 1) are composed of key actors in the aviation sector that cover the whole sector’s value chain in order to ensure the achievement of its ambitious objectives and maximum impact. Among the consortium are European airports (SNBV, SAGAT, HERMES, AVINOR), light green aircraft suppliers (PIPISTREL), ground services providers (KES), SAF providers (SKYNRG), green hydrogen providers (HYCC formerly NOBIAN), hydrogen fuel cells providers (BALLARD, ZEPP), hydrogen logistics providers (POA), experts for building infrastructure (BAM), cargo logistics partners (BOS LOGISTICS, DHL, DJ MIDDELKOOP), airlines (KLM), industrial technology providers (CATALINK, BETA-I, EGIS, EME, MOBCON) and research and academia technology solution providers (SINTEF, SIN-EN, POLITO, FHG, MMU, NLR, TNO, TUD, IST-ID, UANTW).

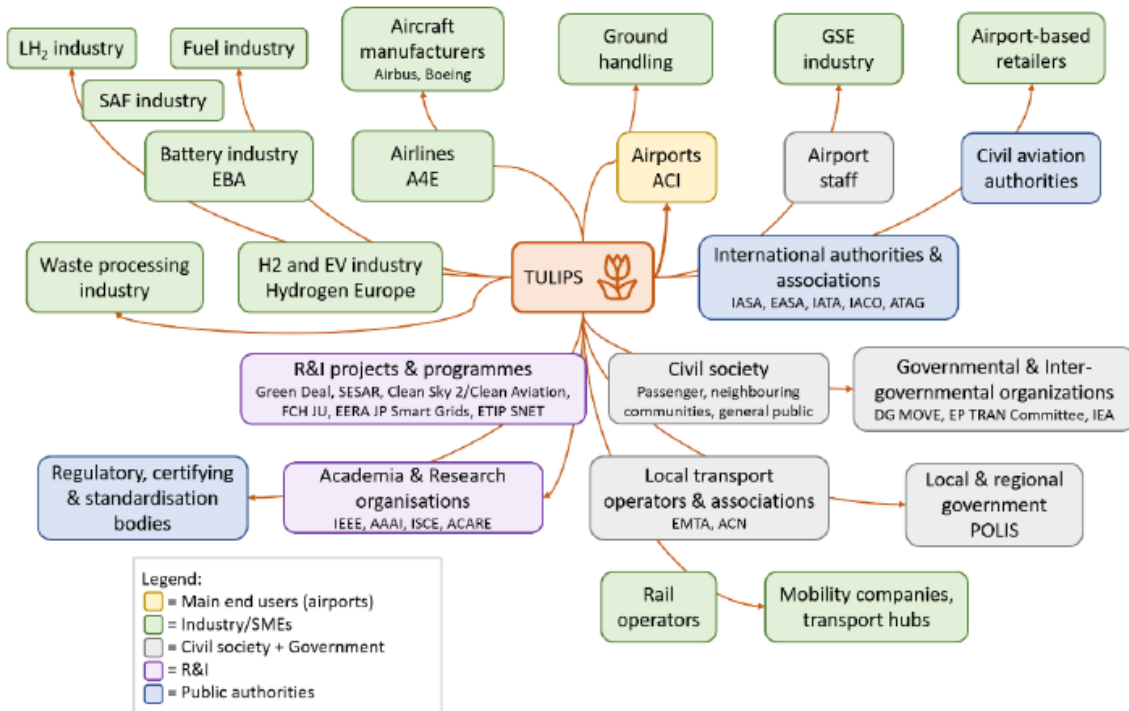


Figure 1 The TULIPS ecosystem

TULIPS actively receives, interprets, and integrates feedback from the project’s stakeholders and the TULIPS communities. Relevant content for the target groups is developed and continuously adapted to the project’s progress to raise awareness among the target audiences and to inform, educate and invite them to familiarise themselves with the project and its results. A key part of this task is to engage with the right local and European actors to ensure the effective implementation of the project’s communication and dissemination strategy. TULIPS deploys a range of techniques to share news and developments of the project, both internally and externally, to develop a community of potential users aware of and interested in exploiting the results of the project when

available. Table 2 below shows an initial view of the potential targets for the project results and how they are engaged.

Table 2 TULIPS target groups

Operational stakeholders		
Target groups	Proposed approach of engagement	Benefits of the target group
Airport authorities/ Airport operators (management, shareholders)	TEAB, TULIPS community, workshops with stakeholders, inform and engage also via social media/website, press releases, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: energy management, waste recovery, electric charging solutions, H ₂ as green (on terminal equipment, trucks, planes), sustainable traffic and mobility management platform and inter-modality app, air quality impact services, becoming a stakeholder in SAF transition and changed travel behaviour
Passengers	Inform and engage via website, social media, press releases, connect at events	Smoother inter-modal shifts, lower prices through improved fuel supply chains
Neighbouring communities	Inform and engage via social media, website, press releases, connect at events	Less GHG emissions from aviation, better air quality in airport regions through zero emission ground handling, less traffic congestion
Airport staff	Feedback workshops on demos and results, dedicated surveys	Improved inter-modal access to workplace, air quality impact services
Airlines	TEAB/TULIPS community, stakeholder WS, inform/engage also via social media/website, press releases, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: SAF and H ₂ , re-charging and re-fueling
Ground handling operators/ Ground service providers (GSP)	TEAB, TULIPS community, workshops with stakeholders, inform and engage also via social media/website, press releases, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: re-charging and refuelling capacities, innovative (also electric) GSE (GPU, H ₂ tow tractor)
Railway and rail shuttle operators	Consortium members, workshops, existing client relations or partnerships	Improved awareness of airports and cities for intermodal shifts; target market of TULIPS results: H ₂ as green fuel
Intl. mobility companies, logistics hubs, public transport operators, real estate	Demos, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: sustainable mobility management platform
Airport-based retailers	Feedback workshops on demos and results; dedicated surveys	Improved inter-modal access to workplace; air quality impact services

Industrial stakeholders		
Target groups	Proposed approach of engagement	Benefits of the target group
Fuel companies, SAF producers, LH₂- tank developers & manufacturers	Demos, EU Clearing House, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: improved supply chains, improved interest by airports and airlines, EU Clearing House
GSE manufacturers	Demos, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: prototype of hydrogen fuel cell powered tow tractor
Aircraft manufacturers (incl. electric)	TEAB, TULIPS community, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: LH ₂ hydrogen technologies; EU Clearing House; electric charging solutions
(Gaseous) H₂ vehicle manufacturers	Demos, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: LH ₂ hydrogen technologies
Waste processors	TULIPS community, workshops with stakeholders, inform and engage also via social media/website, press releases, connect at conferences & events, existing client relations or partnerships	End users of TULIPS results: improved waste management at airports and consequently new waste processing needs

Policy stakeholders		
Target groups	Proposed approach of engagement	Benefits of the target group
Local and regional government	Demos, direct outreach strategic meetings for two-way communication	Improved public transport access to airports, sustainable mobility management platform, alignment with regional and local energy strategies, air quality and UFP mitigation.
Governmental & inter-governmental organisations (e.g. DG MOVE, EP TRAN Committee)	TULIPS community, workshops with stakeholders, inform and engage also via social media/website, press releases, connect at conferences & events. Members of TULIPS are directly involved in the technical work of ICAOCAEP	Improved awareness of barriers and constraints as well as the impact of policy levers

Research and academia		
Target groups	Proposed approach of engagement	Benefits of the target group
Other projects funded under the EU Green Deal	(Joint) Workshops, TULIPS community	Information sharing (plans, demo outcomes), cooperation and clustering, joint workshops
Academia and students	TULIPS community, workshops with stakeholders, connect at conferences & events, scientific papers and thesis	Knowledge generation in a variety of fields, close contact between research & industry

3.1 Key target audiences

Generally, all stakeholders listed in Table 2 above are considered relevant as target audiences. Depending on the possible impact and value some of the stakeholders can have on the project's progress. The following high-level key target audiences can be defined:

Table 3 Allocation of key target audiences

Communication/ Dissemination	Subject	Key stakeholders
Communication	What is the transition towards the concept of 'green airports' about?	General public, airports, sister projects
Communication	Why the transition is necessary (context)	Airports, domain experts, academia, policy makers
Communication	How the individual elements of the project have the potential to accelerate the transition	Airports, domain experts, academia
Dissemination	Inform about (expected) results	Airports, policy makers, sister projects
Dissemination	Make results available for further research	Research and academia
Dissemination	Receive inputs and feedback from the various target groups (validate outputs)	WP-related experts, TEAB
Dissemination	Enhance exploitation of TULIPS's results	Airport operators /related institutions e.g. IATA, ACI

WP-specific target audiences will have to be defined by the WP leads in line with the definition of the WPs key messages (see [Section 5.5](#))

3.2 The TULIPS External Advisory Board (TEAB)

The consortium has created a TULIPS External Advisory Board (TEAB) which resembles expert members from the project's key target audiences. The project is using the TEAB as a sounding board to provide feedback on the approaches and progress of the project and as a vector for communication and collaboration. It also aims at facilitating the adoption of the project results as they emerge during the project. The TEAB is comprised of different facets of the end user community and key stakeholders for future adoption and deployment of results. TEAB tasks include:

- Participation in TULIPS workshops and demonstration events to provide their perspectives on the approach and progress being made.
- Review of selected deliverables during their gestation and/or reviewing process to ensure that they are 100% relevant to identified needs and future exploitation.
- Distribute public deliverables within their respective networks.
- Answering specific requests for their opinion.

All members of the TEAB have signed a non-disclosure agreement (NDA) with the same confidentiality clauses as those found in the consortium agreement. The list of members and a summary of their expertise is provided in [Appendix B](#).

4 Communication/Dissemination means, tools & channels

The following chapter will give an overview of internal and external communication and dissemination means and tools, as well as the channels used to communicate and disseminate.

4.1 Internal tools and channels

The TULIPS consortium uses different channels for the internal communication and dissemination of the project's outputs.

- To communicate, exchange information and documents, and to plan/execute meetings primary **email**, the SNBV's **TULIPS SharePoint** and **Microsoft Teams** are used.
- Virtual meetings (including hybrid meetings) are executed via **MS Teams**, while in-person meetings are planned by the coordinator or the respective partner, as appropriate.

4.2 External tools and channels

The following sections will detail the executed tools and channels used for external communication/dissemination. These mainly include:

- General tools like the communication/dissemination kits
- The project website (incl. blog post area)
- The presence in social networks (LinkedIn, Twitter)
- Publications
- Events, conferences and workshops

4.2.1 Communication/dissemination kit

The communication/dissemination team has developed a corporate design (CD) (e.g. logo, colour palette) and the corporate identity (CI). Templates for presentations, deliverables, meeting minutes as well as graphical representations for the overall project and core WPs. An icon collection for social media postings can be utilised. The CI is further supported by printed products like rollups, flyers and a notebook, which can be used for the appearance at events. The tool kit was made available to all partners via the TULIPS SharePoint. This includes an initial basic TULIPS image pool with original images of Schiphol. All other partners were also asked to provide the consortium with freely usable images via the SharePoint in order to gradually expand the image pool. The project's image will continue to be developed regularly and according to need and necessity.

An extract of the material developed by M18 of the project for the communication/dissemination kit can be found in [Appendix C](#).

4.2.2 Project website

The TULIPS website is a key tool to create awareness at different levels of expertise. It serves as the main entry point to the project and presents the concept of 'green airports', the project's mission, the consortium, related initiatives, the recent news and press releases, upcoming and past events. It can be consulted by interested stakeholders to receive basic information (e.g. after a presentation or being made aware of the project) Information on the website is frequently updated but less dynamic than the project's social media channels. It contains richer blogposts and project descriptions but remains understandable to a wider range of stakeholders (unscientific).

The main contribution of the website to communication and dissemination is:

- The promotion of general actions and results of TULIPS to a multitude of audiences.
- The provision of quick and clear information on the added value of TULIPS to all stakeholders and the general public (concept and vision). This presentation of the project will be solidified throughout the project's lifetime as the project progresses to maturity.
- The provision of relevant public scientific results to website visitors via a corresponding subpage.
- Dissemination of context-based summaries for relevant project results in a clear manner. This includes results that are yet to be reached.
- Destination for information seekers who are reached through social media posts, presentations, online events, conferences and newsletters that are designed to raise interest in the project's results.

The website had so far given a good first insight into the project. Further additions are planned for summer/autumn 2023 (also see [Appendix D](#)).

4.2.3 Social media

Social media channels are used to ensure the highest visibility of TULIPS on the web and increase project outreach already from the beginning of the project. TULIPS's social media communication is complemented by each individual partner channels collaboration. Social media are therefore used to support the strategic goals in dissemination and communication. They help to raise awareness about project milestones and create a common platform for discussion and involvement of other stakeholders. Through the use of common hashtags and keywords, the TULIPS community can create an information source for all stakeholders (for further details see [Appendix D](#)).

Besides general TULIPS-specific posts and tweets also more distant but still largely relevant special days and events are promoted. Publications of cluster projects are particularly supported by regularly liking, commenting and/or sharing them, depending on their content. Social media series will be introduced in the forthcoming period (Q&A, facts & figures, quote series of the TULIPS partners).

At the time of the report, the project is limited to two social media channels including LinkedIn and Twitter as they were perceived as the most useful channels for communication to a wider range of stakeholders (see Table 4 below and [Appendix D](#)).

Table 4 TULIPS active social media channels

Channel	Purpose
LinkedIn	Used to communicate the TULIPS project's objectives, progress and outcomes to a broad variety of target groups
Twitter	Used by the TULIPS team for one-way and two-way communication, focusing on sharing information with the general public and target groups being present on Twitter

The communication and dissemination team is reevaluating the selection of channels to add or remove social media channels regarding their effective contribution to the implementation of the communication and dissemination strategy. The social media target audience includes:

- Project members: EC, TULIPS airports, all 31 TULIPS consortium members
- The TEAB
- Clustering partners (incl. i.a. Stargate, OLGA, MAGPIE, PIONEERS, FLITE, ALIGHT)
- External target audiences as listed in Table 2

To increase the reach of TULIPS posts on social media, an analysis of relevant hashtags with the biggest reach has been conducted. Based on the results of this analysis, a distinct set of hashtags has been compiled that will be used as a priority for all social media posts where possible (see Table 5 below: (see Table 5 below):

Table 5 Updated hashtags used for TULIPS communication on social media

Hashtags	
#tulips	#eu
#h2020	#EUGreenDeal
#sustainable	#zerowaste
#innovation	#aviation
#airport	#GreenAirports (independent from analysis)

4.2.4 Publications

Articles in specialised press, general press and multimedia

Articles are prepared and issued to promote the impact and the scientific/technical details of the project to a different set of stakeholders. The articles are published in international and specialised journals and magazines. To this end, articles could be published in general press outlets like local newspapers, as well as specialised press publications around aviation and or sustainability. The general press releases are often triggered by general press releases.

Scientific and technical paper publications

As part of the work to be done by the academic and research partners within the consortium, key developments for publication will be identified by the pertinent partners and brought to the attention of the work package leads, the project coordinator (SNBV) and the communication leader (FHG). Once authorised, articles will be submitted to relevant publications. The first publications in scientific journals within the framework of TULIPS are expected from summer 2023. Including, for example:

- Review paper on available modelling tools (WP3 activities)
- Research paper on energy roadmaps (WP3)
- Bachelor/Master thesis (WP1)

IMPORTANT: Each beneficiary must ensure **open access** (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results. For details on the open access policy please view [Appendix E.](#)

Newsletter and press releases

Newsletters are considered a communication tool to update a global audience in less frequent intervals approximately once a year. They could be used to cover major developments in the project's progress (e.g. finalisation of the first demo wave) or to report jointly on a particular subject (e.g. hydrogen power in ports and airports) with partner projects in the research cluster. In addition, press releases will be prepared in English and translated to the project's languages to be published in local newspapers (if appropriate), highlighting – when possible – the benefits to the region/country and the importance of the local partner being part of an EU consortium. The contents and the level of dissemination depend on the type of audience and the geographical scope. The content is to be approved by the coordinator before being translated into the pertinent local language.

4.2.5 Events, conferences & workshops

Conferences, seminars, fairs and exhibitions

The consortium partners are participating in relevant conferences, seminars, symposia, forums, meetings etc. to interact with relevant stakeholders and present overviews and key results of the TULIPS project. They will also participate in fairs/exhibitions for awareness-raising and to present the project's outcome to a wider but knowledgeable group of stakeholders. Participation in these events provides an opportunity to present the project's outcomes and to promote its innovations and technologies to reduce emissions at airports. Partners should be motivated to position the concept of '**green airports**' as a contribution to increased sustainability in the European transport sector. To achieve this impact the activities are supported by the preparation and animation of the project presentations as well as display stands and consumables (e.g. rollups, flyers and posters) as useful tools that bring attention to the TULIPS project objectives and outcomes. The cooperation with sister projects from the sustainable ports and airports cluster to maximise resource efficiency.

Workshops

In addition to regular internal workshops and meetings within and between the work packages, workshops with external stakeholders e.g. the TEAB or specific target groups will be arranged. The first external TULIPS workshop was held in October 2022 in Amsterdam. This 'familiarisation workshop' (TULIPS launch event) was organised to present the project and its progress, as well as to gather input from the participants. 'Come and see' workshops are planned to collect feedback and showcase benefits. Additionally, TULIPS consortium members also aim to attend third-party workshops (e.g. sister projects or industry leaders like IATA). Workshops are preferred to be held as in-person events with a hybrid option if necessary.

IMPORTANT: Any type of communication that involves the public is subject to the general communication provisions as agreed in the Projects Grant Agreement. For details on the General Provisions please view [Appendix F](#).

5 Communication and dissemination strategy

The following chapter details the communication and dissemination strategy and objectives. The primary purpose of the strategy is to define a meaningful combination of channels, messages and targeted groups to meet the communication and dissemination objectives (See sections 5.1 and 5.2 below). The evolutionary nature of dissemination and communication needs along the project life cycle of the strategy was factored in by dividing the strategy into three major strategic communication and dissemination phases ([see Section 5.3](#)).

5.1 Communication objectives

The high-level objective of the project's communication is to inform the stakeholders as described in [Chapter 3.1](#) about the project's intentions, its progress and outputs to ensure the understanding and adaptation of the concept of '**green airports**' as the new paradigm in EU Airport operations. The language used needs to be plain and simple to reach a high number of stakeholders (relevant community of listeners) to understand,

- the overall concept of '**green airports**' (transition towards),
- why the transition is necessary (context),
- how the individual elements of the project have the potential to accelerate this transition.

While the understanding of the overall concept of the transition towards '**green airports**' and its necessity in the context of climate change should be present within the consortium they could be considered as external communication objectives. The understanding of how the individual WPs seek to contribute to this transition must be considered as external and internal communication objectives to make sure that community building can be a success.

5.2 Dissemination objectives

The high-level objective of the TULIPS dissemination activities is to share the project's outputs and their development, both internally and externally, and to develop a community of potential users aware of and interested in exploiting the results in line with [Table 3](#) of the project when available. The objectives and underlying strategy of the dissemination activities are to:

- inform and educate all interested communities about (expected) results (promote outputs).
- make the TULIPS outputs available to the different target audiences (provide outputs).
- receive inputs and feedback from the various target groups (validate outputs).
- enhance TULIPS's results exploitation potential (exploit outputs).
- ensure that outputs will be sustained after the end of the project lifetime (sustain outputs).

Specific and measurable attributes to these high-level objectives will be defined in the C&D [KPIs](#)

5.3 Strategic approach

To reach the objectives defined in Section 5.1 and 5.2 respectively the TULIPS follows a strategic approach that was based on the EU guidance material provided for H2020 (i.a. article 29.1 of the annotated model grant agreement) (European Commission, 2019). A graphical summary of the EU recommendations can be observed in Figure 2 below:

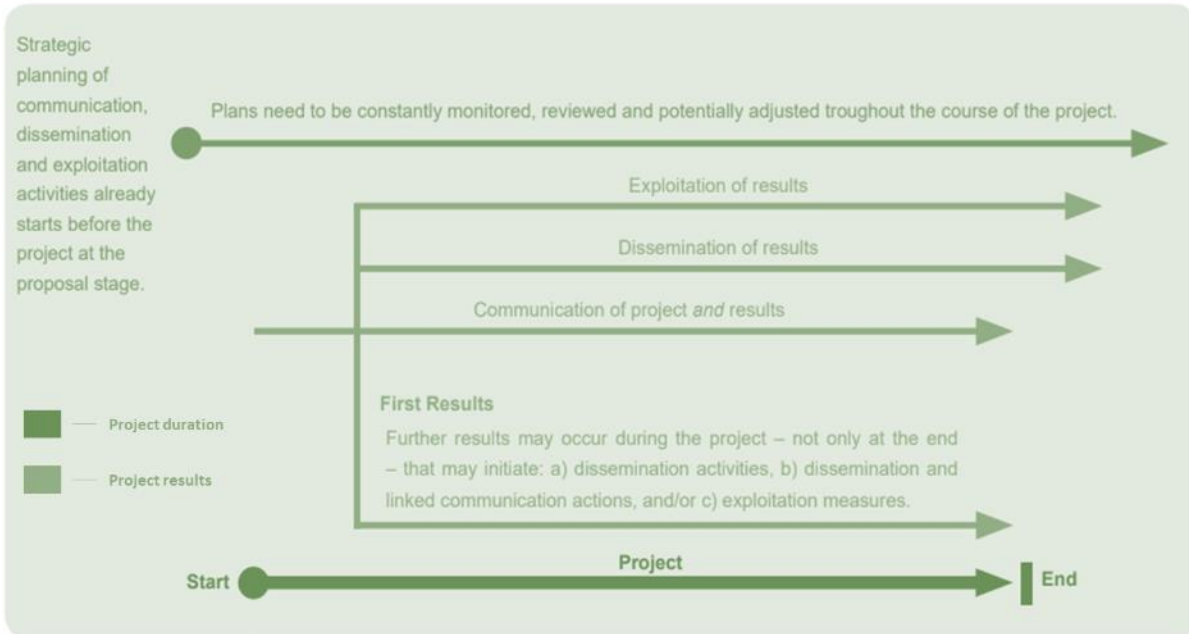


Figure 2 General strategic planning of communication, dissemination and exploitation activities in H2020

Within, TULIPS the recommended EU approach was implemented in a slightly offset three-phase approach that builds on the increasing availability of exploitable results. See Figure 3 below.

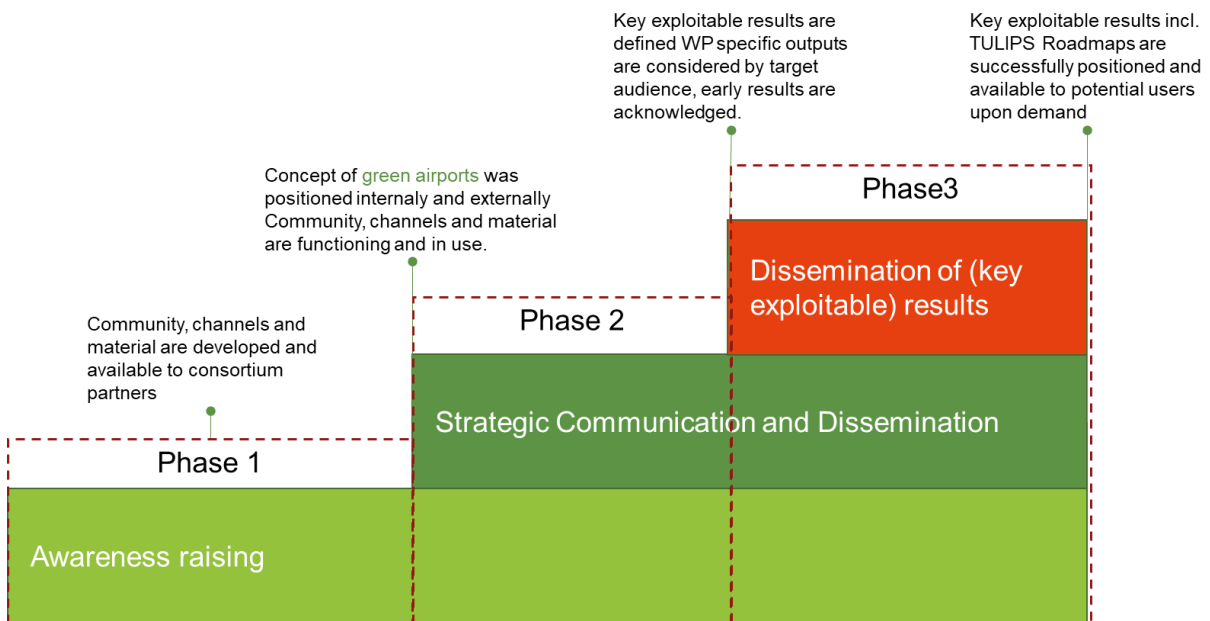


Figure 3 Combined communication and dissemination phased of the TULIPS project

The TULIPS Project has organised its three strategic communication and dissemination phases in a build-up approach where the activities proposed per phase will continue until the end of the project. Yet resources will be allocated with different priorities during each phase. A high-level overview of the phases' duration their targets and the guiding approach for their implementation can be gathered in table 6. Additional information per phase can be found in sections 5.3.1-5.3.3.

Table 6 Strategic communication and dissemination phases, targets and approaches

Time	Target	High-level approach
Phase 1: Initial awareness phase M1-M18 (M48)	Agree upon communication/ dissemination strategy and related activities. Create initial awareness related to the TULIPS project, the concept of 'green airports' its objectives and scope	Visual identity, press release, promotional materials (such as brochures, poster and roll-up), project website, stakeholders and events for attendance
Phase 2: Strategic phase M19-M36	Review communication ad dissemination strategy. Apply more targeted communication and dissemination regarding WP-specific ambitions, early outputs and the project's end goals, with relevant target groups.	Adapt promotional materials, inform key stakeholders about project results so far, initiate collaborations, start disseminating results at various relevant events
Phase 3: Exploitation phase M37-M48	Create awareness and promote the uptake of project outcomes of selected target groups.	Approach selected stakeholders in a more individualised and targeted manner, organise workshops, see for closer involvement of policy makers, organise a final conference

The selected approach is modelled to use the right channels, messages and target audiences to meet the objectives defined by the TULIPS Strategy (See Sections 5.1 and 5.2). Following this approach each phase will have its measurable output by which the success of the dissemination strategy can be evaluated and if required corrective actions could be taken. At the same time all communication and dissemination actions needed are linked to the strategic project objectives see table 7 below. (for details on the strategic project objectives also see Appendix G)

Table 7 Connection of phases to the project's strategic objectives

Phase	Relation to strategic project objectives
Phase 1: Initial awareness phase M1-M18 (M48)	Mainly related to the project's overarching goals of accelerating emission reduction and efficient resource use at airports. But also, early communication how individual WPs will contribute to achieving it (conceptual description of objectives 1-9)
Phase 2: Strategic phase M19-M36	Targeted communication and dissemination of the impact and usefulness of technologies and concepts to significantly contribute to reducing pollution (mainly GHG) at airports. Raise interest, involvement and adoption of stakeholders to impact objectives 1-9
Phase 3: Exploitation phase M37-M36	Dissemination of individual outputs from WP1-7 to satisfy objectives 1-9 with the perspective of achieving the overarching goal of developing robust roadmaps which present how these technologies and concepts should be deployed to different-sized airports. Communicate the impact of the individual solutions on the EU climate goals to EU policy makers.

5.3.1 Phase 1: Initial awareness phase (M1–M17)

The first strategic phase aims to create initial awareness of the project, its goals and objectives.

Table 8 Communication and dissemination phase 1 – objectives, tools and role of the partners

Phase 1: Initial awareness		
Objectives	Tools	Role of the partners
Announce the start of the project	Press releases, social media posts, TULIPS website, announcements on partner website	FHG: set up social media accounts, development of press releases/posts SNBV/FHG (with the help of Orange Tribes): set up website. All partners: distribute information, review and approve press releases, provide feedback
Raise awareness of the project aims, objectives and scope	Press releases, social media posts, TULIPS website, announcements on partner website, development of material e.g. partner map, fact sheet	FHG: develop & publish social media posts SNBV/FHG (with the help of Orange Tribes): update website. All partners: provide input and feedback
Encourage interested parties – particularly those involved in related projects and initiatives – to find out more about the daily work of the project	Organisation of meetings/workshops to exchange information and ideas, support each other by sharing and following on e.g. social media	Close cooperation with task 12.5 All partners: provide input and feedback, participate in meetings/workshops
Strong internal dissemination of the information to provide all TULIPS partners a clear vision of the project as a whole and the respective tasks and missions	Regular meetings within the WP/Consortium meetings (incl. project kick-off event and first in-person WP leads/ airports strategy meeting in June 2022, regular distribution of internal documents (e.g. minutes, presentations)	All partners: prepare to exchange information and actively participate in meetings
Develop a strategy for internal knowledge flow for consortium members to have a common understanding of the project and are equipped with material to present the project and raise awareness among stakeholders	Regular meetings within the WPs and consortium meetings, SharePoint to exchange information	All partners: prepare to exchange information and to actively participate in meetings, development or request of material
Formation of the TEAB	Acceptance of the invitation, preparation of a supporting letter to express their interest in the TULIPS project, signature of a non-disclosure agreement, attend/providing feedback on the yearly GA meetings to support elements of the project in their specific areas of expertise	The TEAB parties are selected from the network of the project partners, SNBV and FHG will invite the external project partners to the first TEAB meeting

5.3.2 Phase 2: Strategic phase (M18–M32)

The second strategic phase is starting during the time of submission of this report. It will intensify the activities started in the first phase and will emphasise more on building dissemination activities. In addition, the following objectives are targeted:

Table 9 Communication and dissemination phase 2 – objectives, tools and role of the partners

Phase 2: Strategic phase		
Objectives	Tools	Role of the partners
Keep publishing information about the project on the website, socials and via other relevant channels (enhancing project visibility, extensive public disclosure of results)	Update of the TULIPS website, regular social media and blog posts, upload of materials on the website (download section for public deliverables and communication/ dissemination kit), consideration of other communication/dissemination channels to further raise awareness (e.g. podcasts)	FHG with support of all partners: Preparation of social media posts SNBV with support of all partners: Publication of blog posts/news items, provision of download materials FHG & SNBV with technical support from Orange Tribes: Website update All partners: share, like, comment on posts on the official channels and also publish own posts independently
Establishment of contact with peers (social networking)	Organisation of own event(s), participation in external key events like conferences and workshops	All partners: deliver/prepare content, give presentations, attend events and actively participate, exchange information with other parties, continue to expand their network
Dissemination of first results/share key project activities & results	Scientific publications and articles, participation in external key events like conferences and workshops, consideration of other dissemination channels	All partners: deliver/prepare content, give presentations, attend events and actively participate, exchange information with other parties, continue to expand their network, prepare scientific publications and articles, look for opportunities for further dissemination
Consolidate cooperation with other relevant EU projects	Joint cluster activities and events, social media	All partners: deliver/prepare content, give presentations, attend events and actively participate, exchange information with other parties, continue to expand their network
Engage with stakeholders and ensure they will provide relevant feedback	Expansion of the cooperation, talks and exchanges with the TEAB, TULIPS clusters and other relevant stakeholders	Demo WPs: independently involve relevant TEAB advisors more and more (with support of FHG and the defined TEAB coordination team) All partners: regular updates to their professional network and relevant stakeholders

5.3.3 Phase 3: Exploitation phase (M33–M48)

The third phase of the TULIPS communication and dissemination strategy will support the exploitation effort to maximise results and their uptake. Phase one and phase two activities will be continued and extended as appropriate. Examples of additional objectives in this third stage:

Table 10 Communication and dissemination phase 3– objectives, tools and role of the partners

Phase 3: Exploitation phase		
Objectives	Tools	Role of the partners
Promotion of concrete TULIPS results to its key stakeholders, aiming at the creation of a TULIPS customer base	Project videos, on-site events, 2-pager leaflets (digital), conference presentations (on-site) Include potential customers in the final demo wave.	FhG: select and book videographer as a service and include video outputs in the C&D Channels WP Leads: to Identify user stories and early selection of suitable conferences to present the final results. Airport partners to plan early for local presentations (demos)
Promotion of project findings/results	Policy recommendations, Newsletter or conferences	All partners are to identify relevant conferences for their respective WP results in the final project year.
Promotion of the exploitation of the TULIPS product/service	Experience workshops, onsite visits, IT sandbox, live demonstrations	All partners to provide useful descriptions of the project's outputs and to develop user experience
Increase and intensify relations to target stakeholders through campaigns (SM)	TBD	TBD
Enhance liaison with stakeholders and increase (focus on policy makers) through meetings, workshops and events	Policy recommendations. Project to policy Meetings	FHG and SNBV to sustain policy dialogue and to arrange the final project to policy workshop. All partners to identify relevant policy use of their related work areas (demonstration)
Enrich website and all social and mass media channels	Create subpages for each WP organised in the three thematic areas of TULIPS Social media posts that link to the block articles	FHG to update the editorial plan to fully cover the res
Submit papers to relevant journals and conferences	Scientific papers Conference papers	WP Leads to providing scientific/measurable evidence in papers towards the acceptance of individual solutions as contributors to ' green airports ' (Demo results) until M42.
Presentation of results and early demonstrations	Public deliverables, workshops with partner airports, conferences (final conference), website, EU newsletter DG MOVE	SNBV to collect Results from the WPs Demos for the calibration of Roadmaps and roll out the roadmaps at European level

5.4 Choosing the right tools and channels for the right audience

Not all target groups can be addressed in the same way, as different target groups can be reached using different channels. Therefore, the following step introduces which target group should be addressed via which medium or channel. Table 11 below provides a high-level guideline for the main communication/dissemination activities to be carried out during and after the project.

Table 11 Outline of the communication/dissemination activities & target audience.

Communication/Dissemination activities	Target audience
Organisation of the familiarisation workshop and the come-and-see workshops	Specialised audience from the industry (see target groups), EU representatives TEAB members TULIPS' sister & cluster projects, other related projects General public TULIPS partners
Presentation of the TULIPS project achievements in related events	Depending on event: specialised audience/ general public
Presence at fairs/exhibitions/trades/conferences	Depending on event: specialised/ general public
Networking with European initiatives	Specialised audience from the respective projects and initiatives – coordination with 12.5
Publication of articles in scientific journals	Specialised audience: academic/scientific audience and interested parties from the industry and innovation drivers
Press releases and multimedia (incl. website & social media)	Specialised audience and general audience

In addition, there are several possible channels for communicating/disseminating information and project image. The selection of modalities and ways of channelling information and project image may vary in relation to the communication targets. High-level guidance on the purpose of use of the different communication and dissemination modalities are summarised in table 12 below.

Table 12 Description of the communication/dissemination tools by objective

Communication/Dissemination tools	Target audience	Objective
Project logo	Specialised and general audience	Brand, create awareness, draw attention, being recognised and associated with the project
Website		Host all publicly available information of the project (incl. download section), publication of regular updates, events etc.
Flyers/Leaflets		Promote current project's achievements, give key issues related to the project, raise interest among target groups and encourage participation in events related to the project
Posters		Draw people's attention to the project, create a high-level awareness of project achievements, encourage to attend the project's events and visit the project's website
Templates		Promote uniform visibility and awareness of the project through a common way of delivering project information, progress and results

5.5 Key messages to be communicated and disseminated

The general and underling message to be conveyed is that the TULIPS project as well as each of the individual WPs aim **to accelerate emission reduction and efficient resource use at airports in Europe**. The three elementary objectives of the project are to **demonstrate, measure** and **prescribe** technologies and concepts that can support this development. By this, it is guaranteed that the key message at the project level is aligned with the project's strategic objectives. See Table 13 below:

Table 13 Categorisation of the TULIPS strategic objectives

Objectives	Description
DEMONSTRATE	Showcasing innovative technologies and concepts. These technologies and concepts once fully deployed will significantly contribute to reducing GHG emissions and increasing the quality of life for EU citizens.
MEASURE	Measuring and quantifying the benefits obtained at the lighthouse and fellow airports and forecasting their impact on EU climate goals were they to be implemented extensively across European airports.
PRESCRIBE	Developing robust roadmaps which present how these technologies and concepts should be deployed to different-sized airports (international hubs down to regional level) considering economic, geographical, and political scenarios across Europe and beyond

- The overall concept of '**green airports**' should be understood as the ambition to preserve the valuable socio-economic benefits of airline transportation by drastically reducing the external environmental costs it is producing at its current state of operation.
- Creating '**green airports**' means a forward-looking investment with the capacity to compensate for the anticipated hike of regulations and costs attributed to the Green Deal transition.
- The TULIPS road maps towards 2030 are to be understood as a potential accelerator for the Green Deal trajectory towards 2050 (Also see [chapter 1](#))

At the WP level, WP Leads should develop transparent and use-case-specific key messages that bluntly reflect the positive environmental impact of their WP on the transition to low-carbon mobility and enhancement of current sustainability actions at airports. The key messages must be

1. user-centric
2. indicating the added value (what does it reduce?)
3. indicating the contribution towards a sustainable European transport paradigm (impact on EU climate goals)

The C&D Team will run a series of interviews with the WP Leads until September 2023 in which the WP-related key messages will be developed in line with the WPs key exploitable results and the WP-specific objectives. (Also see section 5.6 below)

5.6 Partner's C&D activity tracking for TULIPS demo waves

For the monitoring and evaluation of the project's communication and dissemination activities, a template was created and distributed to each partner. Therein the partners are asked to provide information on past, as well as future planned communication and dissemination activities, such as presentations, meetings, the attendance of conferences as well as press releases or articles regarding TULIPS (See [Appendix I](#)). The feedback was subsequently sorted and consolidated in a central document which is understood as a living document, that helps the C&D team to monitor the progress towards reaching the C&D objectives, identify gaps and take corrective actions throughout the implementation of the project's C&D strategy. At the time of the report, the document is still in a fairly basic state as it has just been introduced into the second phase of the C&D strategy where C&D activities at the WP/demo level are being intensified. Next to the monitoring sheets, a C&D task board was installed on the project's shared drive. Both the WP12 representatives and the WP Leads can put either C&D topics or opportunities (e.g. events, call for papers) on the board.

The WP12 Team will utilise the board to maintain a fluid implement of the C&D strategy. This is necessary because the WPs differ strongly in their topics, results and stages of progress. Research results will thus have to be communicated at different points in time. The TULIPS communication and dissemination team is available to advise and support the WPs for their C&D contributions. The main source of results will be the 17 TULIPS demonstrations, their expected progress and achieved milestones within the three demo waves. An overview can be found in [Appendix J](#).

In order to keep the overview of communication and dissemination activities at the WP/Demo level, it was decided in April 2023 to organise regular meetings between the WP1-7 leads and the WP12 communication team in 2–3-month intervals. The first meeting series of its kind was completed in early July 2023. These short meetings helped to reflect on the key exploitable results, the key messages and exchange information regarding participation in conferences or the release of publications for the related WP level. The regular meetings will also allow the C&D team to inform partners about the progress made towards meeting the C&D objectives (KPIs)

For WP12, the meetings will cover the following content:

- **Development of an individual communication strategy for the demonstrations and WP-related outputs by:**
 - defining, reviewing and adjusting the WPs key exploitable results
 - defining, reviewing and adjusting the key messages to be conveyed at the WP level
 - assessing WP contributions to social media, website and newsletter (editorial plan)
 - assessing participation in C&D events
 - assessing potential publications and other dissemination activities
 - assessing needs and synergies. How can the C&D Team and or other partners/projects?



5.7 Key performance indicators (KPIs)

Table 14 below provides an overview of the TULIPS KPIs to track and monitor communication and dissemination activities and their expected impact. As the final target value for LinkedIn followers set for M48 could already be reached in M13, a new target value has been set and updated in the table. Since the analysis function of the project website was not yet functioning properly at the time of the first plan, these were only collected for the revised version and added accordingly in the present plan.

Table 14 TULIPS communication/dissemination key performance indicators

KPI category	Performance indicator	Target value	Current status
Public website	Number of unique visitors	5,000 at M24 30,000 at M48	1,505
	Page views per month	500 at M24 800 at M48	344.12
	Origin of visits	20 MS at M24 27 MS at M48	10
Social media	Number of LinkedIn followers	1,200 at M24 2,000 at M48	1,183
	Number of Twitter followers	200 at M24 500 at M48	185
	Average number of tweets per month (from February 2023)	6-10	6
	Average engagement rate on Twitter (over 28 day Period)	1-3%	7% (highest: 17.5%)
Newsletter	Number of newsletters published	2-3 per year	0
	Average number of clicks on articles	20	0
	Total number of subscribers	50 at first release 500 at M48	80+
Media	Average number of media articles (national and local, online and offline) published	1-3/year	30+
Third-party events	Contributions to third-party events, incl. scientific conferences	4-5/year	8-10



TULIPS external workshops	Average number of participants per workshop	10-50	n/a
	Origin of participants	5-15 MS	n/a
	Ratio of airport representatives attending	30%	n/a
	Ratio of policy makers attending	10-20%	n/a
	Ratio of suppliers attending	30%	n/a
	% of participants expressing their overall satisfaction	90%	n/a
Liaison/clustering activities and synergies with other projects and initiatives	Number of relevant projects/initiatives identified and contacted	10 at M24 15 at M48	4+
	Annual revision of the clustering report with the two sister projects OLGA and Stargate	1/year	1 (M6)
	Overall number of cooperation activities (common events and other clustering activities)	Minimum of 4 public events at M48	2 public events 4 internal events
	Social media posts and other publications	50 Social Media Posts 2 Publications	11 Posts 0 Publications
Scientific publications	Number of scientific papers submitted for publication	8-12 at M48	0

The KPIs selected in the list above were helpful to support the project in the first phase of the C&D Strategy where it was important to measure the build-up of a community of stakeholders and the wider communication of the concept of ‘green airports’ as an accelerator of the European Green Deal implementation. To also be suitable with the second and third phase of the strategy it will be inevitable to better align the KPIs with the C&D objectives as listed in Sections [5.1](#) and [5.2](#). (e.g. informed user feedback collected per WP during/after each demo wave).

To ensure the alignment of the KPIs with the strategic objectives of the project the C&D Team will prepare and organise a designated workshop with the WP leads during the next consortium meeting in October 2023.

To better generate impact from the C&D activities the consortium can refer to the table with measures by which the KPIs in specific categories (see [Appendix H](#))

6 Evaluation of the communication and dissemination activities until M18.

In M18 the Project is situated at the beginning of Phase 2 of the communication and dissemination strategy (see [figure 3](#)). At this stage, the Project wanted to have raised initial awareness about the project and its ambitions. The general concept of ‘**green airports**’ was meant to be communicated to the general audiences and a community of relevant stakeholders was to be built around this concept. The sensitisation of key stakeholders for the WP-specific C&D should have started. Both the TEAB and the research cluster ‘**green airports**’ and ports’ should be functional. Also, the visual identity of the project was to be developed and put into action.

→The following section lists the archived C&D actions by category. Each category is followed by a brief evaluation and related follow-up actions that are provided in the black boxes at the end of each sub-section.

6.1 Design and initiation of the project’s C&D means.

Table 15 Communication Facilitation

Subject	Description	Date
Preparation of Communication standards and templates	The TULIPS visual identity and dissemination kit (incl. templates and print materials such as flyers and rollups) were produced and made available to the consortium in time. (See samples Appendix C)	M12
Design implementation and support of the project’s online presence	The Tulips project established a permanent online presence through a project website and two social media channels including Linked in and Twitter.	M6-12

The communication and dissemination team successfully prepared a range of communication and dissemination templates and the project’s visual identity for all partners to communicate the interests of the project and their WP-related content regularly. Permanent and broad communication was secured by the establishment of the project’s website and social media presence. The concept of ‘**green airports**’ was successfully visualised and positioned as subordinate to the larger ambitions of the Green Deal and CINEA were tangibly implemented in the project’s web presence.

- In phase 2 of the C&D Strategy, the number of active partners using both the established channels and communication templates need to be increased.
- Both the project’s visual identity and its link to the Green Deal Strategy need to be strengthened at stakeholder level. All partners are requested to contribute to this by using templates and making reference to the required EU Frameworks.

6.2 Social media landscape

Table 16 Performance of social media community of stakeholders (high level)

Social Media Chanel	Proxy for reach	Reach
LinkedIn	Followers	1183
Twitter	Followers	185
YouTube	No. Project related Videos	5

The selected social media channels were consistently built up throughout the first 18 months of the project to create a community of stakeholders that will be permanently informed about the project's progress. At the time of the reports, the project had a very strong LinkedIn Community. Both channels are supported through a linked and consistent editorial plan yet Twitter appears to be performing less well than LinkedIn under the plan. During the first 18 months, the project has uploaded and released some project-related videos via YouTube.

- The project will continue to sustain and grow its community of followers on social media.
- The project will keep monitoring the performance of the Twitter channel. Momentarily it is considered strategically useful and resource-efficient. It has also proven to be a useful channel for joint communication within and on behalf of the 'green airports and ports' research cluster. Depending on the perceived quality of Twitter as a communication channel the project may decide to discontinue using it for public communication.
- The project may decide to introduce its own YouTube Channel to highlight the different fields of engagement behind the concept of 'green airports' and to support the promotion of technical solutions that facilitate users to contribute to DG Goals, during the second phase of the C&D strategy.

6.3 Publications

Table 17 List of Publication until M18

Type of publication	Title/ Description	Link
Blogposts and PR on Website	The project managed to publish 22 Blog articles during the first 18 Months of the project	https://tulips-greenairports.eu/news/
Media – links to non-scientific online publications 2021	EU consortium TULIPS to accelerate innovations for a more sustainable aviation	https://www.nlr.org/news/european-consortium-tulips-to-accelerate-innovations-for-a-more-sustainable-aviation/
	TULIPS - Demonstrating lower polluting solutions for sustainable airPorts across Europe	https://www.iml.fraunhofer.de/en/news_archiv/tulips---demonstrating-lower-polluting-solutions-for-sustainable.html
	Schiphol leidt breed Europees samenwerkingsverband om verduurzaming luchtvaart te versnellen	https://nieuws.schiphol.nl/schiphol-leidt-breed-europees-samenwerkingsverband-om-

	<u>verduurzaming-luchtvaart-te-versnellen/</u>
TULIPS to support hydrogen role in sustainable aviation	<u>https://www.h2bulletin.com/tulips-to-support-hydrogen-role-in-sustainable-aviation/</u>
Avinor and SINTEF to contribute to Europe's green aviation initiatives	<u>https://www.internationalairportreview.com/news/165219/tulips-project-eu-awards-25-meur-partners-avinor-sintef-greener-aviation/</u>
CERIS researchers participate in a European project that promotes green sustainable airports	<u>https://tecnico.ulisboa.pt/en/news/ceris-researchers-participate-in-european-project-that-promotes-green-sustainable-airports/</u>
Schiphol-led consortium gets funding to improve sustainability at airports	<u>https://www.airport-technology.com/news/schiphol-sustainability-airports/</u>
Demonstrating lower polluting solutions for sustainable airports across Europe (TULIPS).	<u>https://researchportal.be/en/project/demonstrating-lower-polluting-solutions-sustainable-airports-across-europe-tulips</u>
TULIPS awarded EUR25m in funding for sustainable technologies	<u>https://centreforaviation.com/news/tulips-awarded-eur25m-in-funding-for-sustainable-technologies-1090856</u>
Torino Airport and Politecnico di Torino partners in the H2020 TULIPS European Consortium for a more sustainable aviation industry.	<u>https://www.torinoairport.com/comunicati/2021/cs-29_11_21-torino-airport-e-politecnico-torino_progetto-tulips_eng.pdf</u>
25 miljoen euro voor duurzame innovaties luchtvaart	<u>25 miljoen euro voor duurzame innovaties luchtvaart</u>
Schiphol mag met 25 miljoen euro subsidie Europese luchtvaart vergroenen	<u>https://www.nhnieuws.nl/nieuws/291636/schiphol-mag-met-25-miljoen-euro-subsidie-europese-luchtvaart-vergroenen</u>
Broad European consortium (TULIPS), led by Schiphol, will accelerate innovations for a more sustainable aviation industry	<u>https://www.webwire.com/ViewPressRelease.asp?ald=279188</u>
Schiphol leidt EU-project verduurzaming luchtvaart	<u>https://zakenreis.nl/luchthavens/schiphol-leidt-eu-project-verduurzaming-luchtvaart/</u>
Schiphol leidt breed Europees samenwerkingsverband om verduurzaming luchtvaart te versnellen	<u>https://www.transport-online.nl/site/131339/schiphol-leidt-breed-europees-samenwerkingsverband-om-verduurzaming-luchtvaart-te-versnellen/</u>
Broad European consortium (TULIPS), led by Schiphol, will accelerate innovations for a more sustainable aviation industry	<u>https://www.airport-suppliers.com/airport_press_release/broad-european-consortium-tulips-led-by-schiphol-will-accelerate-innovations-for-a-more-sustainable-aviation-industry/</u>
EU Consortium TULIPS to Accelerate Innovations for a More Sustainable Aviation	<u>https://www.asdnews.com/news/aviation/2021/09/14/eu-consortium-tulips-accelerate-innovations-more-sustainable-aviation</u>

	TULIPS Hydrogen GPU Schiphol consortium granted US\$30m to develop sustainable airport innovations	https://zepp.solutions/en/tulips-gpu/ https://www.passengerterminaltoday.com/news/sustainability/schiphol-consortium-granted-30m-to-develop-sustainable-airport-innovations.html
Media – links to non-scientific online publications 2022	Airports and harbours prepare to slash emissions as the greening of transport accelerates	https://ec.europa.eu/research-and-innovation/en/horizon-magazine/airports-and-harbours-prepare-slash-emissions-greening-transport-accelerates
	TULIPS Green Airports – Launch Event	https://www.iml.fraunhofer.de/de/veranstaltungen_messen/tulips-green-airports---launch-event.html
	How four EU projects are making the airports of tomorrow more sustainable	https://www.olga-project.eu/post/how-four-eu-projects-are-making-the-airports-of-tomorrow-more-sustainable
Media – links to non-scientific online publications 2023	ESS Inc. Lands Energy Storage at Amsterdam Airport Schiphol to Accelerate Air Industry Decarbonization	https://essinc.com/ess-inc-lands-energy-storage-at-amsterdam-airport-schiphol-to-accelerate-air-industry-decarbonization/
	Flying on hydrogen from Rotterdam The Hague Airport: almost ready for boarding	https://en.rotterdampartners.nl/articles/hc-commercial-hydrogen-air-travel-from-rotterdam-2025/
	Sustainable aviation gaining speed	https://www.schiphol.nl/en/schiphol-group/blog/sustainable-aviation-gaining-speed/
Videos	Tulips launch event	https://youtu.be/CPHQ5XqXQGQ
	TULIPS project kick-off at Schiphol	https://youtu.be/O0ua7xaCH6l https://www.youtube.com/watch?v=hP_NS_rWJ8
	TULIPS topic: Greener flight	https://www.youtube.com/watch?v=n9ssO5qZq8E
	TULIPS topic: Smart airport	https://youtu.be/j6D0QMx9gyM
	TULIPS topic: Clean airport	https://youtu.be/jC0eyUxysaM

At the end of phase 1 of its C&D strategy, TULIPS has mainly put out general non-scientific publications that aimed at increasing the awareness of the project its ambitions and the concept of ‘**green airports**’. Many publications were linked to the initial press release but some more specific publications were made during 2022 and the first half of 2023. The project has started to support the work of the work packages with WP-related blog posts on the website. At the time of the report, the project had issued 22 blog articles. Most of the publications were one-way C&D. Positive impact was generated by e.g. an interview with the TULIPS project coordinator in the Horizon Magazine Europe or an article in the PULSAR brochure highlighting TULIPS and other H2020/HEU projects which are contributing towards greener aviation.

During the second phase of the C&D Strategy, the Consortium should make an effort to engage in two-way C&D to actively support the work in the work packages. At the same time broad communication of the project and its benefits and impacts to society need to continue. As the general Media Eco has decreased during 2022 a new general press release about the project's progress should be considered following the project consortium meeting in October 2023.

- Each WP (1-7) shall actively disseminate the results from the first demo wave (M16-M24). This would include WIP papers or the dissemination of public deliverables in the respective work package.
- Considerations about contributions towards policy briefs should be made for each WP
- Suggestions of publication outputs will be provided through the C&D Team and should be finalised by 05 September 2023.
- General press release should be considered after October 2023

At the time of the report, no newsletter had been sent. Provisions were made but technical challenges² delayed the first release. Due to unexpected technical difficulties and delays in the implementation of the newsletter, the focus on the distribution of updates has been successfully placed and increased on social media and blog posts.

For the next phase of the project, a newsletter is reconsidered. It should be equipped with unique content to avoid recycle data that was already published. The newsletter makes sense if they serve a thematic purpose like a collective newsletter with the sister projects or at the end of a demo wave (across all WPs). If content is not available in sufficient relevance and quantity the project may defer to external newsletters (e.g. DGMOVE).

² As of beginning of June 2023, a new newsletter could not yet be realised due to issues with the provider and other legal circumstances and ambiguities. However, the completion and distribution of the newsletter is currently in its final stages.

6.4 Events

The following table describes physical meetings i.e. events, presentations, workshops, seminars, fairs, exhibitions, and conferences attended during the first 18 months of the project.

Table 18 List of Events attended until M18

Type of Meeting	Topic & Short Description	Date, Place
Conference	ReFuel Europe Conference	05.05.2022 Brussels, BG
Conference	Passenger Terminal Expo & Conference (PTE) 2022	15–17.06. 2022 Versailles, FR
Conference	23 rd World Hydrogen Energy Conference (WHEC)	26-30.06.2022 Istanbul, TK
Symposium	IATA World Cargo Symposium (WCS) 2022	27–29.09.2022 London, UK
Event	'Towards energy autonomy' organised by Regione Piemonte	03.10.2022 Turin, IT
Meeting	ACI Europe RAF Regional Airports Forum	4-6.10.2022 Turin, IT
Meeting	ACI Europe Economics Committee Meeting	07.10.2023 Larnaca, CY
Event	'The fight for a net-zero aviation' organised by Ardian	09.11.2022 Paris, FR
Conference	'Climate Change – Airport Resilience' (organised by Proavia)	23.11.2022 Paris, FR
Workshop	WP5 – Incentivising SAF with EU airports, DGMOVE, Advisory Board (RSB), ALIGHT representatives and WP5 partners (Avinor, SNBV, KLM, NLR,...)	08.12.2022 OSLO, NO
Event	'Innovation Day' organised by Distretto Aerospaziale Piemontese	08.02.2023 Turin, IT
Conference	ACIs 6 th Hydrogen and Fuel Cells Summit	08-09.03.2023 Lisbon, PT
Conference	Luftfart 2023 - Trøndelag	01.03.2023 Trondheim, NO
Expo/ Conference	Passenger Terminal Expo & Conference (PTE) 2023	14–16.03.2023 Amsterdam, NL
Internal Workshop	WP1 Sustainable and Green trucking (for operational partners)	29.03.2023 Amsterdam, NL
Conference	3. DVZ Sustainability Day	04.04.2023 Hamburg, DE
Convention	Canadian Hydrogen Convention	26-27.04.2023 Edmonton, CA
Fair	Danish Maritime Fair	26-28.04.2023 Copenhagen, DK
Workshop	AVIATOR Project - Air Quality workshop	23-24.05.2023 Madrid, Spain
Conference	AIREG SAF Conference 2023 (4–5 May 2023)	04.05.2023 Berlin, DE
Expo/ Conference	World Hydrogen 2023 Summit & Exhibition	09–11.05.2023 Rotterdam, NL

Expo/ Conference	31 st European Biomass Conference & Exhibition (EUBCE)	05-09.06.2023 Bologna, IT
Conference	Sustainable Aviation Futures Congress	7–9.06 2023 Amsterdam, NL
Conference	Hydrogen & P2X	14-15.06.2023 Copenhagen, DK
Conference / Expo	Paris Air Show Le Bourget	19-25.06.2023 Paris, FR
Expo	Electric & Hybrid Marine Expo Europe	21-23.06.2023 Amsterdam, NL
Conference	Nor-Shipping Conference	06.–09.06.2023 Oslo, NO

The Project managed to position the concept of ‘**green airports**’ and its ambitions at relevant conferences and exposition during the first 18 months. Prefixed templates and information provided through the D&G Kit were used and key stakeholders were engaged from a community of “listeners”. The latter was achieved through conversations/exchanges with peers which mainly took place informally during conferences but also in an organised form through the participation in panel discussions that were formally integrated into the conference agenda. Beyond the public conferences, the project organised its own C&D events e.g. to onboard operational partners at the user level. Transitioning into the second phase will require more targeted and user-centric communication dissemination. The following activities will be required until the next version of the report.

- Each WP (1-7) shall actively disseminate the results from the first demo wave (M16-M24) public deliverable or WIP papers during respective conferences seminars or similar events. Partners need to identify and prepare for the relevant conferences and inform the D&G Team accordingly
- A list of conferences suitable for the output of each WP will be co-creatively produced based on the contributions from each WP until September 2023. (Some WPs may be covered by the same event.)
- If no event will be available the WP Leads shall consider to event hold an own event (i.e. workshop) to which relevant stakeholders will be invited.
- Considerations about contributions towards policy briefs should be made for each WP.
- FhG and SNBF will jointly arrange a project for a policy seminar with related policymakers in March 2024.
- Participation of selected stakeholder groups is to be planned for the second demo wave.
- Recordings for broader dissemination of the events need to be planned.

6.5 Clustering activities and synergies with other projects

Table 19 Clustering activities – internal and external events

Coordination meetings/ Joined dissemination events	Internal /Public	Date
Online meeting between the project coordinators, project management officers, communication managers and dissemination managers of the three projects to kick off collaboration	Internal	14.04.2022
Panel discussion with OLGA, Stargate, TULIPS and ALIGHT at the ReFuel EU Aviation Conference in Brussels (airports-industry-and-regions)	Public	05.05.2022
Side meeting at the ReFuel EU Aviation Conference in Brussels to discuss the cross-fertilisation report	Internal	05.05.2022
Online meeting to discuss the draft structure of the clustering report and to prepare for Passenger Terminal Expo	Internal	09.06.2022
Panel discussion with OLGA, Stargate and TULIPS at Passenger Terminal Expo 2022 in Paris	Public	15.06.2022
Online meeting on the clustering report, second draft	Internal	21.06.2022
Online meeting on the clustering report, final version	Internal	28.06.2022
Stargate Sustainable (Air)Ports event	Internal	31.01.2023
Passenger Terminal Expo (PTE) 2023	Public	16.03.2023
GDPSO webinar: Social Media Masterclass	Internal	16.03.2023
Paris Air Show 2023	Public	22.06.2023

During the first phase of the C&D Strategy TULIPS frequently engaged with sister projects from the Call on ‘Green airports and ports as multimodal hubs for sustainable and smart mobility’. Early alignment discussions were held at PM level followed by a number of internal meetings and joined dissemination events, which aimed at linking the projects under the larger umbrella of the Commissions’ Green Deal ambitions towards a more sustainable European transport sector. An analysis was made to define potential thematic focus groups which may cooperate or share knowledge as part of their ongoing research and innovation in spite of a harmonised approach towards ‘green airports’ and ports in the EU.

- The next planned event will be the joint dissemination at the EASN International Conference in Salerno IT from 05–08 September 2023. (Also see Table 19)
- Joined press releases or newsletters will be continued (see Table 20 below)

Table 20 Joined communication of the research cluster on green airports and ports

Type	Title	Link
PR/ News Item	how-four-EU-projects-are-making-the-airports-of-tomorrow-more-sustainable	https://www.olga-project.eu/post/how-four-eu-projects-are-making-the-airports-of-tomorrow-more-sustainable
PR/ News Item	eu-green-deals-for-greener-ports-and-airports-build-bridges-towards-close-cooperation	https://www.greendealstargate.eu/news/eu-green-deals-for-greener-ports-and-airports-build-bridges-towards-close-cooperation/?thumbnail_id=1134
Promotional Video	GDPSO intro video	https://www.youtube.com/watch?v=-hP_NS_rWJ8

6.6 TULIPS External Advisory Board (TEAB)

The first meeting of the TEAB took place on 27 October 2022 after the TULIPS launch event at Schiphol Airport. Apart from primarily introductory information and a first personal meeting of all parties, the focus was on the assignment of so-called TEAB advisors/mentors and the expressed interest of TEAB members in taking on a mentoring role in certain TULIPS demo WPs. Sufficient time was given for questions and additional comments during and at the end of the meeting, and the TEAB also requested external materials such as a flyer and newsletter, which TULIPS promised to provide in the further course of 2023. In the initial awareness phase, the most suitable matches were still being identified and contacts between TEAB members and WPs were being established. An overview of the expression of interest from various TEAB members regarding the several TULIPS WPs can be found in [Appendix B](#) and Figure 4 below.

TEAB member	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	WP9	WP10	WP11	WP12
Airbus SAS					★							
Board of Airline Representatives in the Netherlands (BARIN)												
Boeing Research and Technology Europe (BR&TE)					★							
Copenhagen Airports (CPH) – ALIGHT project					★	★						
Transport Ministry – Directory of Mobility					★	★						
Dutch Railways (NS)	★					★						
Neste Components B.V.												
ACN (Air Cargo Netherlands)	★											
Municipality of Haarlemmermeer	★			★		★	★					
ENAC (CAA Italy)			★	★			★			★		
Roundtable of Sustainable Biomaterials (RSB)					★	★						
Vervoer Regio Amsterdam (VRA)												
Eurocontrol												
Thalys												
European Aviation Safety Agency (EASA)		★			★							★
Airports Council International (ACI) Europe												

= More specific approach (suggestion by core team/WPs)
 = General approach (broader scope) (suggestion by core team/WPs)
★ = Feedback TEAB members
○

Figure 4 TEAB advisors & possible involvement per WP

In the coming reporting period for communication and dissemination, a closer link between the WP/Demo level and the TEAB needs to be defined and first feedback from the TEAB on the project level as well as the WP Level should be obtained and considered for future project work.

- Commitment of existing TEAB Members to actively support the project with their expertise needs to be built and sustained through organised information flows between the project and the TEAB.
- A dedicated SharePoint folder will be set up for the TEAB with further information and updates from the demo WPs until the next TEAB meeting in a year.
- The second TEAB meeting is scheduled for the beginning of October 2023 as a session during the next TULIPS on-site GA meeting in Larnaca Cyprus where the members will be informed about the project's progress at WP level and sought their advice.

7 Planned communication and dissemination actions events (M18-M30)

Until the next regular communication and dissemination report (D12.3 third release) the project has to accelerate the targeted communication and dissemination on work package level.

Both communication and dissemination will increasingly trigger user/expert feedback and inform potential users and policymakers about the project’s output while the regular broad communication will continue to build momentum for the concept of ‘green airports’ to trickle down from policymakers to users and eventually to the perception of passengers.

The project will continue to create an expectancy of the TULIPS road maps (WP10) for which an assessment and revision are due in M20. Next to the Roadmaps WP Leads will have to define the key exploitable results and the key messages to be conveyed for their respective work packages. These KER and respective key messages will be the baseline of the targeted Communication and dissemination and will help to select the appropriate dissemination actions in the coming reporting period. The presentations, discussions and publications should then highlight the project KERs on the one side but must not lose the context of the project’s overall framework (concept of ‘green airports’ and the EU Green Deal Transition).

Selected Event/Action package = WP/Use-case/Demo specific content + general content

The WP/Use-case/Demo specific content must relate to the key exploitable results to successfully provide the ground for the exploitation phase starting in M 33. During the strategic phase of the project, the partners should also consider the policy impact of the work generated at WP level. Policy recommendations should be considered for different groups of target audiences (e.g. EU DG-MOVE, airport operators, local governments, IATA, ISO).

Another issue to tackle in the second phase will be the allocation and persuasion of standardisation opportunities related to the WP/UseCase/Demo-specific developments. Examples of the events planned for the coming reporting period can be found in Table 21 below.

Table 21 Planned communication and dissemination events until M30

Activity	WP allocation	Date, Place	Description
13th EASN International Conference	Project Progress. WP1-7 mainly those in which Turin Airport	5-8.09.2023 Salerno, Italy	Presentation of the recent achievements in one of the thematic sessions, of this internationally recognized European dissemination and exploitation event.
IATA World Sustainability Forum	WP1-7 TBC	03-04.10.2023 Madrid, Spain	Debate and discuss the key enablers for aviation’s successful decarbonization with the global community of sustainability experts.

8th Air Cargo Conference	WP1	6-7.09.2023 Frankfurt, DE	Present learnings about use of BEV at Schiphol and SNBV's ambition to have a fully electrified Cargo City by 2030. Position green and sustainable trucking as a lever to ' green airports '. Engage with operational experts for feedback.
Wings of Change Europe (WoCE)	WP6	14-15.11.2023 Amsterdam, NL	discuss, debate and agree on the future, opportunities of TULIPS for the aviation industry in the region with the key European and global aviation players.
European Hydrogen Week and Expo	WP4 Cluster cooperation	20-24.11.2023 Brussels, BE	Minimum participation in Webinars presenting the role of hydrogen-powered vehicles in ' green airports '. Possibly panel discussion or joined information booth with cluster members ('green airports' and ports).
Transport Research Arena TRA	General Project, Cluster Cooperation	15-18.04.2024 Dublin, IR	Positioning intentions to reshape transport and mobility towards ' green airports '. Get feedback from researchers, policymakers and industry representatives.
Project to policy Workshop	WP1/WP8	March/April Brussels, BE	Presentation of policy implication of electric trucking in the air cargo supply chain (CINEA DG-HOME)
Connecting Europe Days 2024,	WP1	02-05.04.2024 Brussels, BE	Presentation of paper on practical implementation for industry partners in transitioning to electric trucking in the air cargo supply chain.
Passenger Terminal Expo PTE 2024	WP 1/ WP2	16-18.04.2024 Frankfurt, DE	Aim to organize a panel discussion on ' green airports '. Position elements of new airport design (Energy/Waste/ Mobility) possibly innovation booth.
36th IATA Ground Handling Conference	WP4	07-09.05.2024 Reykjavik, ISL	Present the results from the first Demo wave of hydrogen GPU in the context of ' green airports '
32nd European Biomass Conference & Exhibition (EUBCE) 2024	WP2/WP5/ possibly WP6 in combination with WP3 (local biogas production) General Project	2024 Date Place TBA	Position TULIPS use-case for accelerating research and market uptake of SAF at airports across Europe exchange with other EU Projects. Get policy feedback from JRC (organisers of scientific programme)

It is also possible that the project will have Exclusive TULIPS Events in the frame of the first demonstration wave. This could include come and see Events or semi-open demonstrations including key stakeholder for targeted dissemination. Decision regarding these events will be made during the consortium Meeting in October 2023.

8 Conclusion and next steps

The TULIPS Project has successfully managed to implement the initial awareness phase of its Communication and Dissemination (C&D) strategy. The Project's online presence and communication means were established in time. The partners were enabled to use the C&D tools/channels either directly or indirectly to fulfil their C&D responsibilities. The Project build up a community of stakeholders (audience) at different levels. Social media followers were consistently build-up (>1000 followers). Experts were accumulated in the TEAB and the green airports and ports research cluster (EU Projects). Domain experts were engaged in a dialogue during relevant and reoccurring events including conferences and expos as well as workshops.

At the time of the report, the project has started to enter the second phase of the C&D strategy with the first achievements of stakeholder-oriented communication and dissemination. During the next 12 months, C&D activities will become more heterogenic to promote and accelerate the progress in the use cases/demos of WP1-7. There will be a stronger focus on end-user information and engagement within the larger context of '**green airports**' as a contribution to the EU Green Deal.

To ensure that the WP-focused C&D actions will have an impact, a link to the project's strategic objectives will be established. The C&D Team will use the monthly operational team meetings as well as the newly introduced bilateral meetings with the WPs leads to identify and monitor the key messages, key exploitable results and suitable C&D activities the monthly operational team meetings (OTMs) for WP12 as well as the newly introduced 2-3 monthly bilateral meetings with the demo WPs that contribute to the WP specific objectives. It will consistently overview the implementation of the planned activities using KPIs. The current version of the KPIS was sufficient to monitor the initial awareness phase. A more detailed alignment with the C&D objectives, however, will be necessary to effectively measure the progress towards achieving the objectives of the second and third phase of the project's D&G strategy. The alignment of the KPIs will be prepared by the D&G team and presented to the partners with the aim to be accepted by the consortium during the next consortium meeting in October 2023. The second phase of the D&G strategy will also include efforts to identify and promote policy and standardisation-related items within the project's work.

Throughout the upcoming year, the C&D Team will also continue to support the consortium the content management for the website and social media accounts. Another major revision of the website is planned for summer/autumn 2023. Links between interested TEAB members and individual WPs will be established, which aims to benefit WP and TEAB members alike. At the end of the next reporting period, the project would have established a user-centric C&D with stakeholder feedback generated at WP level. The concept of '**green airports**' in the EU would have gained additional recognition and the project would be reasonably prepared to enter the exploitation phase.

Appendix A: **LIST OF REFERENCES**

- European Commission, Executive Agency for Small and Medium-sized Enterprises, Haardt, J., Weiler, N., Scherer, J., et al., Making the most of your H2020 project : boosting the impact of your project through effective communication, dissemination and exploitation, Publications Office, 2019, <https://data.europa.eu/doi/10.2826/045684>
- European Commission, Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020; March 2017, https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf
- European Commission, Communication, Dissemination & Exploitation ; December 2020, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021_2027/horizon/other/events/20210609/1_intro2comm-diss-expl_en.pptx

Appendix B: THE TULIPS EXTERNAL ADVISORY BOARD

Table 22 TEAB members and their area of expertise

Organisation	Area of expertise
Airbus S.A.S.	Commercial aircraft manufacturer
Board of Airline Representatives in the Netherlands (BARIN)	Industry association for airlines
Boeing Research and Technology Europe (BR&TE)	Commercial aircraft manufacturer
Copenhagen Airports (CPH) – ALIGHT project	ALIGHT is working on solutions for the process and logistics of handling sustainable aviation fuels, and on smart energy solutions for other airport operations
Transport Ministry – Directory of Mobility	Connected Transport Systems and Intelligent Transport Systems, MaaS systems
Dutch Railways (NS)	Sustainable accessibility of the Netherlands
Neste Components B.V.	Renewable fuels and circular solutions. SAF producer
ACN	Air Cargo Netherlands, Association representing the logistics stakeholder at AMS
Municipality of Haarlemmermeer	Traffic management, circular and energy grid (Schiphol Airport is located in this municipality)
ENAC (CAA Italy)	tba
Roundtable of Sustainable Biomaterials (RSB)	Best practices and standards in sustainable biomass
Vervoer Regio Amsterdam (VRA)	tba
Eurocontrol	Data provision
Thalys	Strategies to promote modal shift
European Aviation Safety Agency (EASA)	Civil aviation safety: certification, regulation, standardisation, investigation, and monitoring
Airports Council International (ACI) Europe	Data provision and market analysis

TEAB member	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	WP9	WP10	WP11	WP12
Airbus SAS					★							
Board of Airline Representatives in the Netherlands (BARIN)												
Boeing Research and Technology Europe (BR&TE)					★							
Copenhagen Airports (CPH) – ALIGHT project					★	★						
Transport Ministry – Directory of Mobility												
Dutch Railways (NS)	★					★						
Neste Components B.V.												
ACN (Air Cargo Netherlands)	★											
Municipality of Haarlemmermeer	★											
ENAC (CAA Italy)			★	★			★				★	
Roundtable of Sustainable Biomaterials (RSB)					★	★						
Vervoer Regio Amsterdam (VRA)												
Eurocontrol												
Thalys												
European Aviation Safety Agency (EASA)		★			★							★
Airports Council International (ACI) Europe												

■ = More specific approach (suggestion by core team/WPs)

■ = General approach (broader scope) (suggestion by core team/WPs)

★ = Feedback TEAB members

○

Appendix C: TULIPS VISUAL IDENTITY & DISSEMINATION KIT



Figure 5 TULIPS logo








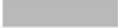
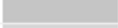
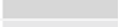
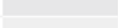





Colour Palette				
Basic Colours		Hex	RGB	CMYK
Claret		#4D0F34	(77, 15, 52)	(55, 100, 35, 60)
Grasgreen		#5D9345	(93, 147, 69)	(70, 25, 90, 0)
Springgreen		#95C23D	(149, 194, 61)	(50, 0, 90, 0)
Teal		#004650	(0, 70, 80)	(95, 50, 50, 45)
Firebrick		#931813	(147, 24, 19)	(25, 100, 100, 30)
Red		#E74011	(231, 64, 17)	(0, 85, 100, 0)
Grey Tones				
		#ababab	(171, 171, 171)	(36, 27, 27, 6)
		#bababa	(186, 186, 186)	(30, 22, 23, 4)
		#c5c5c5	(197, 197, 197)	(26, 19, 20, 2)
		#d7d7d7	(215, 215, 215)	(18, 13, 14, 0)
		#e8e8e8	(232, 232, 232)	(11, 7, 8, 0)
		#f0f0f0	(240, 240, 240)	(7, 5, 6, 0)
Gradient Colours				
Claret+Firebrick				
Grasgreen+Teal+Springgreen				
Grasgreen+Springgreen				
Firebrick+Red				

Figure 6 TULIPS colour palette (extended version)



The screenshot displays a Word document template for a TULIPS deliverable. The main content includes the TULIPS logo, the project title "Demonstrating lower polluting solutions for sustainable airports across Europe", and the specific deliverable title "WP12 Communication and Dissemination Plan". It lists the grant agreement number (101036996), start and end dates, and the submission date (30/09/2022). A table outlines the revision process with columns for revision type, organization/person, and date. The document also features an abstract, a disclosure statement, and a list of authors (Pflüger Kai Johannes and Nadine Mücklich). Comments from reviewers are visible in the right margin.

Figure 7 TULIPS Word deliverable/report template – an extract

The screenshot shows a PowerPoint presentation template with a green background. On the left, there are two text boxes: "Titel hinzufügen" (Add title) and "Formatvorlage des Untertitelmasters durch Klicken bearbeiten" (Click to edit the subtitle master format). On the right, there is a large graphic of a tulip flower with green leaves. At the bottom, there is a footer area containing the slide number "1", the European Union flag, the date "30.09.2020", and the TULIPS logo.

Figure 8 PowerPoint presentation template – an extract



Figure 9 TULIPS flyer – an extract



Figure 10 TULIPS rollups

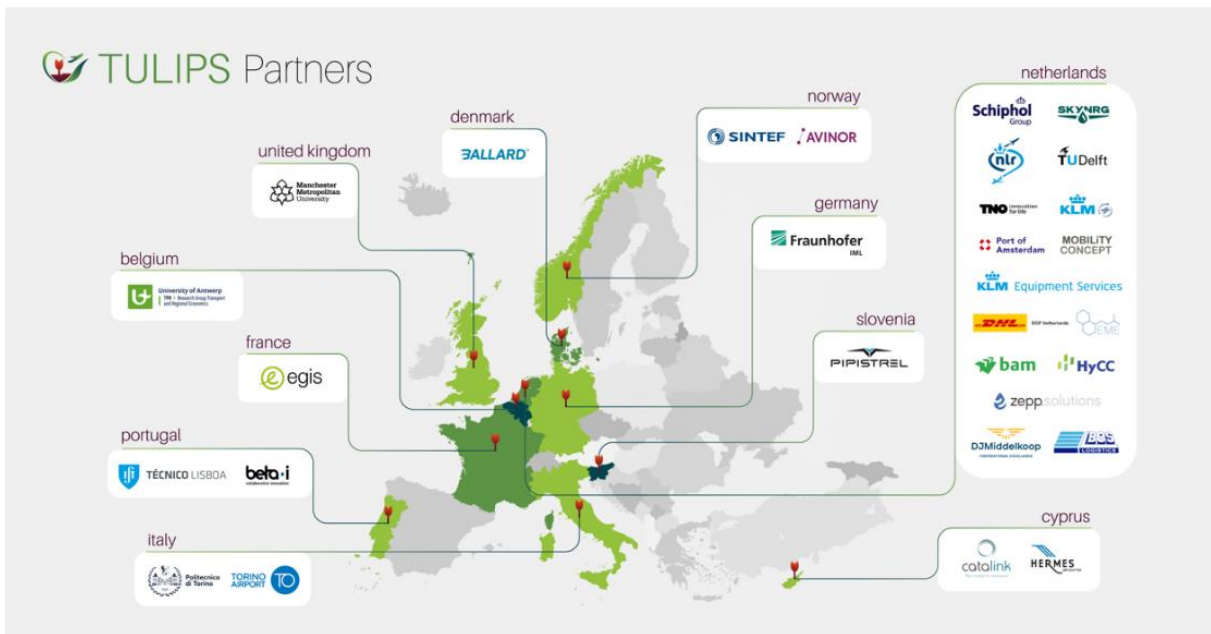


Figure 11 TULIPS partner map – updated version (V2)



Figure 12 TULIPS overall project graphic

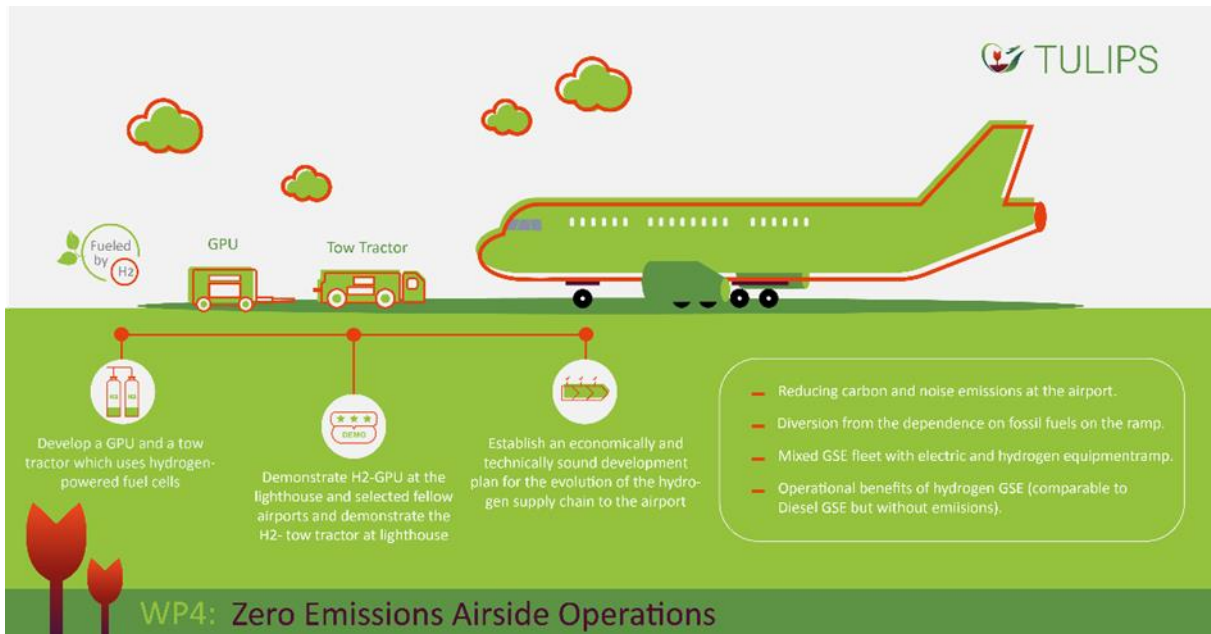


Figure 13 WP4 intro graphic



Figure 14 WP5 intro graphic



Figure 15 WP6 intro graphic



Figure 16 WP7 intro graphic

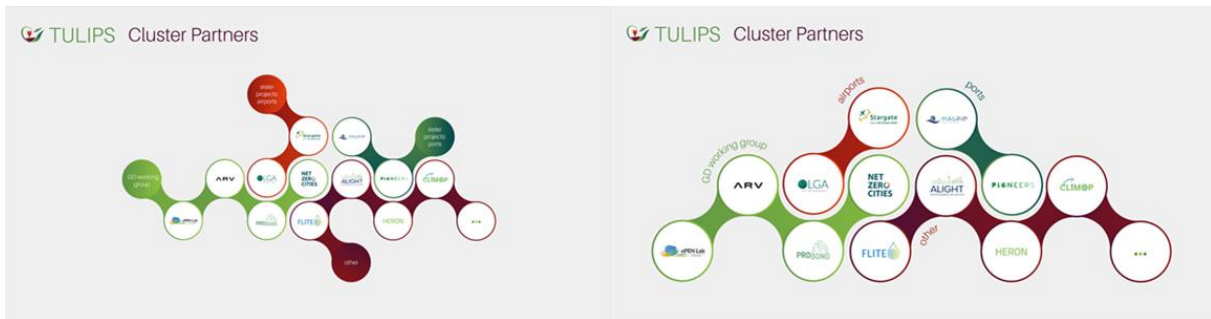

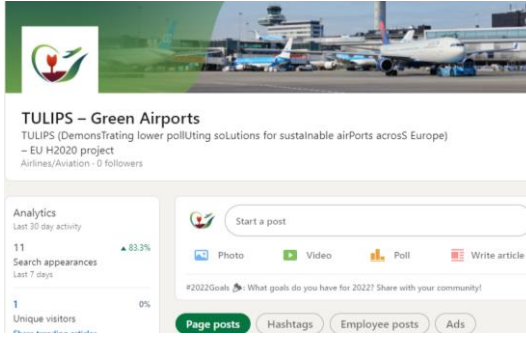




Figure 17 TULIPS cluster cloud – 1st draft



Figure 18 TULIPS icon collection – an extract

Appendix D: TULIPS ONLINE APPEARANCE

<p>TULIPS project website (https://tulips-greenairports.eu)</p>	
<p>TULIPS social media – LinkedIn profile (https://www.linkedin.com/company/80641755/)</p>	
<p>TULIPS social media – Twitter profile (https://twitter.com/tulips_eu)</p>	
<p>TULIPS LinkedIn post – 1000 Followers (https://shorturl.at/ahoHM)</p>	

LinkedIn

LinkedIn is a professional network with the possibility to reach the representatives of relevant segments of the industry, a scientific and academic audience and policy makers.

LinkedIn is being used to communicate the TULIPS project's objectives, progress and outcomes to a broad variety of target groups. The TULIPS communication on LinkedIn is based on short texts, links, videos, news, pictures and active interaction with followers and will be focused on progressive, innovative aspects of the deliverables, outputs and results generated by the TULIPS project and its synergies with relevant international strategies and initiatives. TULIPS' LinkedIn group aims to stimulate and support networking.

In January 2023 (M13), the TULIPS LinkedIn account has reached the number of 1,000 followers, a milestone which was supposed to only be achieved in M48 of the TULIPS project. As a result of this development, the new target for LinkedIn followers is now set to 2,000.

Twitter

Twitter is used by the TULIPS team for one-way and two-way communication, focusing on sharing information with the general public and target groups being present on Twitter. The objective is to increase awareness of the project, its objectives and results, to create an active communication network enabling interaction with the target groups and to increase public awareness of the project and its outputs. Via Twitter, TULIPS communicates in the form of short messages, links, pictures, videos and documents, and also interacts with other projects and institutions through following, liking and sharing. TULIPS Twitter account aims to stimulate and support networking.

As of end of May 2023, the TULIPS Twitter account counts around 185 followers.

Appendix E: TULIPS OPEN ACCESS POLICY

When Partners publish results they must deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications as soon as possible and at the latest on publication. They must ensure open access to the deposited publication – via the repository – at the latest on publication if an electronic version is available for free via the publisher, or within six months of publication. They shall ensure open access – via the repository – to the bibliographic metadata that identify the deposited publication including:

- The terms ‘European Union (EU)’ and ‘Horizon 2020’
- The name of the action, acronym and grant number
- The publication date
- Length of embargo period if applicable
- A persistent identifier

The access and use of project publications (training materials, practical guidelines) will be free of charge and fully open. The TULIPS consortium applies the H2020 policy on open access to all scientific publications and research data in Horizon 2020 (European Commission, 2017). TULIPS will optimise dissemination and impact along the full knowledge production chain and integrate Open Science principles in its strategy. Project publications are expected primarily to follow ‘green model’ open access, e.g. the publication is made available in a repository located in project website, possibly after a reasonable embargo period. Within this project two open access routes can be specified, the gold and green open access route as shown in figure 21 below.

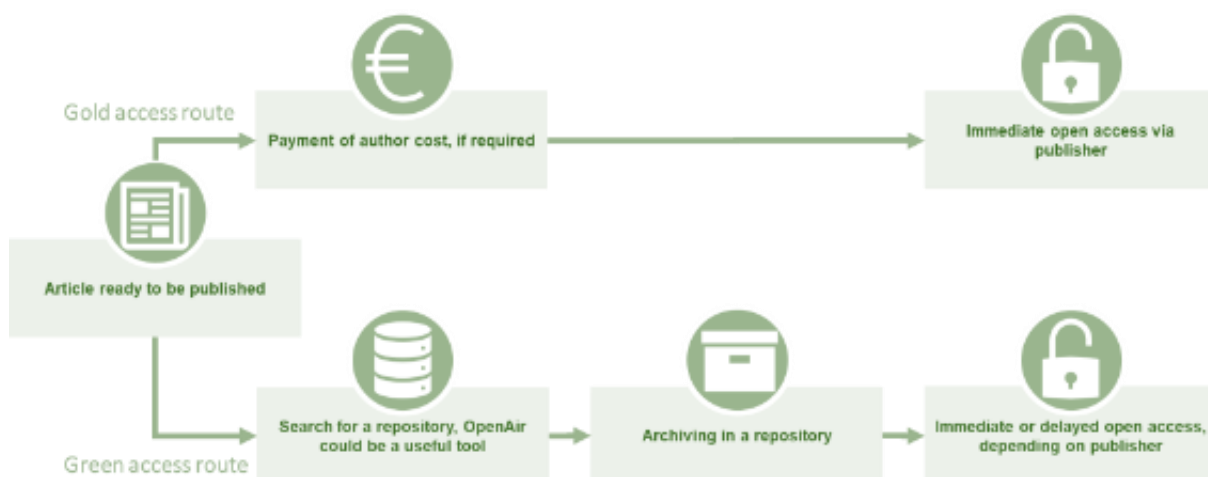


Figure 21 Open access routes for publication



The green open access route is the preferred route. This route means that the published article or the final peer-reviewed manuscript is archived by the researcher or a representative in a repository. OPEN AIRE is recommended as a tool to use as a point of departure, to find the repositories that suits the needs for the publication. Important is that the repositories rules do not conflict with an open access.

The gold open access route is the alternative route. Publishing via this route means that when the article is published, an open access is immediately provided via open access journals/platforms or in 'hybrid' journals combining subscription access and open access to individual articles. To provide this open access, for some publishers cost for readers subscription will be shifted to a payment to the author. Such costs are eligible, if all other eligibility conditions are fulfilled and incurred before the end of the action.

Appendix F: GENERAL PROVISIONS

All the results that are disseminated, in any form, must include the EU emblem and reference to the EU funding as displayed below:

- The EU emblem



Figure 22 The EU emblem/flag

'This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101036996'.

For infrastructure, equipment, and major results:

'This [infrastructure] [equipment] [insert type of result] is part of a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101036996'.

In exceptional cases (e.g. social media postings), a short funding reference as described in the official EU guideline 'The use of the EU emblem in the context of EU programmes 2021-2027' (March, 2021) is also sufficient, provided that the requirements described there are met. The vertical and horizontal version of this combination are shown in figure 6.



Figure 23 The EU emblem/flag and the short funding reference in vertical and horizontal alignment

Appendix G: TULIPS OBJECTIVES

The **overarching objective** of the TULIPS Project is to accelerate emission reduction and efficient resource use at airports by:

1. Showcasing innovative technologies and concepts. These technologies and concepts once fully deployed will significantly contribute to reducing GHG emissions and increasing the quality of life for EU citizens.
2. Measuring and quantifying the benefits obtained at the lighthouse and fellow airports and forecast their impact on EU climate goals were they to be implemented extensively across European airports.
3. Developing robust roadmaps which present how these technologies and concepts should be deployed to different sized airports (international hubs down to regional level) considering economic, geographical, and political scenarios across Europe and beyond.

TULIPS has defined the following **specific objectives**:

- Obj#1 – Use federated IT platforms and data to improve multi-modal travel for passengers and freight to reduce traffic congestion and offer seamless green travel options
- Obj#2 – Improve airside electrical infrastructure for future electric and hydrogen powered aircraft operations
- Obj#3 – Use smart energy solutions to manage airport landside and airside operations
- Obj#4 – Integrate Hydrogen fuel cell technology into current diesel-electric ground support equipment to enable zero emissions operation of essential ground operations
- Obj#5 – Increase large scale supply of SAF fuel and promote passenger awareness of SAF and its benefits
- Obj#6 – Prepare an EU based clearing house to facilitate ASTM fuel certification
- Obj#7 – Further promote the use of circular economy within the airport environment
- Obj#8 – Develop a standardised approach for measuring UFP and determine best approach to lower UFP emissions
- Obj#9 – Optimise land carbon sequestration



Appendix H: MEANS TO ACHIEVE THE TULIPS COMMUNICATION/DISSEMINATION KPI

Category	What	Means to achieve expected impact
Social media	Postings	Interesting input and ideas will be collected from all WPs/partners. FHG will create graphics and will share the posts. Consider campaigns
	Gaining followers, impressions, likes, shares	Consortium partners and related projects and initiatives share/like/comment posts
Project website	Content creation	On demand website meetings with consortium partners on the development/ advancement of the website. Ideas and input will be collected (e.g. on events, publications, etc.)
	Gaining visits	Share website information also on social media and promote website on events, SEO to make the website easier to find.
Project newsletter	Content creation	Orange Tribes will create the project newsletter design. SNBV and FHG are responsible for content creation and implementation. Specific input and feedback will be collected from the consortium partners
	Gaining subscriptions	Share the newsletter on social media/events and across relevant target groups (e.g. established GDPSO community, TEAB etc.)
Publications	Scientific publications (peer-reviewed)	Content creation dependent on the topic and main WP involved, support offered by FHG
	Non-scientific publications (e.g. press release)	All partners will provide input and feedback regarding the work in their WP, coordination by FHG
Events	Participation to external events (e.g. workshops, conferences)	Each partner will share relevant events with the consortium and will participate/contribute when possible
	Self-organised (e.g. meetings with target groups, workshops, webinars, roundtables)	Meetings with target groups/stakeholders will be organised in coordination with the consortium partners
	Internal meetings, events, workshops	Planned by the coordinator or the respective WP lead. WP leads meetings are monthly
Other	Communication/ Dissemination material (e.g. printed materials, infographics, videos, online material)	FHG as the communication/dissemination leader develops material (e.g. poster, leaflet, fact sheet, partner map, etc.) with the input provided by the consortium. Partners will review and approve the material before publication



Appendix I: CATEGORIES OF C&D ACTIVITIES FOR PLANNING AND MONITORING

Physical Meetings: Events, Presentations, Workshops, Seminars, Fairs, Exhibitions, Conferences						
Project Partner	Type of Meeting	Topic & Short Description	Place and Time	Target Group	WP	Est. Reach
TORINO AIRPORT	Event	'Towards energy autonomy' organised by Regione Piemonte	Turin, 03/10/2022	European players	3	
Online Meetings: Events, Presentations, Workshops, Seminars, Fairs, Exhibitions, Conferences						
Project Partner	Type of Meeting	Topic & Short Description	Place and Time	Target Group	WP	Est. Reach
SINTEF	Public Webinar	About TULIPS	Internet, August 22	Open	G	20
Scientific Publications: Articles in Journals, Magazines, Specialised Press						
Project Partner	Name of Medium	Topic & Short Description	Place and Time	Target Group	WP	Est. Reach
General Publications: Press Releases, News Articles in General Press, Blogs, Posters, Leaflets, Flyers, Posters						
Project Partner	Type of Publication	Topic & Short Description	Place and Time	Target Group	WP	Est. Reach
SINTEF	Press release	Press release to introduce the project (Norwegian and English)	28/09/2021	Industry, academia, clients,	G	685
Social Media Posts: LinkedIn, Twitter, YouTube, Instagram, Facebook						
Project Partner	Type of Post	Topic & Short Description	Place and Time	Target Group	WP	Est. Reach
ZEPP	LinkedIn	Announcement of HGPU project in ULIPS	21/11/2021		2	3000
Other:						
Project Partner	Type	Topic & Short Description	Place and Time	Target Group	WP	Est. Reach
SINTEF	Podcast episode	Episode on green aviation in SINTEF's podcast "Smart forklart"	09/12/2021	Society at large	G,3	7288



Appendix J: OVERVIEW: TULIPS DEMONSTRATIONS WAVE STRUCTURE AND MILESTONES

# Demo	Demo type	Task	GA Description	Wave 1 (M16-M21)	Wave 2 (M31-M36)	Wave 3 (M43-M48)
WP1: Sustainable inter-modal transport connections						
1	Effective	T1.3	Logistic solutions: green and connected trucking (M3-M39)	initial demo	final demonstration	N/A
2	Effective	T1.4	Enabling travellers modal shift with support from MaaS solutions (M3-M48)	N/A	initial demo	final demonstration
3	Effective	T1.5	Road traffic and transport Systems (M1-M48)	N/A	initial demo	final demonstration
4	Prospective	T1.6	International green travel (M3-M48)	initial demo	intermediate demo	final demonstration
WP2: Energy supply future aircraft						
5	Effective	T2.2	Unattended Charging demo development (M12-M24)	disseminate designs and report D2.1	demo (M20-M24)	assessments
6	Effective	T2.3	Modular charging system demo development (M12-M30)		demo (M20-M24)	assessments
7	Effective	T2.4	Airport-facilitated hydrogen flight demo development (M10-M24)		demo (M24)	assessments
WP3: Smart airport energy hub						
8	Effective	T3.3	Airside electricity 'traffic' demonstration (M10-M44)	initial demo	demo	assessments
9	Effective	T3.4	Heat supply facilities demonstration (M10-M44)		currently unclear	assessments
WP4: Zero emission airside operations						
10	Effective	T4.3.1	Hydrogen GPU demonstration	Approval days + training M21-23, Test at KES Workshop + Demo at Schiphol M23-24	Training & Demo at fellow Airport (SAGAT, HERMES, not yet clear where first)	Demo at fellow Airport (SAGAT, HERMES, not yet clear where first)
11	Effective	T4.3.2	Hydrogen tow tractor demonstration	N/A	Training at Ballard M31-M33, Demo at Schiphol Airport M33-36	Demo at Schiphol + assessments if feasible
WP5: Scaling up the SAF market						
12	Effective	T5.2	Executing large-scale SAF supply chain (M37-M48)	disseminate report D5.1	Currently unclear - to be discussed with partners	Currently unclear - to be discussed with partners
13	Prospective	T5.5	Incentivizing SAF as an airport (M1-M48)	"1. First test survey performed on ~100 people 2. Potentially: SAF awareness campaign at Schiphol Airport"	1. Passenger awareness campaign at Oslo Airport 2. Passenger survey at Oslo/SPL Airport (~900 people) 3. Second airport workshop - open for all interested airports*	Final report on options to incentivize SAF as an airport and results from the campaign and surveys
WP6: Circular airports						
14	Effective	T6.2	Design waste out of terminal environment through passenger behaviour (M10-M48)	disseminate report D6.1: baselines and federative data ecosystem (MS1)	Initial demo	t.b.d.
15	Prospective	T6.3	Re-use secondary materials through the application of circular building principles (M13-M48)	first iterations (M18-M20)	Initial dissemination	t.b.d.
WP7: Green air & land						
16	Prospective	T7.1	Airside UFP Mitigation (M1-M48)	disseminate first UFP-tests	living lab SPL?	final demos and assessments
17	Prospective	T7.2	Airport Land Carbon Sequestration (M1-M48)	designs and set-up demo	initial iterations and disseminations	final demos and assessments

Milestone 4 (M16). Wave 1 assessment ready to start. (WP1-7, WP8)

Milestone 5 (M21). Wave 1 results assessed. (WP1-7, WP8, WP9, WP10)

Milestone 7 (M28). Wave 2 assessment ready to start. (WP1-7)

Milestone 8 (M36). Wave 2 results assessed. (WP1-7, WP8, WP9, WP10)

Milestone 10 (M41). Wave 3 assessment ready to start. (WP1-7)

Milestone 11 (M44). Wave 3 results assessed. (WP1-7, WP8, WP9, WP10)