

# SIGN-AIR's Data Management Plan – Intermediate

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## Abstract

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This Deliverable is D1.4 - "Data Management Plan - Intermediate". The Data Management Plan (DMP) is a living document - of which this document is the second version - (3 official versions must be submitted during the duration of the project: D1.1, D1.4 and D1.6) that describes the data management life cycle for all datasets (containing personal data and/or non-personal data) to be collected, processed, or generated by the SIGN-AIR research project. Such information includes, but is not limited to, scientific publications and deliverables issued by the project's consortium members, data Transport Service Providers' datasets (for example, public transport timetables), data originating from travel companions, anonymous user statistics, etc. The DMP covers the handling of research data during & after the project; what data will be collected, processed, or generated; what methodology & standards will be applied; whether data will be shared/made open access & how; how data will be curated & preserved. The overall aim is to comply with the FAIR principles, to take care of intellectual property rights (IPR) issues but also to deal with Responsible Research Innovation (RRI) considerations as well as with data protection and ethical issues.

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00.00.004	25/01/2025	Fourth Draft	FD	Incorporation of updates
00.01.00	04/02/2025	Release of initial version of DMP	UPC	New document for review by the S3JU

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# SIGN-AIR

[IMPLEMENTED SYNERGIES, DATA SHARING CONTRACTS AND GOALS BETWEEN TRANSPORT MODES AND AIR TRANSPORTATION]

# SIGN-AIR

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Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or SESAR 3. Neither the European Union nor the granting authority can be held responsible for them.

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## List of acronyms

**Table 1: list of acronyms**

Acronym	Description
DMP	Data management Plan
DPO	Data Protection Officer
FAIR	Findable, accessible, interoperable, and re-usable
GDPR	General Data Protection regulation
TC	Travel Companion
TSP	Transport Service Provider

# 1 Introduction

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## 1.1 General description of SIGN-AIR

SIGN-AIR develops and will demonstrate/test a new platform for an orchestrated sharing of data in multimodal traveling. The platform will provide the means for Transport Service Providers (TSPs) to register, reach Data Sharing Agreements (DSA) and Smart Contracts (SC) with other TSPs and manage their contractual relationships. The SIGN-AIR web platform will enable TSP from different modes to create, modify, terminate, and monitor signed contracts, including both DSAs and SCs. While the SIGN-AIR platform will generally only manage the contractual aspects through the types of data offered by the TSPs, the TSPs will continue managing their own data and that of their customers.

A DSA is an electronic contract that specifies the terms and conditions for data sharing, defining the datasets that the Data Provider TSP makes available to the Data Consumer TSP and outlining their usage terms. Complementing the DSA, the SC integrates both legal and technological components, detailing the objectives of one or more DSAs by defining specific triggers, actions, and terms related to revenue sharing and responsibility sharing. To achieve the generation and monitoring of DSAs and SCs with specific multimodal data-sharing goals, the core service of the SIGN-AIR platform is data orchestrator.

The whole concept will be moved from TRL2, reached by the mother project SYN-AIR, to TRL 7<sup>1</sup>. This will be done with an intensive evolution of the software and a continuous evaluation and piloting of the software with different important stakeholders that are present in the consortium.

## 1.2 Purpose of the document

Modern research builds on extensive scientific dialogue and advances by improving earlier work. Broader access to scientific publications and data therefore helps to:

- build on previous research results (improved quality of results)
- encourage collaboration and avoid duplication of effort (greater efficiency)
- speed up innovation (faster progress to market means faster growth)
- involve citizens and society (improved transparency of the scientific process).

This is the reason the EU wants to improve access to scientific information and to boost the benefits of public investment in research.

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<sup>1</sup> It has to be noted that in the event of any data-reuse from the SYN+AIR project in the SIGN-AIR project, this will be clearly mentioned in the respective description tables which will be included in Annex I, II and III of (the future versions) of this Deliverable.

By consequence, in the SIGN-AIR project, research data must comply with the FAIR principles<sup>2</sup>: research data must be findable, accessible, interoperable, and reusable. In this context, every action pertaining to data (from collection, generation and processing to distribution, storage, and preservation) is examined and determined in this Data Management Plan (DMP).

As part of making research data findable, accessible, interoperable, and re-usable (FAIR), this DMP includes information on:

- the handling of research data during and after the end of the project,
- what data will be collected, processed and/or generated,
- which methodology and standards will be applied,
- whether data will be shared/made open access and
- how data will be curated and preserved (including after the end of the project).

In addition, this DMP ensures that contribution to these open research and innovation objectives complies with applicable requirements protecting personal or sensitive information such as the EU General Data Protection Regulation (GDPR)<sup>3</sup>.

It is important to note that this Deliverable is a living document. Therefore, it will be regularly updated within the project's lifecycle, whenever significant changes arise (e.g., new data, changes in consortium policies or composition, etc.), and at least on M35 (D1.6 - Data Management Plan (DMP) – Final).

### 1.3 Structure of the document

The structure of this document is as follows:

- Section 1 contains a general description of the SIGN-AIR project, describes the purpose of the document, and provides for its structure.
- Section 2 identifies the categories of SIGN-AIR research outcomes, recalls the expected open access regime expected for each category of research outcomes, identifies the different target communities that might be interested in the re-use of our data and, finally, describes the SIGN-AIR's data archiving and preserving infrastructure.

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<sup>2</sup> These FAIR principles are being defined in the European Commission's Guidelines on FAIR Data Management in Horizon 2020, available at

[https://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-data-mgt\\_en.pdf](https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf)

<sup>3</sup> Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).



- Section 3 defines the data management process for public deliverables, research datasets and peer-reviewed scientific publications in order to comply with FAIR principles.
- Section 4 contains general information concerning the compliance of SIGN-AIR with FAIR principles.
- Section 5 briefly describes how the SIGN-AIR consortium envisages the compliance of other research outputs with FAIR principles. This section will be detailed in further versions of the DMP.
- Section 6 briefly describes the allocation of resources for data management and compliance with FAIR principles.
- Section 7 clarifies the provisions which are in place for the security of the data that is being processed by the beneficiaries for achieving the purposes of the SIGN-AIR project (emails, documents, reports, datasets, answers to questionnaires, records of workshops, etc).
- Section 8 deals with ethical requirements. In particular, it contains a procedure that beneficiaries must comply with before conducting any activity involving human beings (interviews, questionnaires, workshops, focus groups, pilot trials, demonstrations, etc.)
- Section 9 deals with other issues. In particular, it details which measures have been taken to allow the transfer of data between the EU and beneficiaries established in non-EU countries (Switzerland and Republic of Serbia).
- Section 10 provides for a general conclusion.
- Annex I contains the public deliverables description tables.
- Annex II contains the research data description tables.
- Annex III contains the scientific publications description tables.
- Annex IV contains the detailed data protection policies of beneficiaries having not appointed a Data Protection Officer.
- Annex V contains the signed letters of the partners which have no internal ethical committee to assess activities involving human beings.
- Annex VI contains the general statement of UB-FTTE related to international transfers of data between the EU and the Republic of Serbia.
- Annex VII contains the conditions signed by Sparsity for the use of the web application “API portal” of Bologna Guglielmo Marconi Airport

## 2 Data summary

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The role of this DMP is to define a framework concerning the handling of research data generated or acquired as the SIGN-AIR project progresses, but also after the end of it. Subjects for investigation are: the nature of the data in question, which data will be collected and to whom they will be useful, the use of metadata to render data easily retrievable, standardisation, whether and which data will be open-access, how they will be stored and preserved, etc.

### 2.1 SIGN-AIR's research outcomes and open access regime

A first reasonable step of a DMP is to identify the categories of research outcomes which are expected to be generated or acquired during the SIGN-AIR project as well as their expected open access regime.

The table below identifies and categorizes the research outcomes which are expected while conducting the SIGN-AIR project. However, changes and/or detailed updates might be included in the next version of this DMP (D1.6).

The categories of SIGN-AIR's research outcomes are defined as follows:

- **Deliverables** are project outputs that must be presented to the SESAR Joint Undertaking within the timeline set in the Grant Agreement. As for their access, in SIGN-AIR, deliverables may be distinguished depending on their dissemination level: Public (PU) or Sensitive, only for members of the consortium, including the Commission Services (SEN).
- **Research data** refers to information, in particular facts or numbers, collected to be examined and considered as a basis for reasoning, discussion, or calculation. In a research context, examples of data include statistics, results of experiments, measurements, observations resulting from fieldwork, survey results, interview recordings and images. Such data might also include datasets that TSPs share with the consortium (such as timetables, datasets related to disruption management, etc.). The focus is on research data that is available in digital form. Research data must be made openly accessible so that it can be accessed, mined, exploited, reproduced, and disseminated free of charge. However, not all research data can be open, mainly for the following reasons:
  - obligation to protect results that can reasonably be expected to be commercially or industrially exploited,
  - need for confidentiality in connection with security issues,
  - rules on protecting personal data,
  - rules on intellectual property.
- The dominant type of **scientific publication** is the journal article. Grant's beneficiaries are also strongly encouraged to provide open access to other types of scientific publications including monographs, books, conference proceedings, grey literature (informally published written material not controlled by scientific publishers, e.g., reports). In SIGN-AIR, each beneficiary must ensure open access to all peer-reviewed scientific publications relating to its results. To meet this requirement, beneficiaries must, at the very least, ensure that any scientific peer-reviewed publications can be read online, downloaded, and printed (free of charge, online

access to any user). Beneficiaries are also encouraged to provide for further rights that could make them even more useful (e.g., right to copy, distribute, search, link, crawl, and mine). Peer-reviewed publications are those assessed by other scholars. Peer review is typically, though not exclusively, organised by the journal or publisher to which an article or manuscript is submitted. The open access to publications mandate comprises 2 steps<sup>4</sup>:

1. Depositing publications in repositories (online archive)
2. Selecting the open access route (green or gold open access)

## 2.2 Data utility

In the context of research, data utility can be measured in terms of knowledge re-use by different target communities.

It is expected that the target audiences for the SIGN-AIR output data utility will be:

1. General public.
2. Undergraduate and graduate students.
3. Research and scientific community.
4. Stakeholders such as TSPs, traveller associations, etc.
5. Institutions in the field of transport (national and European).

Other categories of target audiences might be identified depending on the considered data output. In each description table (see templates contains in section 3), the responsible partner must detail to whom and how the output will be useful.

## 2.3 Data archiving and preserving infrastructure

A second step of a DMP is to identify and describe the platforms and repositories chosen for the SIGN-AIR data storage and dissemination. Note that all research outcomes identified in Section 2.1 will not automatically be published on the project website nor on other “public” data or document repositories. Indeed, this decision must be taken by the responsible partner after having followed the data management process described in section 3 and after having filled the template included in section 3.2.

### 2.3.1 Project Depository (Gdrive)

SIGN-AIR project depository is Gdrive ([private space](#)) and all the partners are granted access to its folders.

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<sup>4</sup> These steps are explained more in detail in section 2.3.3.

According to Google's Terms and Conditions<sup>5</sup>, in the European Economic Area (EEA) and Switzerland, Google's services are provided by Google Ireland Limited, a company incorporated in Ireland. Therefore, as regards GDPR compliance, Google Ireland Limited is the data controller for users of Google services based in the European Economic Area or Switzerland at Gordon House, Barrow Street, Dublin 4, Ireland<sup>6</sup>. However, as Google has servers all over the world, it is therefore possible that information may be processed by servers located outside of the European Union<sup>7</sup>, and potentially in the United-States of America. This being recalled, it is important to note that Google complies with the EU-U.S. and Swiss-U.S. Data Privacy Frameworks (DPF) and the UK Extension to the EU-U.S. DPF as set forth by the US Department of Commerce regarding the collection, use and retention of personal information from the EEA, Switzerland and the UK, respectively. Google LLC (and its wholly-owned US subsidiaries unless explicitly excluded) has certified that it adheres to the DPF Principles<sup>8</sup>.

As an additional safeguard regarding privacy, we made use of the available options to store our data in the geographic location of Europe<sup>9</sup>.

Project's partners use this Gdrive in order to avoid sharing large documents via email and enhance the collaboration among task's participants, however if partners prefer their own workspace tools such as One Drive etc they can use them and make sure that final documents such as deliverables are uploaded to the project's depository. Additionally, all material relevant to the meetings such as agenda, presentation and minutes need to be uploaded to Gdrive at least after the meeting. Credentials are needed to access any of the Gdrive material, as the private space usage is restricted only to the SIGN-AIR consortium and to SESAR (if access is requested).

### 2.3.2 Project Website

The SIGN-AIR website (under development) will be considered as the main online public information point of the project and can be found under this web address: <https://www.sign-air.eu/>. The website will hold some static text information, such as an overview of the project, its structure, and its objectives; it will also offer some dynamic textual data such as the communication of news and events.

It is expected that the website will also contain a dedicated section (Deliverables) outlining the proposed work plan and containing all public deliverables using the portable document format (PDF). Feedback from the SESAR JU's reviewers will be taken into consideration and public deliverables will be amended accordingly and officially submitted on STELLAR and SyGMA, before further dissemination via the SIGN-AIR website.

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<sup>5</sup> <https://policies.google.com/terms>

<sup>6</sup> <https://policies.google.com/privacy?hl=en-US?hl%3Den-US#europeanrequirements>

<sup>7</sup> <https://policies.google.com/privacy?hl=en-US?hl=en-US#infosharing>

<sup>8</sup> <https://policies.google.com/privacy/frameworks?hl=en-US>

<sup>9</sup> <https://support.google.com/a/answer/7630496?hl=en>

All public information on the SIGN-AIR website will be available with no restrictions and will be accessible by any visitor with no need to create an account. This information and all webpage-related data will be backed on a regular basis. It is expected that this website will be maintained until 6 months after project' end. Once the website will shut down, the public deliverables will still be available on CORDIS/Horizon Europe related portals.

### 2.3.3 Cordis

The submitted deliverables of the SIGN-AIR project having been approved by SESAR JU are also made available on CORDIS at the following web address:

<https://cordis.europa.eu/project/id/101114845/results>

### 2.3.4 Other “public” data and document repositories

Scientific publications using the funds of SESAR JU are expected to be published through peer-review international academic journals and in selected Open Access Journals (preferably provide a green/gold open access) and open access publishing platform for scientific articles such as:

- **Zenodo** is a general-purpose open-access repository developed under the European OpenAIRE program and operated by CERN. It allows researchers to deposit research papers, data sets, research software, reports, and any other research related digital artifacts. For each submission, a persistent digital object identifier (DOI) is minted, which makes the stored items easily citeable.
- **Open Research Europe (ORE)**: Open Research Europe is an open access publishing platform for the publication of research stemming from Horizon 2020 funding across all subject areas. The platform makes it easy for European project beneficiaries to comply with the open access terms of their funding and offers researchers a publishing venue to share their results and insights rapidly and facilitate open, constructive research discussion.

In principle, underlying data (research data) must also be made available on public repositories, subject to the limitations determined in section 3.2.

## 3 Data management

The third step of this DMP consists into describing the SIGN-AIR's Data Management Process which is a procedure aiming to help beneficiaries to decide whether and how to make research outcomes openly accessible.

This section explains more in detail how each category of research outcomes identified in Section 2.1 must be dealt with by the beneficiaries of the SIGN-AIR project.

### 3.1 Deliverables

The SIGN-AIR's deliverables which, according to the Grant Agreement, have a public dissemination level are expected to be published on a dedicated section (Deliverables) of the SIGN-AIR's website (<https://www.sign-air.eu/>) using the portable document format (PDF). It is expected that this website will be maintained until 6 months after the project' end.

Once the website will shut down, the public deliverables will still be available on CORDIS/Horizon Europe related portals.

The following table enumerates the public deliverables of the SIGN-AIR project.

**Table 2 - SIGN-AIR public deliverables**

#	Title	Type	Lead	Diss. level	Del. date
D1.2	Data Management Plan (DMP) - Initial	R — Document, report	FD	PU	M4
D1.4	Data Management Plan (DMP) - Intermediate	R — Document, report	FD	PU	M19
D1.5	Contextual Note (CN)	R — Document, report	SPARSITY	PU	M33
D1.6	Data Management Plan (DMP) - Final	R — Document, report	FD	PU	M35

D2.1	Communication Dissemination and Exploitation (CDE) Plan - Initial	R — Docume nt, report	CARNET	PU	M3
D2.2	Standardisation (STAND) - Initial	R — Docume nt, report	AETHON	PU	M3
D2.3	Regulation (REG) - Initial	R — Docume nt, report	UB-FTTE	PU	M3
D2.4	Communication Dissemination and Exploitation (CDE) Plan - Intermediate	R — Docume nt, report	CARNET	PU	M19
D2.5	Standardisation (STAND) - Intermediate	R — Docume nt, report	AETHON	PU	M19
D2.6	Regulation (REG) - Intermediate	R — Docume nt, report	UB-FTTE	PU	M19
D2.7	Technical Validation plan (TVALP)	R — Docume nt, report	SPARSITY	PU	M19
D2.9	Technical Validation Report (TVALR)	R — Docume nt, report	ENAC	PU	M30
D2.10	Technical specifications/interface requirements (TS/IRS)	R — Docume nt, report	SPARSITY	PU	M31
D2.11	Cost-benefit analysis (CBAT)	R — Docume	CARNET	PU	M32

		nt, report			
D2.12	Standardisation STAND - Final	R — Docume nt, report	AETHON	PU	M32
D2.13	Regulation (REG) - Final	R — Docume nt, report	UB-FTTE	PU	M32
D2.15	SIGN-AIR platform - short version	R — Docume nt, report	SPARSITY	PU	M32
D2.16	SIGN-AIR added value services – Journey services	R — Docume nt, report	SPARSITY	PU	M32
D2.17	SIGN-AIR added value services – Analytics Services	R — Docume nt, report	AETHON	PU	M32
D2.18	SIGN-AIR added value services - Optimization algorithms for Operations	R — Docume nt, report	ENAC	PU	M32
D2.19	Conclusions of Pilots and policy making recommendations	R — Docume nt, report	FD	PU	M32
D2.20	Communication Dissemination and Exploitation (CDE) Plan - Final	R — Docume nt, report	CARNET	PU	M35
D2.21	Standardization and harmonization of SIGNAIR technical solution	R — Docume nt, report	AETHON	PU	M14



Before publishing these deliverables on the SIGN-AIR website, the responsible beneficiaries will pay attention to the following:

- Comply with privacy requirements. In particular, the responsible beneficiary will anonymize personal data before publication unless express consent for publication has been given by the data subject(s) and provided all other legal requirements are met.
- Obtain and take into account feedback of the SESAR JU's reviewers. Accordingly amended deliverables will be submitted on STELLAR and SyGMA before further dissemination via the SIGN-AIR website. The Deliverables must have been approved before publication.
- Complete the Public Deliverable Description Template included hereunder. In line with the FAIR data principles, the aim of this template is to gather the required details for all the public deliverables. Management of all public deliverables will be implemented using this table.

**Table 3 - Public Deliverable Description Template**

<b>1. Public Deliverable Summary</b>	
Purpose	<i>The purpose of the specific deliverable</i>
Relation to the objectives of the project	<i>Relation of the specific deliverable to the project objectives</i>
Types/Formats	<i>All public deliverables are (or are accompanied by) reports in the cross-platform portable document format (PDF)</i>
Re-use of any existing data	<i>Source of re-used datasets, IPR issues etc.</i>
Origin	<i>How the included data was generated (or mention source, if collected)</i>
Size	<i>Size of the public deliverable</i>
Utility for others	<i>To whom and how the deliverable will be useful.</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<i>Metadata is added manually and includes name, author, all involved consortium partner organisations, relevant keywords</i>
Metadata standards	<i>No specific metadata standard used</i>

Unique identifier	<i>The public deliverables are assigned URLs by upload on the official SIGN-AIR website</i>
Naming conventions	<ul style="list-style-type: none"> <li>• <i>Naming convention used: SIGN-AIR_D.No_version_STATUS.extension</i></li> <li>• <i>D_No is the deliverable number, as defined in the GA (e.g., D1.1), Version is the edition number (e.g., 00.02.00 is the second issue version approved for submission), Status is document major and minor version numbers and Extension is the filename extension (e.g., PDF).</i></li> </ul>
Search keywords	<i>Metadata keywords serve as search keywords.</i>
Version control	<i>All changes are reported in the document history section.</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Confidentiality level: PU (public)</i>
Sharing and access regimes	<p><i>Before submission: available only to consortium partners through the SIGN-AIR project repository (GDrive)</i></p> <p><i>After submission: publicly available through the official SIGN-AIR website</i></p>
Needed method/software	<i>No special software needed for the PDF format</i>
Repository	<i>SIGN-AIR project repository (GDrive) and SIGN-AIR official website</i>
Access authorisation	<p><i>Before submission: accessible only by authorised consortium partners</i></p> <p><i>After submission: upload on the website, no authorisation needed</i></p>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>Complete if applicable.</i>
Mapping to common ontologies	<i>Complete if applicable.</i>
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>Complete if applicable.</i>
Re-use availability schedule	<i>After submission: immediately granted free open Access for mining, exploiting, processing and disseminating.</i>

Re-use by third parties	<i>After submission: Accessible and re-usable by third-parties. No access and time limitations apply.</i>
Quality assurance	<i>Internal quality audit control by minimum one assigned reviewer (consortium partner).</i>
Availability period	<i>No time limitation scheduled after the end of the project.</i>

This template will be completed individually for each and every public deliverable generated in the project after its approval by SESAR 3, in order for them to be described in detail. At the time of submission of this document (M21), the following public deliverables have been submitted and approved by SESAR 3 :

- D1.2 – “Data Management plan (DMP) – Initial”,
- D2.1 – “Communication Dissemination and Exploitation (CDE) Plan – Initial”,
- D2.2 – “Standardisation (STAND) – Initial”,
- D2.3 – “Regulation (REG) – Initial”.

The relevant description tables for these deliverables are presented in Annex I.

### 3.2 Research data

In principle, the SIGN-AIR research data identified in section 2.1 must be made openly accessible so that it can be accessed, mined, exploited, reproduced, and disseminated free of charge. However, not all research data can be open, mainly for the following reasons:

- obligation to protect results that can reasonably be expected to be commercially or industrially exploited,
- need for confidentiality in connection with security issues,
- rules on protecting personal data,
- rules on intellectual property.

Moreover, as regards respect for law and ethics, each beneficiary of the SIGN-AIR project collecting or generating research datasets is responsible of ensuring compliance with the following requirements:

- ensuring voluntary participation of human beings and obtaining their consent,
- anonymizing or pseudonymizing the research datasets prior to their publication (as a general rule, “anonymisation” of data is recommended. If this is not feasible, the possibility of “pseudonymisation” of data should carefully be examined and detailed),
- verifying that the publication of the research dataset could not be potentially misused for unethical purposes.

Therefore, this section provides a set of questions aiming to help SIGN-AIR beneficiaries to classify (i.e. identify the access regime for) the various research data acquired or generated during the project. The reply given to each question determines whether the research data should stay private on the project’s

Gdrive or be made (partially) publicly available, either on the project website or on other “public” data or document repositories.

For the SIGN-AIR project, the following questions were selected to classify the research outcomes:

**Table 4 - Data Management Process for each research dataset**

<b>Issues to be addressed for dataset</b>	<b>Positive Answer (yes)</b>	<b>Negative Answer (no)</b>
<b>Needed for result validation?</b>	Public	Private
<b>Produces added value to third parties?</b>	Public	Private
<b>Can the data - which may consists into/be derived from third-party data - be shared? (IPR issues)</b>	Public	Private
<b>Contains personal data as referred to in GDPR for which no legal basis for publication exist<sup>10</sup>?</b>	Private	Public
<b>Contains data able to back-trace individuals without having asked their prior consent before publication<sup>11</sup>?</b>	Private	Public
<b>Contains data that could be used in activities raising ethical issues or constitute a danger to the society?</b>	Private	Public
<b>Contains sensitive data or a security threat for one or more partners of the project (e.g., confidential information)?</b>	Private	Public
<b>Either a Licence restriction or an embargo is applied?</b>	Private	Public
<b>Contains data jeopardizing a project patent?</b>	Private	Public

Each beneficiary of the SIGN-AIR project is responsible for the publication of the research data they collect or acquire. Without prior permission from the responsible partner, the research data remain on the project’s Gdrive and are not accessible to other organisations or individuals out of the

<sup>10</sup> If a research dataset is needed for result validation but that dataset contains personal data as referred to in GDPR and for which no legal basis for publication exists, the beneficiaries will analyze whether such a dataset can be anonymized while still being publicly useful for the research community. If not, the research dataset will be kept private.

<sup>11</sup> If a research dataset contains data able to back-trace individuals without having asked their prior consent before publication (when such consent is the legal basis), the beneficiaries will analyze whether such a dataset can be anonymized while still being publicly useful for the research community. If not, the research dataset will be kept private.

consortium. However, the beneficiary's decision to make research data (partially) publicly available or not must be motivated to the responsible of the Data Management Plan (FD).

In addition, for each research data acquired or generated during the project (both for the ones made publicly available and not), the responsible beneficiary is committed to fill in the following Research Data Description Template. In line with the FAIR data principles, the aim of this template is to gather the required details for all the research datasets acquired/generated during the project. Management of all research datasets will be implemented using this table.

**Table 5 - Research Data Description Template**

1. Data summary	
Type	<i>Questionnaire/Records of interviews-workshops/Datasets shared by TSPs etc.</i>
Purpose	
Relation to the objectives of the project	
Types/Formats	
Re-use of any existing data	
Origin	
Size	
Utility for others	
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	
Metadata standards	
Unique identifier	
Naming conventions	
Search keywords	
Version control	

<b>2.2 Making data openly Accessible</b>	
Classification	
Sharing and access regimes	
Needed method/software	
Repository	
Access authorisation	
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	
Mapping to common ontologies	
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	
Re-use availability schedule	
Re-use by third parties	
Quality assurance	
Availability period	

This template will be completed individually for each and every research dataset collected or generated in the project (both for those made publicly available and not), in order for them to be described in detail. The relevant description tables for the specific research datasets are presented in Annex II.

### 3.3 Scientific publications

Each beneficiary must ensure open access – via a repository – to all peer-reviewed scientific publications relating to the project's results (including not only journal articles but also conference proceedings and long-text publications such as monographs, book chapters, edited volumes, etc.).

Access has to be provided either to the published version or the final peer-reviewed manuscript accepted for publication. To meet this requirement, beneficiaries must ensure that these publications can be read online, downloaded, and printed (free of charge, online access to any user). Beneficiaries are also encouraged to provide for further rights that could make them even more useful (e.g., right to copy, distribute, search, link, crawl and mine).

The open access to publications mandate comprises 2 steps:

1. Depositing publications in repositories (online archive): According to the EC, “Beneficiaries are required to deposit an electronic copy of the publication in a suitable repository. Publications must be "machine-readable", that is in a format that can be used and understood by a computer. They must therefore be stored in text file formats that are either standardised or otherwise publicly known so that anyone can develop new tools for working with the documents. Thus, scanned versions of printed publications do not fulfil this requirement. Depositing is mandatory regardless of the open access mode selected. It must be done as soon as possible and at the latest upon publication”<sup>12</sup>. A repository for scientific publications is an online archive. Institutional, subject-based and centralised repositories are all acceptable choices. Repositories that claim rights over deposited publications and preclude access are not.
2. Selecting the open access route (green or gold open access): According to the EC, Beneficiaries should select one of the two main routes towards open access to publications, both equally valid:
  - a) Green open access (self-archiving): The published work or the final peer-reviewed manuscript that has been accepted for publication is made freely and openly accessible by the author, or a representative, in an online repository. Some publishers request that open access be granted only after an embargo period has elapsed.
  - b) Gold open access (open access publishing): The published work is made available in open access mode by the publisher immediately upon publication. The most common business model is based on one-off payments by authors (commonly called APCs – article processing charges – or BPCs – book processing charges). The costs of gold open access publications are eligible costs that beneficiaries can charge, provided the costs are incurred during the duration of the project and if all other eligibility conditions are fulfilled.

For each scientific publication produced during the project, the responsible beneficiary is committed to fill in the following Scientific Publication Description Template. In line with the FAIR data principles, the aim of this template is to gather the required details for all the scientific publication produced during the project. Management of all scientific publications will be implemented using this table.

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<sup>12</sup> Guidelines on Implementation of Open Access to Scientific Publications and Research Data, available at [https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/oa-pilot/h2020-hi-erc-oa-guide\\_en.pdf](https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/oa-pilot/h2020-hi-erc-oa-guide_en.pdf)

Table 6 - Scientific Publication Description Template

Type	
Title	
Authors	
Title of the Journal/Proc./Book	
Number, date or freq. of the Journal/Proc./Book	
Relevant Pages	
ISSN/eISSN	
Publisher	
Place of publication	
Year	
Is Peer-reviewed?	
Is Open Access?	
Type of open access	
Length of the Embargo, if any	
Is this a joint public/private publication?	
Processing charges for Gold Open Access	
DOI	
Link to the Publication	
Repository Link	
Ack to SIGN-AIR	
SESAR logo and EU flag (Y/N/Not possible)	

This template will be completed **individually** for each and every scientific publication produced during the project (both for those peer-reviewed and not), in order for them to be described in detail. The relevant description tables for the scientific publications are presented in Annex III.



## 4 FAIR data

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### 4.1 Making data findable, including provisions for metadata

In order to make data findable, the description tables of every public deliverable or research data contains information concerning its persistent identifier, metadata and keywords to allow discovery (see Annexes I and II).

### 4.2 Making data accessible

The SIGN-AIR repositories are listed in Section 2.3. Moreover, each description table (public deliverables/research data/scientific publications) indicates where the research output is being published (see Annexes I, II and III).

### 4.3 Data

The envisaged data outputs of SIGN-AIR are described in section 2. Moreover, each description table (public deliverables/research data/scientific publications) indicates whether restricted access conditions or an embargo applies (see Annexes I, II and III).

### 4.4 Metadata

In order to make data findable, the description tables of every public deliverable or research data contain information concerning its persistent identifier, metadata and keywords to allow discovery (see Annexes I and II).

### 4.5 Making data interoperable

In order to make data interoperable, the description tables of every public deliverable or research data contain information concerning data/metadata vocabularies and other I/O standards as well as a mapping to common ontologies (see Annexes I and II).

### 4.6 Increase data re-use

In order to ensure increased data re-use, the description tables of every public deliverable or research data contain information concerning its licence, re-use availability schedule, re-use possibilities, by third parties, quality assurance and availability period (see Annexes I and II).

## 5 Other research outputs

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This section details the plans for the management of other research outputs that may be generated or re-used throughout the SIGN-AIR project. Such outputs can be either digital (e.g. SIGN-AIR platform, components, software, workflows, protocols, models, etc.) or contractual (e.g. data sharing agreements and smart contracts).

At the time of writing this Deliverable (M21), internal versions of the following modules are currently being tested:

- Synchronization module: This functionality aims to offer the capacity to the SIGN-AIR platform for sorting and proposing itineraries in air and railway transportation based on a connectivity index with an acceptable transfer time and low risk of missing the connection between the 1st and the 2nd leg of the trip.
- Extension of TransiTool: This extension offers a standardisation mechanism for IATA SSIM. This specific mechanism involves the creation of a user interface (UI), where the user (the TSP) can insert information, as well as the necessary database components, which facilitate the conversion of Slot Clearance Request (SCR) messages (that are in IATA SSIM format) and other formats into GTFS and NeTEx via a Relational Database Management System.

However, at the time of submission of this document (M21), it is too early to consider which of the questions pertaining to FAIR data above, can apply to the management of these other research outputs.

The next versions of the DMP will strive to provide sufficient detail on how these other research outputs will be managed and shared, or made available for re-use, in line with the FAIR principles.

## 6 Allocation of resources

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The partner responsible for data management in the SIGN-AIR project is FD, having specific expertise in data protection law and ethics.

In line with the SIGN-AIR Grant Agreement costs related to open access to research data are eligible for reimbursement.

- Accordingly, and in order to make SIGN-AIR research data FAIR, the project has allocated 10.000 € (distributed between UPC, ENAC, UB-FTTE and SPARSITY) to finance gold open access publications.
- Moreover, the publication of scientific publications in Green Access (via Zenodo or other) is covered by institutional resources.

Finally, for what concerns the development and maintenance of our website (<https://www.sign-air.eu/>), the necessary budget has been allocated on UPC's other direct costs.

## 7 Data security

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This section clarifies the provisions which are in place for the security of the data that is being processed by the beneficiaries for achieving the purposes of the SIGN-AIR project (emails, documents, reports, datasets, answers to questionnaires, records of workshops, etc). Therefore, this section does not apply to the security of the platform and the components that will be developed during the project. Indeed, a specific deliverable (D2.14 – “SIGN-AIR platform”) is dedicated, amongst other, to present and detail the security measures applicable to the platform and its components, including the solutions implemented for data recovery as well as secure storage/archiving and transfer of sensitive data.

### 7.1 Data Security in SIGN-AIR

Each beneficiary of the SIGN-AIR project is considered to be the data controller<sup>13</sup> for what concerns the security of the data that is being processed by him/her achieving the purposes of the project<sup>14</sup>. At a minimum, the following organizational and security measures must be implemented by each beneficiary:

1. Training and competence: The SIGN-AIR data controller(s) shall establish measures, which ensure that all personnel working on the project and are given access to process SIGN-AIR data have a sufficient competence to process the data and to safeguard information security and data protection regarding data subjects. Training shall take place continually and be adapted to the various roles and user groups concerned.
2. Access control: The SIGN-AIR data controller(s) will have procedures for the authorization, alteration and termination of access to SIGN-AIR data processing operations. Also, access to SIGN-AIR data/system components shall be controlled to ensure compliance with the confidentiality rules and so that no access to SIGN-AIR data is given to anyone other than those with an official need to gain such access. The following measures shall be established to prevent unauthorized access:
  - Technical measures shall ensure that persons inside or outside the SIGN-AIR consortium are unable to alter data without the changes being logged.
  - All allocations of authorization shall be registered in an authorization log.

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<sup>13</sup> Article 4(7) of the GDPR defined the controller as « the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data »;

<sup>14</sup> In the event that during the project, one or several processing operations are to be carried out by (a) processor(s) on behalf of a controller, (a) data processing agreement(s) will be drafted and signed in accordance with article 28 of the GDPR. In the event that during the project, one or several processing operations are carried out by joint controllers, the necessary agreement(s) will be drafted and signed in accordance with article 24 of the GDPR. These agreements will be annexed to the next versions of this deliverable.

- Authorized SIGN-AIR team shall verify their identity in a secure manner. The secure manner must be determined on the basis of a risk assessment.
  - Access to SIGN-AIR data from home offices and/or mobile equipment (and mobile networks) shall be secured through a secure authentication solution.
  - All default passwords (factory settings) on systems and equipment shall be changed before the processing of SIGN-AIR data are commenced.
3. **Encryption:** SIGN-AIR controller(s) will consider technical measures to be established so that all communication (data in transit or data in rest) is encrypted.
  4. **Back-up:** The SIGN-AIR controller(s) will ensure that back-up copies are made of SIGN-AIR data as well as other information that is necessary for the restoration of normal operation. Back-up copies shall be stored in a locked and fire-proof facility and kept separate from operating equipment. Back-up copies shall be protected against malware and incidents.

During the project, the Project DPO may amend/update these minimum-security requirements. The following versions of the DMP might also contain guidelines concerning the security of data during pilots/demonstrations.

For beneficiaries having appointed a DPO (see section 6.3), the SIGN-AIR researchers are bound to respect the additional guidelines set by their DPO. For those beneficiaries not having appointed a DPO, a detailed privacy policy submitted by them is included in Annex IV of this DMP.

## 7.2 Project Data Protection Officer

Given the number of beneficiaries involved in the SIGN-AIR project, a “Project Data Protection Officer” (Project DPO) is nominated. The role of the Project DPO is not take over the duties and responsibilities of the partner’s Data Protection Officers (DPOs) but to ensure coordination amongst them.

In particular, the role of the Project DPO is to obtain the partner’s DPOs necessary approvals and signatures before the conduction of any personal data processing operation by that partner. The role of Project DPO will be ensured by FD having specific expertise in data protection law.

## 7.3 Partners’ Data Protection Officers

Each partner of the SIGN-AIR consortium must confirm that it has appointed a Data Protection Officer (DPO) and provides his/her contact details to the Project DPO. Under the GDPR, it is mandatory for certain controllers and processors to designate a Data Protection Officer (DPO). This is the case for all public authorities and bodies (irrespective of what data they process), and for other organisations that - as a core activity - monitor individuals systematically and on a large scale, or that process special categories of personal data on a large scale. Even when the GDPR does not specifically require the appointment of a DPO, organisations may sometimes find it useful to designate a DPO on a voluntary

basis. Further guidance on the mandatory designation of a DPO can be found in the European Data Protection Board's "Guidelines on Data Protection Officers"<sup>15</sup>.

For partners which are not required to appoint a DPO under the GDPR, a detailed data protection policy for the project must be submitted and the contact details of the person in charge must be provided. The partners' DPOs (or contact persons) will be actively involved by the Project DPO in all privacy issues deriving from the SIGN-AIR project, including the ones related to data security.

The contact details of the partners' DPOs or contact points are listed in the table below. In addition, in case a partner has not nominated a DPO, a detailed data protection policy is included in Annex IV. These contain details about the applicable data security requirements.

**Table 7 - Contact details of DPOs/contact persons for data protection**

Partner	Data Protection Officer/contact person	Detailed data protection policy (in case of no DPO)
UNIVERSITAT POLITECNICA DE CATALUNYA (UPC)	<p>Delegada de Protecció de Dades</p> <p>Àrea Serveis Jurídics i Avaluació Riscos</p> <p>Universitat Politècnica de Catalunya</p> <p>Plaça Eusebi Güell, 6, Edifici Vèrtex Planta 2, Porta 206, 08034 Barcelona</p> <p><a href="mailto:proteccio.dades@upc.edu">proteccio.dades@upc.edu</a></p>	N/A
Univerzitet u Beogradu - Saobraćajni fakultet (UB-FTTE)	<p>Nebojša Bojović</p> <p><a href="mailto:dean@sf.bg.ac.rs">dean@sf.bg.ac.rs</a></p>	N/A
AETHON ENGINEERING SINGLE MEMBER PC (AETHON)	<p>Alex Papacharalampous</p> <p><a href="mailto:a.papacharalampous@aethon.gr">a.papacharalampous@aethon.gr</a></p>	N/A
ECOLE NATIONALE DE L'AVIATION CIVILE (ENAC),	<p>Estelle CORBEL</p> <p><a href="mailto:dpo@enac.fr">dpo@enac.fr</a></p>	N/A

<sup>15</sup> EDPB, Guidelines on Data Protection Officers ('DPOs'), as last Revised and Adopted on 5 April 2017. [http://ec.europa.eu/newsroom/document.cfm?doc\\_id=44100](http://ec.europa.eu/newsroom/document.cfm?doc_id=44100)

EUROPEAN PASSENGERS' FEDERATION IVZW (EPF)	No DPO. Contact person is Delphine Grandsart <a href="mailto:delphine.grandsart@epf.eu">delphine.grandsart@epf.eu</a>	A statement of compliance/data protection policy is included in Annex IV.
FUNDACIO CENTRE D'INNOVACIO I TECNOLOGIA DE LA UPC (CARNET)	Delegada de Protecció de Dades Àrea Serveis Jurídics i Avaluació Riscos Universitat Politècnica de Catalunya Plaça Eusebi Güell, 6, Edifici Vèrtex Planta 2, Porta 206, 08034 Barcelona <a href="mailto:proteccio.dades@upc.edu">proteccio.dades@upc.edu</a>	N/A
TIME.LEX (Timelex)	No DPO. Contact person is Stefan Van Camp <a href="mailto:stefan.vancamp@timelex.eu">stefan.vancamp@timelex.eu</a>	A statement of compliance/data protection policy is included in Annex IV.
AUTORITAT DEL TRANSPORT METROPOLITA (ATM)	Júlia Bacaria Gea. Bacaria Legal. <a href="mailto:juliabacaria@legal-data.net">juliabacaria@legal-data.net</a> . <a href="mailto:dpd@atm.cat">dpd@atm.cat</a>	N/A
SMART TICKETING ALLIANCE (STA)	No DPO. The contact address for privacy matters is <a href="mailto:privacy@smart-ticketing.org">privacy@smart-ticketing.org</a>	A statement of compliance/data protection policy is included in Annex IV.
AEROPORTO GUGLIELMO MARCONI DI BOLOGNA (BLQ) SPA	Bologna Airport has a DPO and the contact is <a href="mailto:dpo@bologna-airport.it">dpo@bologna-airport.it</a> . Additionally, this partner has a Data Protection Committee whose members are: <ul style="list-style-type: none"><li>- Marianna Tranchida – Legal Affairs and Regulation</li><li>- Silvia Lombardi – IT &amp; Quality Director</li><li>- Luigi Ricchi – Systems Security Manager</li><li>- Elena Selva – Digital &amp; Customer Experience Manager</li></ul>	N/A

	<p>They can be contacted at <a href="mailto:Comitato_Data_Protection@bologna-airport.it">Comitato Data Protection@bologna-airport.it</a></p> <p>We will inform them and submit the specific activities to be done for their evaluation.</p>	
TPER S.P.A. (TPER)	<p>Adriano Ragazzi</p> <p><a href="mailto:adriano.ragazzi@tper.it">adriano.ragazzi@tper.it</a></p>	N/A
AGRUPACIO DE MUNICIPIS TITULARS DEL SERVEI DE TRANSPORT URBA DE LA REGIO METROPOLITANA DE BARCELONA (AMTU)	<p>Joan Prat i Trapé</p> <p><a href="mailto:jprat@amtu.cat">jprat@amtu.cat</a></p>	N/A
FRANCK DUMORTIER JURISTE (FD)	<p>No DPO.</p> <p>Contact person is Franck Dumortier</p> <p><a href="mailto:Franck.dumortier@cybersecurity-law.be">Franck.dumortier@cybersecurity-law.be</a></p>	A statement of compliance/data protection policy is included in Annex IV.
YDROPLANA ELLADAS ANONYMI ETAIREIA (HSP)	<p>No DPO.</p> <p>Contact person is Nicolas Charalambous</p> <p><a href="mailto:nc@hellenic-seaplanes.com">nc@hellenic-seaplanes.com</a></p>	A statement of compliance/data protection policy is included in Annex IV.
SPARSITY	<p>No DPO.</p> <p>Contact person is Josep Lluís Larriba Pey</p> <p><a href="mailto:larri@sparsity-technologies.com">larri@sparsity-technologies.com</a></p>	A statement of compliance/data protection policy is included in Annex IV.



## 8 Ethics

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### 8.1 Ethical principles in European research projects

For all activities funded by the European Union, ethics is an integral part of research from beginning to end, and ethical compliance is seen as pivotal to achieve real research excellence. According to the EC, “ethical research conduct implies the application of fundamental ethical principles and legislation to scientific research in all possible domains of research”<sup>16</sup>. In the context of European projects, this implies that “all the research and innovation activities carried out under Horizon 2020 shall comply with ethical principles and relevant national, Union and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocol. Particular attention shall be paid to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination and the need to ensure high levels of human health protection”.<sup>17</sup>

Furthermore, in the Grant Agreement, the SIGN-AIR project consortium is committed to the obligation that “the action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles”<sup>18</sup>. Additionally, the beneficiaries of the SIGN-AIR project are committed to and ensure “the respect of basic EU values (such as respect for human dignity, freedom, democracy, equality, the rule of law and human rights, including the rights of minorities)”<sup>19</sup>.

This implies compliance with the following principles:

- Reliability in ensuring the quality of research, reflected in the design, the methodology, the analysis and the use of resources;
- Honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way;
- Respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment;

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<sup>16</sup> Horizon 2020 Online Manual, available at [https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/ethics\\_en.htm](https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/ethics_en.htm)

<sup>17</sup> Article 19, §1 of Regulation (EU) no 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC.

<sup>18</sup> SIGN-AIR's Grant Agreement, Project 101114845, article 14.1.

<sup>19</sup> *Ibid.*, article 14.2.

- Accountability for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts<sup>20</sup>.

All partners of the consortium are fully committed and agree to collaborate for the fulfilment of their above-mentioned ethical responsibilities. They are also committed to obtain all approvals or other mandatory documents needed for implementing the task, notably from any (national or local) ethics committee or other bodies such as data protection authorities.

## 8.2 Implementation in the SIGN-AIR project

The SIGN-AIR project will include adult human participants in a number of information gathering activities such as interviews, workshops, and focus groups. Furthermore, pilot trials and demonstrations will take place during the project to validate the SIGN-AIR components and functionalities.

In order to comply with the aforementioned ethical principles, before the beginning of each research activity involving human participants, each beneficiary must have obtained:

- An ethics committee opinion. If there is no proper structure to provide authorisations/approvals in the institution performing research involving participants, based on the principle of proportionality and according to practice, the involved researcher(s) must complete an ethics checklist (see Section 8.3). This checklist must be completed by the involved researcher(s) before being involved or conducting any activity with human beings.
- Any notification or authorisation for activities raising ethical issues required under national and/or European law needed for implementing the action tasks in question.

Before conducting an activity involving human participants, each partner must carefully describe this activity, obtain the above-mentioned opinion/notification or authorisation and transmit these documents to FD which is the lead partner responsible of the DMP. If these documents are not in English, they must be submitted together with an English summary, which shows that the action tasks in question are covered and includes the conclusions of the committee or authority concerned (if available).

The table hereunder lists the partners conducting research activities involving participation of humans, identifies such activities and the ethical opinions and or approvals that are required.

**Table 8 - Contact details of ethical committees/researchers in charge**

Partner	Ethical committee	Approval/Opinion
UNIVERSITAT POLITECNICA DE CATALUNYA (UPC)	UPC Ethics Committee <a href="https://comite-etica.upc.edu/en/contact">https://comite-etica.upc.edu/en/contact</a>	Demand for approval/opinion was submitted but is pending. Once an answer will be

<sup>20</sup> See Annex 5 to the SIGN-AIR's Grant Agreement, Project 101114845.

		received by UPC's Ethics Committee, it will be included in Annex V.
Univerzitet u Beogradu - Saobracajni fakultet (UB-FTTE)	UB-FTTE Ethical Committee. It consists of five members: three are representatives of the teaching staff, one is representative of students, and one is the secretary of the Faculty (a lawyer). The chairman of the Committee is Prof. Dragana Macura (her email is <a href="mailto:d.macura@sf.bg.ac.rs">d.macura@sf.bg.ac.rs</a> )	No approval or opinion submitted yet. This will be done before the beginning of each research activity involving human participants. The relevant documents will be included in Annex V of the next versions of this DMP.
AETHON ENGINEERING SINGLE MEMBER PC (AETHON)	No Ethical Committee.  The ethical checklist (see section 8.3) will be completed by the researchers themselves before the beginning of each research activity involving human participants.	A letter confirming that AETHON does not have any competent internal ethical committee is included in Annex V.  If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.
ECOLE NATIONALE DE L'AVIATION CIVILE (ENAC)	No Ethical Committee.  The ethical checklist (see section 8.3) will be completed by the researchers themselves before the beginning of each research activity involving human participants.	A letter confirming that ENAC does not have any competent internal ethical committee is included in Annex V.  If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.
EUROPEAN PASSENGERS' FEDERATION IVZW (EPF)	No Ethical Committee.  The ethical checklist (see section 8.3) will be completed by Delphine Grandsart before the beginning of each research activity involving human participants.	A letter confirming that EPF does not have any competent internal ethical committee is included in Annex V.  If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.
FUNDACIO CENTRE D'INNOVACIO I	CARNET does not participate in any activity involving human beings.	A letter confirming that CARNET is not organizing nor participating in any activity

TECNOLOGIA DE LA UPC (CARNET)		involving human beings is included in Annex V.
TIME.LEX (Timelex)	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by Stefan Van Camp before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that TIMELEX does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in the next versions of this DMP.</p>
AUTORITAT DEL TRANSPORT METROPOLITA (ATM)	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by Xavier Sanyer before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that ATM does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.</p>
SMART TICKETING ALLIANCE (STA)	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by Jaap de Bie before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that STA does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.</p>
AEROPORTO GUGLIELMO MARCONI BOLOGNA (BLQ) DI SPA	<p>Internal Ethical &amp; Anticorruption Committee.</p> <p>The members are:</p> <ul style="list-style-type: none"> <li>- Silvia Piccorossi – Legal, Corporate and Procurement Director (piccorossi@bologna-airport.it)</li> <li>- Marco Verga – HR Director (m.verga@bologna-airport.it)</li> <li>- Sonia Giannone – Bologna Airport Internal Auditor (giannone@bologna-airport.it)</li> </ul>	<p>No approval or opinion submitted yet. This will be done before the beginning of each research activity involving human participants. The relevant documents will be included in Annex V of the next versions of this DMP.</p>

	The Committee is competent to provide authorization for the tasks involving human beings.	
TPER S.P.A. (TPER)	<p>TPER has an internal committee that acts as supervisor but does not give any authorization. The committee supervises the respect of the ethical code, collects and controls warnings of possible violations received from TPER staff and other third parties. See <a href="https://www.tper.it/azienda/come-lavoriamo">https://www.tper.it/azienda/come-lavoriamo</a></p> <p>By consequence, the ethical checklist (see section 7.3) will be completed by Daniela Cocchi before the beginning of each research activity involving human participants.</p>	If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.
AGRUPACIO DE MUNICIPIS TITULARS DEL SERVEI DE TRANSPORT URBA DE LA REGIO METROPOLITANA DE BARCELONA (AMTU)	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by the researchers themselves before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that AMTU does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.</p>
FRANCK DUMORTIER JURISTE (FD)	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by Franck Dumortier before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that FD does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.</p>
YDROPLANA ELLADAS ANONYMI ETAIREIA (HSP)	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by Nicolas Charalambous before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that HSP does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.</p>

SPARSITY	<p>No Ethical Committee.</p> <p>The ethical checklist (see section 8.3) will be completed by Nicolas Charalambous before the beginning of each research activity involving human participants.</p>	<p>A letter confirming that SPARSITY does not have any competent internal ethical committee is included in Annex V.</p> <p>If applicable, the completed ethical checklists will be added in Annex V of the next versions of this DMP.</p>
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### 8.3 Ethical checklist

In order to assess the activities with human beings before these are being conducted, the internal ethical committees of the beneficiaries may use their own templates. Optionally, they might decide to use the ethical checklist provided in this section. In case a beneficiary has no internal ethical committee, the involved researcher(s) must fill in the following ethical checklist before conducting the activity with human beings.

#### Identification of Partner and Ethical committee

Organization/Company/University:	
Ethical Committee's description (if applicable):	

#### Identification of researcher(s) introducing the form

Name of Researcher(s) introducing the form:	
Name of Supervisor(s):	
Date:	

#### Description of task involving human participation

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#### Details of the recruitment, inclusion and exclusion criteria

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**Ethical questionnaire**

	<i>Mark with X in box</i>	Yes	No	N/A
1	Will you describe the main experimental procedures to participants in advance, so that they are informed about what to expect?			
2	Will you ensure that the participation of participants that is voluntary?			
3	Will you obtain written consent for participation?			
4	If the research is observational, will you ask participants for their consent to being observed?			
5	Will you tell participants that they may withdraw from the research at any time and for any reason?			
6	With questionnaires, will you give participants the option of omitting questions they do not want to answer?			
7	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?			
8	Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?			
9	With interviews, will you tell your participants that you wish to record the interview, and that they may decline to have their interview recorded?			
10	With research that requires audio or video recordings, will you tell your participants that their permission will be sought to play any excerpts in the course of presentations given?			

If you have marked Yes to Q1: please annex a copy of the Information Sheet

If you have marked Yes to any Q2-10: please annex Informed Consent Form

If you have marked No to any of Q1-10, please give an explanation on a separate annex. (Note: N/A = not applicable).

	<i>Mark with X in box</i>	Yes	No	N/A

11	Will your project involve deliberately misleading participants in any way?			
12	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If Yes, give details on a separate sheet and state what you will tell them to do if they should experience any problems (e.g. who they can contact for help).			

If you have marked Yes to Q11 or 12, please give a full explanation on a separate annex.

	<i>Mark with X in box</i>	Yes	No	N/A
13	Are participants children under 18 of age?			
14	Are participants vulnerable individuals or groups?			
15	Are participants patients?			
16	Are some or all participants employees of your organization or of a partner's organization?			

If you have marked Yes to Q13, annex details of the procedures for obtaining approval from the guardian/legal representative and the agreement of the children or other minors.

If you have marked Yes to Q14, annex details of the type of vulnerability and demonstrate appropriate efforts to ensure fully informed understanding of the implications of participation.

If you have marked yes to Q15, annex your policy on incidental findings.

If you have marked yes to Q16, annex the steps you will have to ensure that participants are not subjected to any form of coercion.

**This form and any attachments, along with your Consent Form and Participation Information Sheet, should be submitted to your Ethics Committee, for consideration. If your organization does not have any ethical committee, these documents should be submitted to FD. If any of the above information is missing, or if additional information is needed, your application will be returned to you.**

#### STATEMENT OF ETHICAL APPROVAL

This task has been considered by the Ethical Committee and is now approved for the following reasons:





Signed: .....

Date: .....



## 9 Other issues

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In the SIGN-AIR project, two partners are located in a non-EU countries: SAP (Switzerland) and UB-FTTE (Republic of Serbia). Hence, it is very likely that personal data might be transferred from Switzerland and the Republic of Serbia to the EU and vice-versa.

Therefore, the following measures have been taken in order to comply with GDPR requirements:

- On the basis of Article 45 of Regulation (EU) 2016/679 (General Data Protection Regulation (GDPR)), the European Commission determines whether a country outside the European Union (EU) offers an adequate level of data protection. The European Commission then issues an adequacy decision and carries out periodic reviews to ensure that an adequate level of data protection is still guaranteed. The effect of an adequacy decision is that personal data can flow from the EU (and from Norway, Liechtenstein and Iceland, which, as members of the European Economic Area (EEA), are also subject to the GDPR) to a third country without any additional safeguards being required. To date, the European Commission has recognised several countries as offering adequate protection. Switzerland was granted an adequacy decision on 26 July 2000<sup>21</sup>.
- Contrary to Switzerland, the Republic of Serbia is not covered by an adequacy decision. Therefore, UB-FTTE submitted a general statement signed by the responsible person of the organization according to which in case personal data are collected in the Republic of Serbia, the processing of such data and their transfers will be carried out in compliance with the Law on Protection of Personal Data (Official Gazette of the Republic of Serbia, No. 87/2018). In case personal data are collected within the EU, or about data subject which are in the EU, the processing of personal data and their transfers will be carried out in compliance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

This general statement is annexed to this Deliverable (see Annex VI).

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<sup>21</sup> Commission Decision of 26 July 2000 pursuant to Directive 95/46/EC of the European Parliament and of the Council on the adequate protection of personal data provided in Switzerland (notified under document number C(2000) 2304).

## 10 Conclusion

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The present deliverable is the intermediate version of the SIGN-AIR's Data Management Plan (DMP). In line with the European Commission's and SESAR guidelines on open access and FAIR data principles, this DMP describes the open-access regimes for the following categories of SIGN-AIR's research outcomes: public deliverables, underlying research data and scientific publications. For each of these categories of research outcomes, this deliverable contains description templates that must be filled by the responsible beneficiaries. This DMP also deals with Responsible Research Innovation (RRI) considerations as well as with data protection and ethical issues.

It is important to note that this Deliverable is a living document. Therefore, this DMP will be regularly updated within the project's lifecycle, whenever significant changes arise (e.g., new data, changes in consortium policies or composition, etc.), and at least on M35 (D1.6 - Data Management Plan (DMP) – Final).

## Annex I - Description tables for public deliverables

At the time of submission of this document (M21), the following public deliverables have been submitted and approved by SESAR 3:

- D1.2 – “Data Management plan (DMP) – Initial”,
- D2.1 – “Communication Dissemination and Exploitation (CDE) Plan – Initial”,
- D2.2 – “Standardisation (STAND) – Initial”,
- D2.3 – “Regulation (REG) – Initial”.

**Table 9 - Description Table of deliverable D1.2 – “Data Management plan (DMP) – Initial”**

1. Public Deliverable Summary	
Purpose	<i>D1.2 is the first version of the Data management Plan that describes the data management life cycle for all datasets (containing personal data and/or non-personal data) to be collected, processed, or generated by the SIGN-AIR project. Such information includes, but is not limited to, scientific publications and deliverables issued by the project’s consortium members, data Transport Service Providers’ datasets (for example, public transport timetables), data originating from travel companions, anonymous user statistics, etc).</i>
Relation to the objectives of the project	<i>D1.2 covers the handling of research data during &amp; after the project; what data will be collected, processed, or generated; what methodology &amp; standards will be applied; whether data will be shared/made open access &amp; how; how data will be curated &amp; preserved. The overall aim is to comply with the FAIR principles, to take care of intellectual property rights (IPR) issues but also to deal with Responsible Research Innovation (RRI) considerations as well as with data protection and ethical issues. This DMP will be updated within the project’s lifecycle, whenever significant changes arise (e.g., new data, changes in consortium policies or composition, etc.), and at least on M19 (D1.4 - Data Management Plan (DMP) – Intermediate) and M35 (D1.6 - Data Management Plan (DMP) – Final).</i>
Types/Formats	<i>PDF</i>
Re-use of any existing data	<i>None</i>
Origin	<i>N/A</i>
Size	<i>Approximatively 3,34 Mo – 80 pages</i>

Utility for others	<i>All consortium partners, Sesar JU, general public</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<p><i>D1.2 metadata:</i></p> <ul style="list-style-type: none"> <li>• <i>Name: Data Management Plan (DMP) - Initial</i></li> <li>• <i>Author: FD</i></li> <li>• <i>Keywords: Data management, datasets, research data, data protection, ethics, FAIR principles, open access, Responsible research Innovation</i></li> </ul>
Metadata standards	<i>No specific metadata standard used</i>
Unique identifier	<i>This public deliverable is available on the official SIGN-AIR website at the following address: <a href="https://www.sign-air.eu/Deliverables/SIGN-AIR_%20D1.2-%20DMP%20(Initial)_v01.00.00.pdf">https://www.sign-air.eu/Deliverables/SIGN-AIR_%20D1.2-%20DMP%20(Initial)_v01.00.00.pdf</a></i>
Naming conventions	<i>SIGN-AIR_ D1.2- DMP (Initial)_v01.00.00.pdf</i>
Search keywords	<i>Data management, datasets, research data, data protection, ethics, FAIR principles, open access, Responsible research Innovation</i>
Version control	<i>All changes are reported in the document history section.</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Confidentiality level: PU (public)</i>
Sharing and access regimes	<p><i>Before submission: available only to consortium partners through the SIGN-AIR project repository (GDrive)</i></p> <p><i>After submission and approval: is publicly available through the official SIGN-AIR website</i></p>
Needed method/software	<i>No special software needed for the PDF format</i>
Repository	<i>SIGN-AIR project repository (GDrive) and SIGN-AIR official website</i>
Access authorisation	<p><i>Before submission: accessible only by authorised consortium partners</i></p> <p><i>After submission and approval: upload on the website, no authorisation needed</i></p>
<b>2.3. Making data interoperable</b>	

Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>No licence needed</i>
Re-use availability schedule	<i>After submission and approval: immediately granted free open Access for mining, exploiting, processing and disseminating.</i>
Re-use by third parties	<i>After submission and approval: Accessible and re-usable by third-parties. No access and time limitations apply.</i>
Quality assurance	<i>Internal quality audit control by SPA and UPC.</i>
Availability period	<i>No time limitation scheduled after the end of the project.</i>

**Table 10 - Description Table of deliverable D2.1 - “Communication Dissemination and Exploitation (CDE) Plan – Initial”**

<b>1. Public Deliverable Summary</b>	
Purpose	<i>D2.1 details the communication, dissemination, and exploitation plan for SIGN-AIR project.</i>
Relation to the objectives of the project	<i>This report is dedicated to the planning of the SIGN-AIR's project's Communication, Dissemination and Exploitation (CDE) activities, providing the general information and the main activities that need to be performed and setting the guidelines for the consortium members. This document is an M3 initial version, so it will be dully updated in both M19 and M35.</i>
Types/Formats	<i>PDF</i>
Re-use of any existing data	<i>None</i>
Origin	<i>N/A</i>
Size	<i>Approximatively 2,34Mo – 79 pages</i>
Utility for others	<i>All consortium partners, Sesar JU, general public</i>
<b>2. FAIR data</b>	

<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<p><i>D2.1 metadata:</i></p> <ul style="list-style-type: none"> <li>• <i>Name: Communication Dissemination and Exploitation (CDE) Plan – Initial</i></li> <li>• <i>Author: CARNET, SPA</i></li> <li>• <i>Keywords: Communication objectives and strategy, target audience, branding, communication channels, dissemination channels, KPIs, exploitation strategy and results, IPR management, cross initiatives collaborations, events, web presence</i></li> </ul>
Metadata standards	<i>No specific metadata standard used</i>
Unique identifier	<i>This public deliverable is available on the official SIGN-AIR website at the following address: <a href="https://www.sign-air.eu/Deliverables/SIGN-AIR_D2.1_v01.00.00.pdf">https://www.sign-air.eu/Deliverables/SIGN-AIR_D2.1_v01.00.00.pdf</a></i>
Naming conventions	<i>SIGN-AIR_D2.1_v01.00.00.pdf</i>
Search keywords	<i>Communication objectives and strategy, target audience, branding, communication channels, dissemination channels, KPIs, exploitation strategy and results, IPR management, cross initiatives collaborations, events, web presence</i>
Version control	<i>All changes are reported in the document history section.</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Confidentiality level: PU (public)</i>
Sharing and access regimes	<p><i>Before submission: available only to consortium partners through the SIGN-AIR project repository (GDrive)</i></p> <p><i>After submission: is publicly available through the official SIGN-AIR website</i></p>
Needed method/software	<i>No special software needed for the PDF format</i>
Repository	<i>SIGN-AIR project repository (GDrive) and SIGN-AIR official website</i>
Access authorisation	<p><i>Before submission: accessible only by authorised consortium partners</i></p> <p><i>After submission and approval: upload on the website, no authorisation needed</i></p>
<b>2.3. Making data interoperable</b>	

Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>No licence needed</i>
Re-use availability schedule	<i>After submission and approval: immediately granted free open Access for mining, exploiting, processing and disseminating.</i>
Re-use by third parties	<i>After submission and approval: Accessible and re-usable by third-parties. No access and time limitations apply.</i>
Quality assurance	<i>Internal quality audit control by SPA and UPC.</i>
Availability period	<i>No time limitation scheduled after the end of the project.</i>

**Table 11 - Description Table of deliverable D2.2 – “Standardisation (STAND) – Initial”**

<b>1. Public Deliverable Summary</b>	
Purpose	<i>D2.2 “Standardisation (STAND) - Initial” is the first iteration of a series of reports aiming to capture the standardisation needs of the SIGN-AIR SESAR solution.</i>
Relation to the objectives of the project	<i>This initial iteration of STAND provides all standardisation contextual information existing at the beginning of the development activities. D2.2 captures the overall status of the most widely available and used data standards per transportation mode.</i>
Types/Formats	<i>PDF</i>
Re-use of any existing data	<i>None</i>
Origin	<i>N/A</i>
Size	<i>Approximatively 900 Ko – 53 pages</i>
Utility for others	<i>All consortium partners, SESAR JU, Research and scientific community, Stakeholders such as TSPs, traveller associations, etc, Institutions in the field of transport (national and European), general public</i>



2. FAIR data	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<p><i>D2.2 Metadata:</i></p> <ul style="list-style-type: none"> <li>• <i>Name: D2.2 – Standardisation (STAND) - Initial</i></li> <li>• <i>Author: AETHON</i></li> <li>• <i>Keywords: Standardization, Transportation, GTFS, NeTEx, SIRI, OSDM, SSIM, PADIS, NDC, AIRIMP, AIDM, AIDX, FIXM, AIXM, AMXM, BIX, RailML, DATEX II, IndoorGML</i></li> </ul>
Metadata standards	<i>No specific metadata standard used</i>
Unique identifier	<i>This public deliverable is available on the official SIGN-AIR website at the following address: <a href="https://www.sign-air.eu/Deliverables/SIGN-AIR_D2.2_v01.00.00.pdf">https://www.sign-air.eu/Deliverables/SIGN-AIR_D2.2_v01.00.00.pdf</a></i>
Naming conventions	<i>SIGN-AIR_D2.2_v01.00.00.pdf</i>
Search keywords	<i>Standardization, Transportation, GTFS, NeTEx, SIRI, OSDM, SSIM, PADIS, NDC, AIRIMP, AIDM, AIDX, FIXM, AIXM, AMXM, BIX, RailML, DATEX II, IndoorGML</i>
Version control	<i>All changes are reported in the document history section.</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Confidentiality level: PU (public)</i>
Sharing and access regimes	<p><i>Before submission: available only to consortium partners through the SIGN-AIR project repository (GDrive)</i></p> <p><i>After submission and approval: is publicly available through the official SIGN-AIR website.</i></p>
Needed method/software	<i>No special software needed for the PDF format</i>
Repository	<i>SIGN-AIR project repository (GDrive) and SIGN-AIR official website</i>
Access authorisation	<p><i>Before submission: accessible only by authorised consortium partners</i></p> <p><i>After submission and approval: upload on the website, no authorisation needed</i></p>
<b>2.3. Making data interoperable</b>	

Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>No licence needed</i>
Re-use availability schedule	<i>After submission and approval: immediately granted free open Access for mining, exploiting, processing and disseminating.</i>
Re-use by third parties	<i>After submission and approval: Accessible and re-usable by third-parties. No access and time limitations apply.</i>
Quality assurance	<i>Internal quality audit control by SPA and UPC</i>
Availability period	<i>No time limitation scheduled after the end of the project.</i>

**Table 12 - Description Table of deliverable D2.3 – “Regulation (REG) – Initial”**

<b>1. Public Deliverable Summary</b>	
Purpose	<i>D2.3 aims at the identification of regulatory need(s) and to indicate any need to amend the existing regulation or to introduce a completely new regulation regarding SIGN-AIR's Solution namely SIGN-AIR platform.</i>
Relation to the objectives of the project	<i>This report is the initial version of REG, two updates will follow in M19 and in M32. As the exact relation between the SIGN-AIR platform and the ATM system is not yet clear, the identification of the needs for amendments to the available regulations is not yet performed. However, this document detects and details the main components of the solution, and it is a first attempt to capture the regulatory needs.</i>
Types/Formats	<i>PDF</i>
Re-use of any existing data	<i>None</i>
Origin	<i>N/A</i>
Size	<i>Approximatively 681 Ko – 13 pages</i>

Utility for others	<i>All consortium partners, SESAR JU, Research and scientific community, Stakeholders such as TSPs, traveller associations, etc, Institutions in the field of transport (national and European), general public</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<p><i>D2.3 Metadata:</i></p> <ul style="list-style-type: none"> <li>• <i>Name: D2.3 – Regulatory (REG) - Initial</i></li> <li>• <i>Author: UB-FTTE, SPA</i></li> <li>• <i>Keywords: SIGN-AIR platform, Legal layer, regulations, ATM, need for amendments</i></li> </ul>
Metadata standards	<i>No specific metadata standard used</i>
Unique identifier	<i>This public deliverable is available on the official SIGN-AIR website at the following address: <a href="https://www.sign-air.eu/Deliverables/SIGN-AIR_D2.3_v01.00.00.pdf">https://www.sign-air.eu/Deliverables/SIGN-AIR_D2.3_v01.00.00.pdf</a></i>
Naming conventions	<i>SIGN-AIR_D2.3_v00.01.00.pdf</i>
Search keywords	<i>SIGN-AIR platform, Legal layer, regulations, ATM, need for amendments</i>
Version control	<i>All changes are reported in the document history section.</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Confidentiality level: PU (public)</i>
Sharing and access regimes	<p><i>Before submission: available only to consortium partners through the SIGN-AIR project repository (GDrive)</i></p> <p><i>After submission and approval: is publicly available through the official SIGN-AIR website</i></p>
Needed method/software	<i>No special software needed for the PDF format</i>
Repository	<i>SIGN-AIR project repository (GDrive) and SIGN-AIR official website</i>
Access authorisation	<p><i>Before submission: accessible only by authorised consortium partners</i></p> <p><i>After submission and approval: upload on the website, no authorisation needed</i></p>
<b>2.3. Making data interoperable</b>	

Data/metadata vocabularies and other I/O standards	-
Mapping to common ontologies	-
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>No licence needed</i>
Re-use availability schedule	<i>After submission and approval: immediately granted free open Access for mining, exploiting, processing and disseminating.</i>
Re-use by third parties	<i>After submission and approval: Accessible and re-usable by third-parties. No access and time limitations apply.</i>
Quality assurance	<i>Internal quality audit control by UPC and FD</i>
Availability period	<i>No time limitation scheduled after the end of the project.</i>

## Annex II – Description tables for research data

This Annex contains the description tables of the research datasets collected at the time of submission of this document (M21)

**Table 13 - Research Data Description Table BLQ-API**

1. Data summary	
Type	<i>Dataset shared by TSP</i>
Purpose	<i>Creation of timetables synchronization module</i>
Relation to the objectives of the project	<i>SIGN-AIR platform at the phase of negotiation provides the opportunity at the TSPs to use the external module of synchronization upload their planned schedules in order to identify the most promising combined itineraries between two TSPs and based on a specific hub.</i>
Types/Formats	<i>'json' files obtained from API</i>
Re-use of any existing data	<i>List of Airports and Airport-station connections</i>
Origin	<i>Bologna Airport (LIPE, BLQ)</i>
Size	<i>~30MB (each API call, which gives 1 day of data)</i>
Utility for others	<i>Help improve scheduling and optimize multi-modal connections.</i>
2. FAIR data	
2.1. Making data findable, including provisions for metadata	
Metadata provision	<i>Not available</i>
Metadata standards	<i>Does not apply</i>
Unique identifier	<i>None, data is identified by the date it was obtained</i>
Naming conventions	<i>Provided by the airport</i>
Search keywords	<i>BLQ, LIPE, Airport, data, Airplane, Bologna</i>
Version control	<i>Not managed</i>
2.2 Making data openly Accessible	
Classification	<i>Restricted, access via API keys</i>

Sharing and access regimes	<i>Only accessible verification users via API key.</i>
Needed method/software	<i>API call</i>
Repository	<i>BLQ Airport server</i>
Access authorisation	<i>Airport of Bologna</i>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>Convert json to csv, preprocess and modify to fit Eurocontrol standards</i>
Mapping to common ontologies	<i>Eurocontrol standards</i>
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>Proprietary License – see Annex VII of this deliverable</i>
Re-use availability schedule	<i>Access upon request</i>
Re-use by third parties	<i>Limited to authorised users through API</i>
Quality assurance	<i>It was provided by the airport, not needed</i>
Availability period	<i>Until expiration of contract</i>

**Table 14 - Research Data Description Table SNCF data**

<b>1. Data summary</b>	
Type	<i>Datasets shared by TSP</i>
Purpose	<i>Creation of timetables synchronization module</i>
Relation to the objectives of the project	<i>SIGN-AIR platform at the phase of negotiation provides the opportunity at the TSPs to use the external module of synchronization upload their planned schedules in order to identify the most promising combined itineraries between two TSPs and based on a specific hub.</i>
Types/Formats	<i>GTF5 zip file</i>

Re-use of any existing data	<i>Not needed</i>
Origin	<a href="https://transport.data.gouv.fr/datasets/horaires-des-lignes-ter-sncf">https://transport.data.gouv.fr/datasets/horaires-des-lignes-ter-sncf</a>
Size	~250KB
Utility for others	<i>Help improve public transportation scheduling and optimize multi-modal connections.</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<i>Not available</i>
Metadata standards	<i>GTFS standards</i>
Unique identifier	-
Naming conventions	<i>GTFS standard format</i>
Search keywords	<i>SNCF, GTFS</i>
Version control	<i>Tracked by publication date</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Open source</i>
Sharing and access regimes	<i>Everyone can access</i>
Needed method/software	<i>Direct download of GTFS in ZIP format.</i>
Repository	<i>GTFS link provided.</i>
Access authorisation	<i>None</i>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>GTFS standard</i>
Mapping to common ontologies	<i>Already in GTFS standard</i>

<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>Creative Commons Attribution</i>
Re-use availability schedule	<i>Access upon request</i>
Re-use by third parties	<i>Everyone can access</i>
Quality assurance	Validated with <a href="https://github.com/MobilityData/gtfs-validator">https://github.com/MobilityData/gtfs-validator</a>
Availability period	<i>No time restrictions</i>

**Table 15 - Research Data Description Table Trenitalia Data**

<b>1. Data summary</b>	
Type	<i>Datasets shared by TSPs</i>
Purpose	<i>Creation of timetables synchronization module</i>
Relation to the objectives of the project	<i>SIGN-AIR platform at the phase of negotiation provides the opportunity at the TSPs to use the external module of synchronization upload their planned schedules in order to identify the most promising combined itineraries between two TSPs and based on a specific hub.</i>
Types/Formats	<i>GTFS zip file</i>
Re-use of any existing data	<i>Not needed</i>
Origin	<a href="https://mobilitydatabase.org/feeds/mdb-840">https://mobilitydatabase.org/feeds/mdb-840</a>
Size	<i>~2MB</i>
Utility for others	<i>Help improve public transportation scheduling and optimize multi-modal connections.</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<i>Not available</i>
Metadata standards	<i>GTFS standards</i>
Unique identifier	<a href="http://dati.toscana.it/dataset/8bb8f8fe-fe7d-41d0-90dc-49f2456180d1">http://dati.toscana.it/dataset/8bb8f8fe-fe7d-41d0-90dc-49f2456180d1</a>



Naming conventions	<i>GTFS standard format</i>
Search keywords	<i>Trenitalia, Emilia Romagna, GTFS,</i>
Version control	<i>Tracked by publication date</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Open source</i>
Sharing and access regimes	<i>Everyone can access</i>
Needed method/software	<i>Direct download of GTFS in ZIP format.</i>
Repository	<i>GTFS link provided.</i>
Access authorisation	<i>None</i>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>GTFS standard</i>
Mapping to common ontologies	<i>Already in GTFS standard</i>
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>Creative Commons Attribution</i>
Re-use availability schedule	<i>Access upon request</i>
Re-use by third parties	<i>Everyone can access</i>
Quality assurance	<i>Validated with <a href="https://github.com/MobilityData/gtfs-validator">https://github.com/MobilityData/gtfs-validator</a></i>
Availability period	<i>No time restrictions</i>

**Table 16 - Research Data Description Table Istanbul Airport Data**

<b>1. Data summary</b>	
Type	<i>Datasets shared by TSP</i>

Purpose	<i>Creation of timetables synchronization module</i>
Relation to the objectives of the project	<i>SIGN-AIR platform at the phase of negotiation provides the opportunity at the TSPs to use the external module of synchronization upload their planned schedules in order to identify the most promising combined itineraries between two TSPs and based on a specific hub.</i>
Types/Formats	<i>xlsx file</i>
Re-use of any existing data	<i>List of Airports and Airport-station connections</i>
Origin	<i>Provided by the Istanbul Airport</i>
Size	<i>~4MB</i>
Utility for others	<i>Help improve scheduling and optimize multi-modal connections.</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<i>Not available</i>
Metadata standards	<i>Does not apply</i>
Unique identifier	<i>06.11.24_IST DEMO DATA_SIGN-AIR</i>
Naming conventions	<i>Provided by the airport</i>
Search keywords	<i>IST, Istanbul, Istanbul Airport</i>
Version control	<i>Not Managed</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Restricted access</i>
Sharing and access regimes	<i>Unable to share, provided by airport</i>
Needed method/software	<i>Downloading the provided xlsx file directly</i>
Repository	<i>Istanbul airport data server</i>
Access authorisation	<i>Forbidden, file provided directly</i>
<b>2.3. Making data interoperable</b>	

Data/metadata vocabularies and other I/O standards	<i>Convert xlsx to csv, preprocess and modify to fit Eurocontrol standards</i>
Mapping to common ontologies	<i>Transform data to Eurocontrol format</i>
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	-
Re-use availability schedule	<i>Does not apply</i>
Re-use by third parties	<i>Not possible</i>
Quality assurance	<i>Provided by the airport itself</i>
Availability period	<i>Until contract expiration</i>

**Table 17 - Research Data Description Table Eurocontrol Data**

<b>1. Data summary</b>	
Type	<i>Datasets shared by TSP</i>
Purpose	<i>Creation of timetables synchronization module</i>
Relation to the objectives of the project	<i>SIGN-AIR platform at the phase of negotiation provides the opportunity at the TSPs to use the external module of synchronization upload their planned schedules in order to identify the most promising combined itineraries between two TSPs and based on a specific hub.</i>
Types/Formats	<i>csv files</i>
Re-use of any existing data	<i>Does not apply</i>
Origin	<a href="https://www.eurocontrol.int/our-data">https://www.eurocontrol.int/our-data</a>
Size	<i>~230 MB</i>
Utility for others	<i>Obtaining lists of aircrafts, airports, companies and their IATA-ICAO codes</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	

Metadata provision	<i>Provided with the data</i>
Metadata standards	<i>Eurocontrol Standards</i>
Unique identifier	<i>extract-20240920120012873-31mar24-29mar25-u</i>
Naming conventions	<i>Eurocontrol</i>
Search keywords	<i>Eurocotrol data, Eurocontrol sample</i>
Version control	<i>Tracked by publication date</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Open source</i>
Sharing and access regimes	<i>Open for all R&amp;D use</i>
Needed method/software	<i>Direct download from the link provided. It is needed to log in to the Eurocontrol portal and agree on terms and conditio</i>
Repository	<i>OneSky - Eurocontrol servers</i>
Access authorisation	<i>OneSky user authentication</i>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>Eurocontrol standards</i>
Mapping to common ontologies	<i>Not needed</i>
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>Terms And Conditions: <a href="https://www.oneskyapp.com/terms/">https://www.oneskyapp.com/terms/</a></i>
Re-use availability schedule	<i>Limited to R&amp;D</i>
Re-use by third parties	<i>Limited to R&amp;D</i>
Quality assurance	<i>Provided by Eurocontrol</i>
Availability period	<i>No time limit</i>

**Table 18 - Research Description Table French NAP Air transport Data**

1. Data summary	
Type	<i>Air Transport datasets from the French National Access Point for transport open data (<a href="https://transport.data.gouv.fr/datasets?locale=en&amp;type=air-transport">https://transport.data.gouv.fr/datasets?locale=en&amp;type=air-transport</a>)</i>
Purpose	<i>For WP2 – Lot1 – T2.2 – Development and internal testing of the IATA SSIM standardisation mechanism in the TransiTool environment – usage of a sample for demonstration to consortium members (internal meeting)</i>
Relation to the objectives of the project	<p><i>The acquired air transport data directly supported the objectives of ex. D2.21 of T2.2 and the SIGN-AIR project. These datasets enabled the development of the IATA SSIM standardization mechanism within TransiTool. This mechanism harmonizes SSIM with multimodal transport standards like GTFS and NeTEx, addressing the challenge of non-standardized data and enhancing data-sharing capabilities between transport service providers (TSPs). By aligning with T2.2 objectives, this work facilitates data-driven decision-making, improves operational coordination, and ensures the seamless integration of aviation with other transport modes.</i></p> <p><i>The acquisition of the open data from France’s NAP is related to the Objective 3 of the project, “Study and determine the current state of data standards harmonization for public transport and air transport”, as well as Objective 5, “Execute demonstrations of SIGN-AIR in various environments achieving TRL 7”. As the task states, TransiTool will be connected with SIGN-AIR platform, therefore the internal testing and demonstration, with the use of the data, ensured the readiness of the IATA SSIM mechanism.</i></p>
Types/Formats	<i>IATA's Standard Schedules Information Manual (SSIM), CSV</i>
Re-use of any existing data	<p><i>The data acquired as part of the SIGN-AIR project for the development and internal testing of the IATA SSIM standardization mechanism is intended solely for internal use by the project's consortium members.</i></p> <p><i>While the data is derived from open-access source, its use within the SIGN-AIR project is restricted to the objectives defined under the Grant Agreement. The data will not be reproduced, redistributed, or otherwise utilized outside the project consortium in any reports, publications, presentations, or other forms of documentation.</i></p>
Origin	<p><i>Website: <a href="https://transport.data.gouv.fr/datasets?locale=en&amp;type=air-transport">https://transport.data.gouv.fr/datasets?locale=en&amp;type=air-transport</a></i></p> <p><i>The website is part of data.gouv.fr, which is the French government’s official open data platform. This platform serves as a National Access Point</i></p>

	<i>(NAP) for transport data in compliance with European Union regulations on mobility and transport.</i>
Size	<i>The total size of the datasets is approximately 113.11 MB.</i>
Utility for others	<i>Limited</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<p><i>Programme des vols Air France KLM</i></p> <ul style="list-style-type: none"> <li><i>Resource: afkltohv-20dec24-27oct24-25oct25-u.ssim</i></li> <li><i>Format: SSIM</i></li> <li><i>Size: 108.7 MB</i></li> <li><i>Description: Flight schedules operated by the AIR FRANCE-KLM group (AF, KL, TO, HV) between 31/03/2024 and 29/03/2025 in SSIM format. Program updated on 20/09/2024.</i></li> <li><i>Download Link: <a href="https://transport.data.gouv.fr/resources/80766">https://transport.data.gouv.fr/resources/80766</a></i></li> </ul> <p><i>Programme des vols Corsair</i></p> <ul style="list-style-type: none"> <li><i>Resource: programme-des-vols-corsair.ssim</i></li> <li><i>Format: SSIM</i></li> <li><i>Size: 1.42 MB</i></li> <li><i>Description: Flight schedules for Corsair.</i></li> <li><i>Download Link: <a href="https://transport.data.gouv.fr/resources/82270">https://transport.data.gouv.fr/resources/82270</a></i></li> </ul> <p><i>Programme des vols TUI</i></p> <ul style="list-style-type: none"> <li><i>Resource: france-s23.csv</i></li> <li><i>Format: CSV</i></li> <li><i>Size: 115.83 KB</i></li> <li><i>Description: Flight schedules for TUI.</i></li> <li><i>Download Link: <a href="https://transport.data.gouv.fr/resources/80760">https://transport.data.gouv.fr/resources/80760</a></i></li> </ul>
Metadata standards	<i>No specific metadata standard used.</i>

Unique identifier	<i>No specific identifier.</i>
Naming conventions	<i>ssimw24-1-ssim</i> <i>ssims24.ssim</i> <i>afkltohv-20dec24-27oct24-25oct25-u.ssim</i> <i>programme-des-vols-corsair.ssim</i> <i>france-s23.csv</i>
Search keywords	<i>IATA, SSIM, Air, Transport, Open, Data</i>
Version control	<i>Created: 11/06/2024 2:23 PM</i> <i>Last Modified: 11/11/2024 6:57 PM</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Open Data (public)</i>
Sharing and access regimes	Stored in AETHON's internal repository (OneDrive), with access restricted to authorised personnel within AETHON. Available to consortium partners upon request, in accordance with the terms of open data sharing. The data is publicly available on the French government portal and is intended for internal research and development purposes. All users must adhere to the terms outlined by the data provider when using or distributing the data.
Needed method/software	<i>XML viewer, CSV reader, MS Excel or similar dedicated software</i>
Repository	AETHON's One Drive  This data was originally sourced from the French government's open data repository, <a href="https://transport.data.gouv.fr">Transport.data.gouv.fr</a> . Datasets were downloaded from said portal and stored in AETHON's repository for its internal development and testing purposes. While the data is publicly available on the French government portal, AETHON assumes no liability for the accuracy, completeness, or timeliness of the information.
Access authorisation	<i>Accessible to authorised AETHON personnel.</i>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>International Air Transport Association (IATA) Standard Schedules Information Manual (SSIM)</i>  <i>Comma-Separated Values (CSV)</i>

Mapping to common ontologies	-
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>Programme des Vols Aircorsica: <a href="#">Licence Ouverte – version 2.0</a></i>
Re-use availability schedule	<i>Stored in AETHON's internal repository (OneDrive), with access restricted to authorised personnel within AETHON. Available to consortium partners upon request, in accordance with the terms of open data sharing. The data is publicly available on the French government portal and is intended for internal research and development purposes. All users must adhere to the terms outlined by the data provider when using or distributing the data.</i>
Re-use by third parties	<i>Available to consortium partners upon request, in accordance with the terms of open data sharing. The data is publicly available on the French government portal and is intended for internal research and development purposes. All users must adhere to the terms outlined by the data provider when using or distributing the data.</i>
Quality assurance	<i>High, in terms of accuracy, standardisation, accessibility. Please note that the fact that data is provided via the <a href="#">Transport.data.gouv.fr</a> portal does contribute to a level of quality assurance, but the overall quality assurance still depends significantly on the data providers.</i>
Availability period	<i>No specific time limitation scheduled after the end of the project.</i>

**Table 19 - Research Description Table Payern Airport historical data**

<b>1. Data summary</b>	
Type	<i>Sample of historical data of Payern Airport, provided by SAP</i>
Purpose	<i>The acquisition of historical airport data from the Payern Airport, provided by SAP, member of the SIGN-AIR consortium, had the sole purpose of acquiring insight into the airport data and the format of them, for internal purposes and specifically for the WP2 – Lot 1 – T2.2. The acquisition of the data sample's aim was to facilitate our understanding of current practices, the data format the Payern airport for its operations (planning and executing its flights), the process of data acquisition, confirmation and data collected by Eurocontrol, and thus explore whether the said airport utilises the IATA SSIM standard, what data format is utilised, as well as what data attributes are mandatory for such operations.</i>



Relation to the objectives of the project	<i>The acquisition of the SAP data sample served the purposes of T2.2 and the project's Objective 3, "Study and determine the current state of data standards harmonization for public transport and air transport".</i>
Types/Formats	<i>Xlsx</i>
Re-use of any existing data	<i>Strictly internally, for research purposes, the data will not be reproduced in any publications/reports/presentations or any other form of documents anywhere outside the project's consortium in any way, neither during nor after the completion of the project. Data will be stored in AETHON's internal repositories, to which only authorised personnel of AETHON has access.</i>
Origin	<i>Consortium partner SAP: Swiss Aeropole SA</i>
Size	<i>41.8 KB</i>
Utility for others	<i>Limited</i>
<b>2. FAIR data</b>	
<b>2.1. Making data findable, including provisions for metadata</b>	
Metadata provision	<i>Name: SAP_dataSample_PayernAirport_V2.xlsx Author: Calmander Didier on 3/5/2024, 3:28 PM Last Modified by: Frederic Chambour on 23/5/2024, 6:40 PM</i>
Metadata standards	<i>No specific metadata standard used</i>
Unique identifier	<i>No specific identifier</i>
Naming conventions	<i>SAP_dataSample_PayernAirport_V2.xlsx</i>
Search keywords	<i>Data, sample, Payern, airport, swiss, aeropole, Eurocontrol, estimated, time, arrival, departure</i>
Version control	<i>Created: 23/5/2024, 6:53 PM Last Modified: 24/5/2024, 9:57 AM</i>
<b>2.2 Making data openly Accessible</b>	
Classification	<i>Confidentiality level: SEN (sensitive)</i>
Sharing and access regimes	<i>Stored in AETHON internal repository (One Drive), accessed only by authorised personnel of AETHON. Available only to consortium partners</i>

	only upon request and discretion is advised. For internal research purposes only.
Needed method/software	<i>MS Excel</i>
Repository	AETHON's One Drive
Access authorisation	<i>Accessible to authorised AETHON personnel and to specific consortium members upon request and after the provision of justification and agreeing to not distributing outside the consortium in any way.</i>
<b>2.3. Making data interoperable</b>	
Data/metadata vocabularies and other I/O standards	<i>Payern Airport Working Process and data samples</i>
Mapping to common ontologies	<i>flight schedule information, trip schedule information</i>
<b>2.4. Increase data re-use (through clarifying licences)</b>	
Licence	<i>The file was provided by SAP as a sample of historical data, property of SAP, restrictions apply.</i>
Re-use availability schedule	<i>No sharing, neither during the lifecycle of the project nor after its completion, in any way.</i>
Re-use by third parties	<i>No sharing, neither during the lifecycle of the project nor after its completion, in any way.</i>
Quality assurance	<i>High – quality assurance guarantee by SAP</i>
Availability period	<i>No specific time limitation scheduled after the end of the project.</i>

## Annex III – Description tables for scientific publications

At the time of submission of this document (M21), two scientific publication were approved for publication (but not published yet).

**Table 20 - Scientific Publication Description Table Air-rail connectivity index**

Type	
<b>Title</b>	<i>Air-rail connectivity index: A comprehensive study of multimodal journeys</i>
<b>Authors</b>	<i>Clara Buire, Slavica Dožic, Danica Babic, Ismini Stroumpou, Josep L. Larriba, Esteban Gatein, and Ruth Parajó</i>
<b>Title of the Journal/Proc./Book</b>	<i>Engineering Proceedings Journal</i>
<b>Number, date or freq. of the Journal/Proc./Book</b>	<i>14th EASN International Conference on Innovation in Aviation and Space towards sustainability today &amp; tomorrow</i>
<b>Relevant Pages</b>	<i>Paper was accepted for publication – pages will be added when paper is published</i>
<b>ISSN/eISSN</b>	<i>Paper was accepted for publication – ISSN will be added when paper is published</i>
<b>Publisher</b>	<i>MDPI</i>
<b>Place of publication</b>	<i>Paper was presented at the 14th EASN International Conference on Innovation in Aviation and Space towards sustainability today and tomorrow, Thessaloniki, Greece, 8-11 October 2024.</i>
<b>Year</b>	2024
<b>Is Peer-reviewed?</b>	Yes
<b>Is Open Access?</b>	Yes
<b>Type of open access</b>	Open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license ( <a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a> ).

<b>Length of the Embargo, if any</b>	N/A
<b>Is this a joint public/private publication?</b>	Public publication
<b>Processing charges for Gold Open Access</b>	Open access journal. Fees were only paid for the registration at the conference.
<b>DOI</b>	Paper was accepted for publication – DOI will be added when paper is published
<b>Link to the Publication</b>	Paper was accepted for publication – link will be added when paper is published
<b>Repository Link</b>	<a href="https://www.mdpi.com/journal/engproc">https://www.mdpi.com/journal/engproc</a>
<b>Ack to SIGN-AIR</b>	<i>Yes, the following text is present:</i>  <i>“Funding: This research was co-funded by SESAR Joint Undertaking and European Commission, within the project “Implemented Synergies, data sharing contracts and goals between transport modes and air transportation” (SIGN-AIR) under grant number 101114845”.</i>
<b>SESAR logo and EU flag (Y/N/Not possible)</b>	Not possible

**Table 21 - Scientific Publication Description Table Implementation of a novel concept to unlock data value in multimodal systems**

<b>Type</b>	
<b>Title</b>	<i>Implementation of a novel concept to unlock data value in multimodal systems</i>
<b>Authors</b>	<i>Ismini Stroumpou, Slavica Dožić, Danica Babić, Josep Lluís Larriba Pey, Milica Kalić</i>
<b>Title of the Journal/Proc./Book</b>	<i>TRA2024 Volume 6 - Connected Mobility Ecosystems proceedings</i>
<b>Number, date or freq. of the Journal/Proc./Book</b>	<i>TRA2024 conference proceedings</i>
<b>Relevant Pages</b>	<i>Paper was accepted for publication – pages will be added when paper is published</i>

<b>ISSN/eISSN</b>	<i>Paper was accepted for publication – ISSN will be added when paper is published</i>
<b>Publisher</b>	<i>Springer</i>
<b>Place of publication</b>	<i>Paper was presented at the 10th edition of Transport Research Arena (TRA 2024), held on 15-18 April, 2024, in Dublin, Ireland.</i>
<b>Year</b>	2024
<b>Is Peer-reviewed?</b>	Yes
<b>Is Open Access?</b>	Yes
<b>Type of open access</b>	Open access publication, which means that you have free and unlimited access.
<b>Length of the Embargo, if any</b>	N/A
<b>Is this a joint public/private publication?</b>	Public publication
<b>Processing charges for Gold Open Access</b>	Open access journal. Fees were only paid for the registration at the conference.
<b>DOI</b>	Paper was accepted for publication – DOI will be added when paper is published
<b>Link to the Publication</b>	Paper was accepted for publication – link will be added when paper is published
<b>Repository Link</b>	Paper was accepted for publication – link will be added when paper is published
<b>Ack to SIGN-AIR</b>	<i>Yes, in the footnote the following text is present:</i>  <i>“Implemented Synergies, data sharing contracts and goals between transport modes and air transportation, funded by SESAR Joint Undertaking, GA No 101114845”.</i>
<b>SESAR logo and EU flag (Y/N/Not possible)</b>	Not possible

## Annex IV – Data protection policies

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### EPF



### SIGN-AIR project

#### EPF Data Protection Officer

Chent, 30. August 2023

I undersigned, Josef Schneider, Chairman and legal representative of the European Passengers' Federation (EPF), hereby confirm that EPF does not have an Data Protection Officer competent to assess EPF's research activities with human beings.

It is expected that EPF's involvement in the SIGN-AIR project might include the collection and processing of the following data: e-mail addresses, names, socio-demographic data, responses to surveys, interviews, contributions (statements, written input, ...) to workshops, amongst others.

EPF's privacy statement is available on its website: <https://www.epf.eu/wp/legal-details/>. Any questions, comments or complaints can be addressed to [privacy@epf.eu](mailto:privacy@epf.eu).

Furthermore, performing any research within SIGN-AIR that involves the collection and processing of personal data, EPF employees will comply with the rules as set up by the project and as referred to in the SIGN-AIR Data Management Plan and Ethics Manual.

Josef Schneider, Chairman EPF

[www.epf.eu](http://www.epf.eu)

+32 9 233 97 29 | SECRETARIAT@EPF.EU | KORTRIJKSESTEENWEG 304, 900 GENT, BELGIUM

## TIMELEX

# TIMELEX

## Privacy policy

### 1. About TIMELEX

Timelex BV/SRL is a law firm established at Joseph Stevensstraat 7, 23rd floor, 1000 Brussels, Belgium, Company number 0890.217.005, RPR/RPM Brussels, Tel.: +32 2 893 20 95

### 2. Data processing operations carried out in the context of the SIGN-AIR project

- Given that TIMELEX is a legal partner in the SIGN-AIR project, its task includes the processing of personal data such as e-mail addresses of partners involved in the project and exchanges of communications with these partners, including contractual documents (terms & conditions, user agreements, data sharing agreements, smart contracts, etc.).
- E-mail addresses of partners will only be used for the purposes of the accomplishment of the SIGN-AIR project and will not be used for any direct marketing or other purposes.
- We respect the confidentiality of your e-mail, and will never send unsolicited mail from the timelex.eu domain.

### 3. Privacy statement

- Any electronic communication, including any attached files, sent from or to TIMELEX is confidential. If you are not the intended recipient of an electronic message, please notify the sender of his mistake and remove the message from your system.
- Electronic communications are stored exclusively on servers located in TIMELEX premises or in premises of its hosting companies established in the EU.
- The security of stored electronic communications is ensured through the application of strong passwords to TIMELEX's e-mail account.
- Any outgoing or incoming electronic communication may be checked and verified for compliance with an antivirus to protect the business interests of TIMELEX.
- Folders containing electronic communications may be archived by TIMELEX for internal purposes and to ensure compliance with applicable regulations.
- Notwithstanding the obligations incumbent on TIMELEX based on legally binding provisions, TIMELEX will never intentionally reveal personal data allowing the deduction of your identity to any third parties, including your e-mail address, without your prior consent or other legal basis.

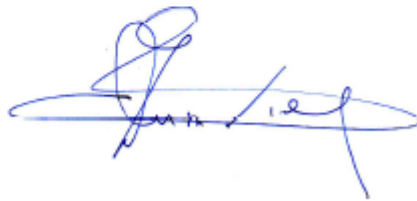
### 4. Your rights

- You have the right to access any personal data regarding yourself being processed by TIMELEX, and to demand the correction or removal of any incorrect, incomplete or irrelevant data. You can exercise these rights by submitting a written request to this effect to us. You also have the right to lodge a complaint with the supervisory authority:  
<https://www.autoriteprotectiondonnees.be/>

### 5. Contact information

## TIMELEX

- If you have any questions in relation to the aforementioned legal information, please contact us via [privacy@timelex.eu](mailto:privacy@timelex.eu).



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## STA



### WEBSITE PRIVACY POLICY

#### **Aim of STA privacy policy**

This privacy policy is intended to inform the users of this website about the nature, scope and purpose of the collection and use of personal data by the website operator **Smart Ticketing Alliance**, Rue Sainte Marie, 6, 1080 Brussels, Belgium. The website operator takes your data protection very seriously and treats your personal data confidentially and in accordance with the statutory provisions. Definitions of the personal data related terms used can be found in Art. 4 GDPR.

#### **About Smart Ticketing Alliance**

Smart Ticketing Alliance was founded in 2015 as follow-up to the European Interoperable Fare Management Project, which was funded by the European Commission. Since then, the Smart Ticketing Alliance (STA) is a non-profit association that promotes and facilitates cooperation between national and regional smart ticketing systems to implement interoperable smart ticketing in Europe and elsewhere. Therefore, STA has become the integrated platform for European transport authorities, transport operators and providers, industry and policy makers to promote, standardise and further develop ticketing and seamless travel in Europe.

Smart Ticketing Alliance informs the standards making process and coordinates how public transport uses them. We are recognised by a worldwide network of stakeholders as leader in the public transport smart ticketing environment.

#### **Personal data collection and processing**

The website operator only collects, uses and discloses your personal data if this is permitted by law or if you consent to the collection of data. You can also visit this website without providing any personal information. However, in order to improve our online services, we store (without personal reference) your access data to this website. This access data includes, for example, the file you requested or the name of your Internet provider. By making the data anonymous, it is not possible to draw conclusions about your person. We collect the access data only for statistical recording of website usage and optimization of our website. The legal basis for the processing is Art. 6 para. 1 sentence 1 lit. f GDPR. No information will be handed out to third parties without the user's consent. Any other data is processed in accordance with Art. 6 para. 1 sentence 1 lit. a, b GDPR.

#### **Your rights**

You have the right to request information about your personal data stored by us free of charge at any time, to correct incorrect data and to have data processing restricted. In addition, you have the right to have your personal data processed by us deleted at any time, unless the data is needed to complete outstanding tasks or to enforce our rights and claims or must be retained in accordance with legal requirements. You may object to the processing

of your personal data at any time. If you wish to request information, correction, restriction or deletion, please contact us in writing or directly by mail, e-mail: [privacy@smart-ticketing.org](mailto:privacy@smart-ticketing.org).

If you believe that your data has been processed unlawfully, you may lodge a complaint with the competent supervisory authority, Belgian Data Protection Authority (GBA), Rue de la Presse 35, 1000 Brussels, <https://www.autoriteprotectiondonnees.be/>.

### **Use of our newsletter**

You have the possibility to subscribe to our newsletters. For this purpose, you must provide your e-mail address to which we can send the newsletters. By providing your e-mail address, you consent to us using your data for the newsletter dispatch in order to inform you about news. Your e-mail address will not be used for any other purpose, in particular it will not be passed on to third parties. Of course, you have the option to unsubscribe from the newsletter at any time and to revoke your consent for the future. To do so, please click the corresponding link in the newsletter sent to you. Your e-mail address will then be deleted from our system immediately. Newsletter service is provided by "mailchimp" by INTUIT (<https://mailchimp.com/en/privacy-rights/>).

### **Application form for new members**

You have the possibility to apply for membership via electronic form or in written form by mail. By providing the necessary information, your data will only be used for the application process and not for other purposes. Without your consent your information will not be shared with third parties. The electronic application form is provided by TYPFORM SL, (<https://www.typeform.com/>).

### **Analytics & Cookies**

This website uses cookies for pseudonymised reach measurement, which are transferred to the user's browser either from our server or the server of a third party. Common browsers offer the setting option to not allow cookies. Note: It is not guaranteed that you will be able to access all functions of this website without restrictions if you make the corresponding settings.

This website uses the Analytics service due to our legitimate interests to optimise and analyse our online offer in terms of Art. 6 para. 1 lit. f. DSGVO the analytics service of the company "mailchimp" by INTUIT.

### **Links to websites of other providers**

Our websites may contain links to websites of other providers, which are not covered by this privacy policy. Insofar as the collection, processing or use of personal data is associated with the use of the websites of other providers, please observe the data protection information of the respective providers.

\*\*\*\*\*

Smart Ticketing Alliance, Dr. Ralph Gambetta  
29.08.2023



## SIGN-AIR Privacy Policy

### 1. About Smart Ticketing Alliance

Smart Ticketing Alliance (<https://www.smart-ticketing.org/>) was founded in 2015 as follow-up to the European Interoperable Fare Management Project, which was funded by the European Commission.

Since then, the Smart Ticketing Alliance (STA) is a non-profit association that promotes and facilitates cooperation between national and regional smart ticketing systems to implement interoperable smart ticketing in Europe and elsewhere. Therefore, STA has become the integrated platform for European transport authorities, transport operators and providers, industry and policy makers to promote, standardise and further develop ticketing and seamless travel in Europe.

Smart Ticketing Alliance informs the standards making process and coordinates how public transport uses them. We are recognised by a worldwide network of stakeholders as leader in the public transport smart ticketing environment.

### 2. Aim of this privacy policy

Smart Ticketing Alliance wants to protect privacy-related information in general, according to the regulations of the European law on privacy, the General Data Protection Regulation (GDPR, 2016/679), as laid down in the PDF of the Regulation in its latest version (<https://gdpr-info.eu/>).

Specifically, it is expected that Smart Ticketing Alliance will take part in tasks in the SIGN-AIR project (Grant Agreement number 101114845) with regard to human beings, a.o.: e-mail data exchanges, questionnaires, interviews, surveys and workshops. In this connection, Smart Ticketing Alliance will comply with ethical guidelines as to be set out in the SIGN-AIR project Data Management Plan.

### 3. Privacy-relevant SIGN-AIR project tasks of Smart Ticketing Alliance to be considered

- Communication via e-mails will be a major source of information exchange during the whole SIGN-AIR project.
- Interviews, surveys, questionnaires as well as workshops are expected to be a major source of information exchanges in a range of tasks of Smart Ticketing Alliance in the SIGN-AIR project:
  - task 2.2 Standardisation and harmonisation aspects
  - task 2.4 Implementation of the creation of TSP's identity
  - task 2.6 Templating mechanism with regard to clauses and rules in contracts
  - task 2.7 Legal drafting of contracts
  - task 2.8 Creation of negotiation mechanism and settlement
  - task 2.13 Pilots design and execution
  - task 2.15 Validation and demonstration of SIGN-AIR platform
  - task 2.17 Conclusions about the pilots and Policy recommendations.
- All these tasks, and related tasks like dissemination of results, relate to the core activities of Smart Ticketing Alliance, being standardisation and harmonisation in a yet quite fragmented

environment where priorities and needs of different parties involved need to be aligned while keeping trust and the willingness to cooperate in an inclusive mobility ecosystem.

A key protection priority to be followed up here is to respect privacy in dealing with personal information related to tasks to be carried out in the SIGN-AIR project.

#### 4. Compliance with GDPR during the SIGN-AIR project

Working effectively in the SIGN-AIR project has a prerequisite: sharing information in order to reach common goals.

- All personal data collected or processed by Smart Ticketing Alliance during the project will be shared with project partners according to set agreements.
- All personal data collected or processed by Smart Ticketing Alliance will be used only for the purposes of the project as specified in the official SIGN-AIR documentation that was granted by the European Commission and serves as a basis for all activities.

#### 5. Privacy statement

- Smart Ticketing Alliance respects the confidentiality of e-mails, and attachments sent together with e-mails to or from our organisation, at all times.
- Smart Ticketing Alliance, as an independent, non-commercial organisation, will never send unsolicited e-mails.
- If you receive an e-mail from Smart Ticketing Alliance that is probably not meant to be for you, please notify the sender and remove the information that was sent to you incorrectly from your system. Thank you for your cooperation!
- E-mails and attachments sent to or received from Smart Ticketing Alliance are stored in a protected environment including use of strong passwords.
- Smart Ticketing Alliance will never intentionally reveal personal data that may be related to your identity to any third parties, including your e-mail address, without your prior consent.

#### 6. Your rights

Smart Ticketing Alliance deals with personal information with great care and offers you rights according to GDPR.

- You have the right to ask us to provide you with information about personal data that we have stored about you.
- You have the right to ask us to correct your personal data if information as stored in our environment proves not to be in order.
- You can ask us to delete your personal data if it is no longer necessary for the original purposes.
- If you have any questions regarding the processing of your personal data by Smart Ticketing Alliance, you can contact the privacy responsible within our organisation: [privacy@smart-ticketing.org](mailto:privacy@smart-ticketing.org).
- If you are still not satisfied with our response or you believe that your data has been processed unlawfully, you can lodge a complaint with the competent data protection authority: Belgian Data Protection Authority (GBA), Rue de la Presse 35, 1000 Brussels, <https://www.autoriteprotectiondonnees.be/>.



*Ralph Gambetta*

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Smart Ticketing Alliance, Dr. Ralph Gambetta  
29.08.2023

## FD



### Privacy policy

#### 1. About Cybersecurity-law

- Franck Dumortier Juriste SRL (FD) is a limited liability company under Belgian law. ([www.cybersecurity-law.be](http://www.cybersecurity-law.be)), established and principally seated at Rue Docteur Elie Lambotte, 155, B-1030 Brussels, Belgium. Franck Dumortier's enterprise number is 0798.950.495.

#### 2. Data processing operations carried out in the context of the SIGN-AIR project

- Given that FD is a legal partner in the SIGN-AIR project, his task includes the processing of personal data such as e-mail addresses of partners involved in the project and exchanges of communications with these partners, including contractual documents (terms & conditions, user agreements, data sharing agreements, smart contracts, etc).
- E-mail addresses of partners will only be used for the purposes of the accomplishment of the SIGN-AIR project and will not be used for any direct marketing or other purposes.
- We respect the confidentiality of your e-mail, and will never send unsolicited mail from the [cybersecurity-law.be](http://cybersecurity-law.be) domain.

#### 3. Privacy statement

- Any electronic communication, including any attached files, sent from or to Franck Dumortier is confidential. If you are not the intended recipient of an electronic message, please notify the sender of his mistake and remove the message from your system.
- Electronic communications are stored exclusively on servers located in FD premises or in premises of his hosting company (OVH – France).
- The security of stored electronic communications is ensured through the application of strong passwords to FD's e-mail account.
- Any outgoing or incoming electronic communication may be checked and verified for compliance with an antivirus to protect the business interests of Franck Dumortier.
- Folders containing electronic communications may be archived by Franck Dumortier for internal purposes and to ensure compliance with applicable regulations.
- Notwithstanding the obligations incumbent on Franck Dumortier based on legally binding provisions, Franck Dumortier will never intentionally reveal personal data allowing the deduction of your identity to any third parties, including your e-mail address, without your prior consent or other legal basis.

#### 4. Your rights

- You have the right to access any personal data regarding yourself being processed by Franck Dumortier, and to demand the correction or removal of any incorrect, incomplete or irrelevant data. You can exercise these rights by submitting a written request to this effect to us. You also have the right to lodge a complaint with the supervisory authority: <https://www.autoriteprotectiondonnees.be/>

#### 5. Contact information

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- If you have any questions in relation to the aforementioned legal information, please contact us via [franck.dumortier@cybersecurity-law.be](mailto:franck.dumortier@cybersecurity-law.be).

\*\*\*\*\*  
Franck Dumortier

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## HSP

27/09/2023 14:41

Privacy Notice - Hellenic Seaplanes S.A.



(<https://hellenic-seaplanes.com/>)



## Privacy Notice

Hellenic Seaplanes S.A. respects your privacy. The information you give us is processed in accordance with our privacy policy which is compliant with the EU General Data Protection Regulation (Regulation (EU) 2016/679) known as GDPR, other EU legislation and pertinent laws of the Republic of Greece.

### 1. PURPOSE OF THIS PRIVACY NOTICE

This Privacy Policy aims to give you information on how we collect and processes your personal data through the website or the call centre for the purpose of issuing your air ticket, offering ancillaries, to sign up to our newsletter, to participate in our online competitions or to apply for a job posting.

### CHANGES TO THE PRIVACY NOTICE AND YOUR DUTY TO INFORM US OF CHANGES

Our Privacy Policy is regularly reviewed in line with our activities and the services we offer to our passengers. It is important that the personal data we hold about you is accurate and current. Please keep us informed if your personal data changes during your relationship with us.

### 2. THE DATA WE COLLECT ABOUT YOU

Personal data is any information that relates to an identified or identifiable living individual.

The information we collect varies depending on whether you would like to purchase an air ticket, subscribe to our newsletter, participate in any online competition we organize or simply browse our website having accepted our cookies policy.

We do not collect or process any sensitive personal data about you. In the case of passengers requiring personalized assistance prior to or during a flight, the information is limited to what is needed to provide assistance during air transport and at the water airports of departure and destination.

The information we collect, use, store and transfer includes:

- Identity Data: name, date of birth, I.D. number,
- Contact Data: telephone number, email address
- Transaction Data: payments made from/to you for the purchase of air tickets and ancillaries.
- Marketing Data: your preferences in receiving marketing material if you opt-in.
- Professional qualifications: information you include in your CV when applying for a vacancy.

### 3. HOW IS YOUR PERSONAL DATA COLLECTED?

We use different methods to collect data from and about you including through:

#### Direct interactions.

- You give us data concerning your identity, contact details and payment method when you purchase an air ticket and ancillaries. Tickets and ancillaries can be bought online through our website, or by contacting the Call Centre.
- You give us your email address when you subscribe to our newsletter.
- You give us your preferences when you opt-in to receive customized marketing material to have a better website experience.
- You give us personal data regarding your professional qualifications when you submit an online application for a vacancy to the Human Resources department.
- You give us your email, your name, and surname when you enter a competition, or promotion.

**Through the use of cookies.**

<https://hellenic-seaplanes.com/en/privacy-notice/>

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27/09/2023 14:41

Privacy Notice - Hellenic Seaplanes S.A.

▪ We might collect data about your preferences if you accept the use of cookies. Please see our [cookie policy \(https://hellenic-seaplanes.com/en/privacy-policy/\)](https://hellenic-seaplanes.com/en/privacy-policy/) for further details. You have the right to withdraw consent to receiving marketing material and to unsubscribe from our newsletter at any time. This option is available at every communication we have with you.

#### 4. PURPOSES FOR WHICH WE USE YOUR PERSONAL DATA

We will use your personal data in the following circumstances:

- To carry out our obligations under the air carriage contract we enter into with you and to offer you any ancillaries you have purchased including travel insurance products.
- To process payment of your ticket and ancillaries.
- To inform you of any flight delays or cancellations.
- To send you our newsletter if you are a subscriber.
- To send you marketing material if you have indicated your wish to receive it.
- To assess your suitability as a potential job candidate.
- Where we need to comply with a legal or regulatory obligation.
- To comply with the requirements of border control authorities to receive certain passenger information and to respond to the requests of the Passenger Information Units set up in the EU Member States.

#### 5. CHILDREN'S PRIVACY

We do not knowingly collect any information from anyone under 16 years of age. Our website, products and services are all directed to people who are at least 16 years old or older.

If you are under 16, do not use or provide any information on this website or on or through any of its features / register on the website, make any purchases through the website or provide any information about yourself to us, including your name, address, telephone number or email address.

If we learn that we have collected or received personal data from a child under 16 (apart from the data for reservation and ticketing purposes), we will delete that information, unless consent is given or authorised by the holder of parental responsibility over the child.

If you believe we might have any information from or about a child under 16 (apart from the data for reservation and ticketing purposes), please contact us.

#### 6. DATA SECURITY

We have put in place appropriate security measures to prevent your personal data from being accidentally lost, used or accessed in an unauthorized way, altered or disclosed. In addition, we limit access to your personal data to those employees, agents, contractors and other third parties who are involved in our performance of the air carriage contract or in the provision of other services to you. They will only process your personal data on our instructions and they are subject to a duty of confidentiality.

#### 7. DATA RETENTION

We will retain your personal data for as long as necessary to fulfill the purposes for which we collected it. In the event of a complaint or if there is a possibility of a dispute procedure, we will retain your data for a longer period.

Where the data is collected to comply with a legal obligation, the retention period is determined by the applicable regulatory instrument.

#### 8. YOUR LEGAL RIGHTS

##### RIGHT OF ACCESS

Under certain circumstances, you have the right to request a copy of any personal data that you have provided us and you may make corrections to such data.

If you wish to exercise your right of access, please contact us.

##### RIGHT TO OBJECT TO PROCESSING

You have the right to object to processing in regard to certain purposes. However certain information may have to be processed due to compelling legal obligations and rules on safety which govern the aviation industry.

<https://hellenic-seaplanes.com/en/privacy-notice/>

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## SPARSITY

# \*Sparsity

## Privacy policy

### 1. About Sparsity

- Sparsity-Technologies (formally Sparsity, S.L.) is a spin-out of the UPC (Universitat Politècnica de Catalunya) created on March 2010 to commercialize and provide services based on the technologies developed at DAMA-UPC.
- Sparsity is involved in the tasks concerning the development of SIGN-AIR's platform such as "T2.4 Implementation of the creation of TSPs' Identity (registration and creation of the catalogue of catalogues)". Furthermore, it will participate in the activities of "T2.10 Journey services for MaaS platforms and Travel Companion applications" that aims to connect SIGN-AIR platform with Travel Companion (TC) application and a demo TC might be created for testing purposes. Moreover, it will participate in "T2.13 Pilots design and execution" for testing and demonstration SIGN-AIR platform in real environment. Also, it will be actively participate in "T2.14 Workshops of SIGN-AIR's stakeholders" for the formation of an external advisory board and for the organization and execution of at least two stakeholder workshops. Finally, Sparsity is leading "Task 2.19: Cross projects and initiatives collaboration and Transport Service Providers (TSPs) engagement" activities and therefore plays a crucial role in organizing and executing bilateral meetings and/or focus groups targeting SIGN-AIR's stakeholders.

### 2. Aim of this Privacy Policy and definitions

- The aim of this privacy policy is to ensure that the processing of personal data carried out by Sparsity during the SIGN-AIR project complies with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (GDPR).
- Personal data are any information which are related to an identified or identifiable natural person. The data subjects are identifiable if they can be directly or indirectly identified, especially by reference to an identifier such as a name, an identification number, location data, an online identifier or one of several special characteristics, which expresses the physical, physiological, genetic, mental, commercial, cultural or social identity of these natural persons. In practice, these also include all data which are or can be assigned to a person in any kind of way. For example, the telephone, credit card or personnel number of a person, account data, number plate, appearance, customer number or address are all personal data.
- The term "processing" means any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction;

### 3. Compliance with the GDPR during the SIGN-AIR project

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- All personal data collected or processed by Sparsity during the SIGN-AIR project will be used solely for the purposes of the project as specified in in the GA 894116.
- Personal data collected or processed by Sparsity during the SIGN-AIR project may only be shared with the following organizations of the consortium for the purposes of the project: UNIVERSITAT POLITECNICA DE CATALUNYA (UPC), AETHON SYMVOULI MICHANIKI MONOPROSOPI IKE (AETHON), Univerzitet u Beogradu - Saobracajni fakultet (UB-FTTE), ECOLE NATIONALE DE L AVIATION CIVILE (ENAC), EUROPEAN PASSENGERS' FEDERATION IVZW (EPF), FUNDACIO CENTRE D'INNOVACIO I TECNOLOGIA DE LA UPC (CARNET), TIME.LEX, AUTORITAT DEL TRANSPORT METROPOLITA (AMTU), SMART TICKETING ALLIANCE (STA), AEROPORTO GUGLIELMO MARCONI DI BOLOGNA SPA (BLQ), TPER S.P.A. (TPER), AGRUPACIO DE MUNICIPIS TITULARS DEL SERVEI DE TRANSPORT URBA DE LA REGIO METROPOLITANA DE BARCELONA (AMTU), FRANCK DUMORTIER JURISTE (FD), YDROPLANA ELLADAS ANONYMI ETAIREIA (HSP), swiss aeropole SA (HSP).
- Any electronic communication, including any attached files, sent from or to Sparsity is confidential.
- Electronic communications are stored exclusively on servers located in Sparsity premises or in premises of the website syn-air.eu hosting company. Our hosting company is Siteground and their servers are located in Eemshaven (Netherlands). The website we have built is for people to find information regarding the SIGN-AIR project. For the newsletter purpose, we will use 'Mailchimp' to gather emails, prepare and send the newsletters. Once the project ends, we will erase the database and delete the account. The intention of gathering emails is purely for dissemination purposes and we will not process the emails in any other way. Users accept the Terms & Conditions in order to be included in our Mailchimp contact list.
- The security of stored electronic communications and personal data is ensured through Mailchimp Terms & Conditions and security measures.
- The collected personal data will be retained up to 6 months after the end of the project, unless further retention is imposed by law.
- Notwithstanding the obligations incumbent on Sparsity based on legally binding provisions, Sparsity will never intentionally reveal personal data allowing the deduction of your identity to any third parties, including your e-mail address, without your prior consent or other legal basis.
- No personal data will be transferred outside of the EU with the exception of transfers to UB-FTTE, which is situated in Serbia. UB-FTTE has submitted a general statement signed by the responsible person of the organization according to which in case personal data are collected in the Republic of Serbia, the processing of such data and their transfers will be carried out in compliance with the Law on Protection of Personal Data (Official Gazette of the Republic of Serbia, No. 87/2018). In case personal data are collected within the EU, the processing of personal data and their transfers will be carried out in compliance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

#### 4. Your rights

- When we collect and use your personal data, you have a number of rights that you can exercise as described below.
- You have the right to access your personal data, which means that you can ask us to provide you with information about the personal data we have about you. You can even request a copy of your personal data.
- You have the right to ask us to correct your personal data if you can prove that the personal data, we process about you is incorrect, incomplete or out of date. Please specify the context

in which we use your personal data (e.g., to send you newsletters or to respond to a request), so that we can assess your request quickly and accurately.

- If we have asked for your consent to the collection and use of your personal data, for example to send you newsletters, you have the right to withdraw this previously given consent.
- You can ask us to delete your personal data if it is no longer necessary for the purposes for which it was collected, if its collection was unlawful or if you have successfully exercised your right to withdraw your consent or your right to object to the processing of your personal data. Where any of these circumstances apply, we will delete your personal data immediately unless we are prohibited from deleting your personal data by law, regulatory obligations or administrative or court orders.
- When we process your personal data on the basis of our own legitimate interests, you have the right to object to our processing of your personal data. However, we will ask you to describe your particular situation giving rise to the request. We must then balance your situation against our interests. If this balancing exercise results in your situation outweighing our interests, we will stop processing your personal data.
- If you have any complaints regarding the processing of your personal data by Sparsity, you can always contact the person in charge of privacy within our organization: [larri@sparsity-technologies.com](mailto:larri@sparsity-technologies.com)
- If you are still not satisfied with our response, you can lodge a complaint with the competent data protection authority, APDCAT: <https://apdcat.gencat.cat/ca/inici>

\*\*\*\*\*  
Josep Lluís Larriba Pey

## Annex V – Ethical statements/letters

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### AETHON



*Athens, Greece, September 29, 2023*

9, Alexandras Avenue, 11473, Athens, Greece  
T/F: +30 210-3801139  
VAT: 800728666 | GEGR: 138657301000  
[info@aethon.gr](mailto:info@aethon.gr) | [www.aethon.gr](http://www.aethon.gr)

*To: SIGN-AIR*

**Subject:** [SIGN-AIR project] AETHON Internal ethical committee

Sirs,

I undersigned, Alexandros Papacharalampous, CEO and legal representative of the AETHON Engineering Single-Member P.C., hereby confirm that AETHON does not have an internal Ethics Committee competent to assess AETHON's research activities with human beings.

It is expected that AETHON's involvement in the SIGN-AIR project might include the following research activities with human beings: surveys, interviews, workshops, Q&A sessions at conferences or other events, e-mail exchanges, amongst others.

While performing such research, AETHON employees will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and Ethics Manual.

On behalf of AETHON,

Digitally signed by ALEXANDROS  
PAPACHARALAMPOUS  
Date: 2023.09.29 18:48:01 EEST

**Alexandros Papacharalampous**  
CEO&CTO

ENAC



Toulouse, 4th of October, 2023

**CERTIFICATION**

I undersigned, Patrick SENAC, head of research at Ecole Nationale de l'Aviation Civile (ENAC), hereby confirm that ENAC does not have an internal ethics committee to assess ENAC's research activities in human beings.

It is expected that ENAC's involvement in the SIGN-AIR project might include the following research activities with human beings : surveys, interviews, workshops, Q&A sessions at conferences or other events, e-mail exchanges, amongst others.

While performing such research, ENAC's employees will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and Ethics Manual.

Patrick SENAC  
Head of Research



Ecole Nationale de l'Aviation Civile – 7 avenue Edouard Belin – 31055 Toulouse Cedex 04, FRANCE

**EPF**



**SIGN-AIR project**

**EPF Internal ethical committee**

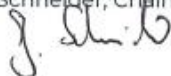
Ghent, 30. August 2023

I undersigned, Josef Schneider, Chairman and legal representative of the European Passengers' Federation (EPF), hereby confirm that EPF does not have an internal Ethics Committee competent to assess EPF's research activities with human beings.

It is expected that EPF's involvement in the SIGN-AIR project might include the following research activities with human beings: surveys, interviews, workshops, Q&A sessions at conferences or other events, e-mail exchanges, amongst others.

While performing such research, EPF employees will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and Ethics Manual.

Josef Schneider, Chairman EPF



[www.epf.eu](http://www.epf.eu)

+32 9 233 97 29 | SECRETARIAT@EPF.EU | KORTRIJKSESTEENWEG 304, 9000 GENT, BELGIUM

1

## CARNET



### Project SIGN-AIR – Title

Dear Mr. Franck Dumortier,

In reply to your email requesting information in order to enable you to prepare the first version of the Data Management Plan in the SIGN-AIR project (Grant Agreement number 101114845), we herewith inform you about the following:

FUNDACIO CENTRE D'INNOVACIO I TECNOLOGIA DE LA UPC (CARNET) will not organize nor take part in SIGN-AIR project tasks involving human beings, among others: questionnaires, interviews, surveys, workshops, demonstrations and pilots.

Therefore, FUNDACIO CENTRE D'INNOVACIO I TECNOLOGIA DE LA UPC (CARNET) is not under the obligation to ask any opinion/approval from UPC's Ethical Committee.

Antonio Álvarez Álvarez

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**TIMELEX**

**TIMELEX**

Brussels, 30 September 2023

ADVOCATEN  
AVOCATS  
ATTORNEYS

Jos Dumortier<sup>1</sup>  
Geert Somers<sup>1</sup>  
Hans Graux<sup>1</sup>  
Edwin Jacobs<sup>1</sup>  
Frederic Debusseré<sup>1</sup>  
Ruben Roex<sup>1</sup>

Stefan Van Camp  
Eleni Kosta<sup>2</sup>  
Magdalena Kogut-  
Czarkowska<sup>2</sup>  
Magdalena Gad-Nowak<sup>2,4</sup>  
Lynn Pype  
Bernd Filten  
Pieter Gryffroy<sup>1</sup>  
Lies Boghaert  
Charlotte De Thaye  
Pedro Demolder  
Silke Fiers  
Jolien Clemens  
Janvier Parewyck  
Siyanna Lilova<sup>2</sup>

LEGAL CONSULTANTS

Niels Vandezande  
Anubhuti Sinha

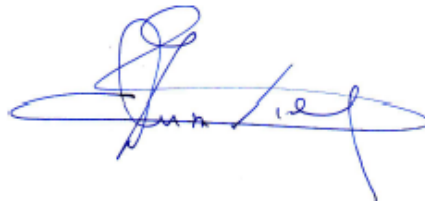
**Re : SIGN-AIR**

**To whom it may concern:**

I undersigned, Jos Dumortier, Legal Representative of *TIMELEX BV* hereby confirm that Timelex does not have an internal Ethical Committee competent to assess Timelex's research activities involving human beings.

It is expected that Timelex's involvement in the SIGN-AIR project (Grant Agreement number 101114845) might include the following research activities with human beings: surveys, interviews, workshops, conferences or other events, e-mail exchanges, exchange of contractual documents (terms & conditions, user agreements, data sharing agreements, smart contracts).

While performing such research, Timelex will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and ethical guidelines.



**Jos Dumortier**  
**Partner**

<sup>1</sup> BV/SRL  
<sup>2</sup> Heraklion Bar  
<sup>3</sup> Warsaw Bar  
<sup>4</sup> New York State Bar  
<sup>5</sup> Sofia Bar

ATM



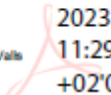
**ATM Internal ethical committee**

Barcelona, 28<sup>th</sup> September 2023

I undersigned, Lluís Alegre i Valls, Director of the Mobility Department and Legal Representative of the AUTORITAT DEL TRANSPORT METROPOLITÀ (ATM. Àrea de Barcelona), hereby confirm that ATM does not have an internal Ethics Committee competent to assess ATM's research activities with human beings.

It is expected that ATM's involvement in the SIGN-AIR project might include the following research activities with human beings: surveys, interviews, workshops, Q&A sessions at conferences or other events, e-mail exchanges, amongst others.

While performing such research, ATM employees will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and Ethics Manual.

 2023.09.29  
11:29:35  
+02'00'

Lluís Alegre i Valls, Director of the Mobility Department  
ATM

STA



Smart Ticketing Alliance · Rue Sainte-Marie 6 · 1080 Brussels

CYBERSECURITY LAW  
Franck Dumortier Juriste SRL  
Rue Docteur Elie Lambotte, 155  
1030 Bruxelles  
BELGIUM

**Project SIGN-AIR - your request with regard to Internal  
Technical Committee**

22 August 2023

Dear Mr. Franck Dumortier,

in reply to your email requesting information in order to enable you to prepare the first version of the Data Management Plan in the SIGN-AIR project (Grant Agreement number 101114845) from 7 August 2023, we herewith inform you about the following:

- Smart Ticketing Alliance does not have an Internal Ethical Committee  
For this reason, our organisation does not impose our activities in the SIGN-AIR project to be notified or authorised by an internal ethical committee
- Smart Ticketing Alliance does not have a Data Protection Officer  
Smart Ticketing Alliance will use a privacy policy in relation with the SIGN-AIR project (please see attachment)
- It is expected that Smart Ticketing Alliance will take part in SIGN-AIR project tasks with regard to human beings, among others: e-mail data exchanges, questionnaires, interviews, surveys and workshops  
Related to these SIGN-AIR project research activities, Smart Ticketing Alliance will comply with ethical guidelines as to be set out in the Data Management Plan
- Contact address for data protection matters:  
[privacy@smart-ticketing.org](mailto:privacy@smart-ticketing.org)
- Smart Ticketing has a legal representative, undersigned, chairman of Smart Ticketing Alliance

Kind regards,



Dr. Ralph Gambetta  
Chairman (Legal representative of the STA)

Attachment: Smart Ticketing Alliance privacy policy

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Smart Ticketing Alliance  
Rue Sainte-Marie 6, 1080 Brussels  
Tax identification number: 0634.896.573  
VAT number: BE0634.896.573

Account: ING Belgium  
IBAN: BE67 3632 0588 7287  
Swift BIC: BBRU-BE-BB-010  
Bank address: Avenue Marnixlaan 24, 1000 Brussels

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AMTU



## SIGN-AIR project

### AMTU Internal ethical committee

Granollers - Catalonia, 3<sup>rd</sup> October 2023

I undersigned, Mrs. Maria Dolors Vilalta i Fossas, comptroller, secretary and legal representative of the “Associació de municipis per la Mobilitat i el Transport Urbà – AMTU” (Association of Municipalities for Mobility and Urban Transport), hereby confirm that AMTU does not have an internal Ethics Committee competent to assess AMTU’s research activities with human beings.

It is expected that AMTU’s involvement in the SIGN-AIR project might include the following research activities with human beings: surveys, interviews, workshops, Q&A sessions at conferences or other events, e-mail exchanges, amongst others.

While performing such research, AMTU employees will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and Ethics Manual.

MARIA DOLORS VILALTA FOSSAS - 40601354Y  
Firmado digitalmente por MARIA DOLORS VILALTA FOSSAS - 40601354Y  
Fecha: 2023.10.03 12:31:44 +02'00'

Maria Dolors Vilalta i Fossas, Comptroller and Secretary

FD



**Concerns: Franck Dumortier – Ethical Committee**

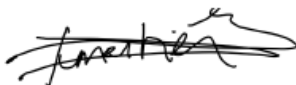
Brussels, 29<sup>th</sup> September 2023

I undersigned, Franck Dumortier, Legal Representative of *Franck Dumortier Juriste SRL (FD)*, hereby confirm that FD does not have an internal Ethical Committee competent to assess FD's research activities involving human beings.

It is expected that FD's involvement in the SIGN-AIR project (Grant Agreement number 101114845) might include the following research activities with human beings: surveys, interviews, workshops, conferences or other events, e-mail exchanges, exchange of contractual documents (terms & conditions, user agreements, data sharing agreements, smart contracts).

While performing such research, Franck Dumortier will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and ethical guidelines.

Franck Dumortier

A handwritten signature in black ink, appearing to read "Franck Dumortier", written over a horizontal line.

HSP



**SIGN AIR PROGRAMM**

**HELLENIC SEAPLANES Internal ethnical committee**

Athens, 28 September 2023

I undersigned, Nicolas Charalambous , Chairman CEO and legal representative of Hellenic Seaplanes SA, hereby confirm that Hellenic Seaplanes does not have an internal Ethics Committee competent to assess Hellenic Seaplanes's research activities with human beings.

It is expected that Hellenic Seaplanes's involvement in the SIGN-AIR project might include the following research activities with human beings: surveys, interviews, workshops, Q&A sessions at conferences or other events, e-mail exchanges, amongst others.

While performing such research, Hellenic Seaplanes employees will comply with the ethical guidelines as set up by the project and as referred to in the SIGN\_AIR Data Management Plan and Ethical Manual

Nicolas Charalambous  
Chairman & CEO  
«HELLENIC SEAPLANES»

**HELLENIC SEAPLANES S.A.**  
ΥΠΗΡΕΣΙΕΣ ΕΜΑΕΡΙΑΣ ΜΕΤΑΦΟΡΑΣ  
& ΔΙΑΧΕΡΙΣΗΣ ΥΔΑΤΟΔΡΟΜΙΩΝ  
ΛΕΩΦ.ΑΛΙΠΑΝΔΡΗΣ 102 - Τ.Κ. 115 21  
Α.Φ.Μ.: 800496421 / Δ.Ο.Υ.: Φ.Α.Ε. ΑΘΗΝΩΝ

SPARSITY

# \*Sparsity

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**Topic:** Absence of Ethical Committee

Barcelona, 3<sup>rd</sup> October 2023

To whom it may concern,

I undersigned, Josep Lluís Larriba Pey, Legal Representative of Sparsity SL (SPA), hereby confirm that SPA does not have an internal Ethical Committee competent to assess SPA's research activities involving human beings.

It is expected that SPA's involvement in the SIGN-AIR project (Grant Agreement number 101114845) might include the following research activities with human beings: surveys, interviews, focus groups, workshops, conferences or other events, e-mail exchanges, exchange of contractual documents part of the SIGN-AIR platform (e.g., terms & conditions, user agreements, data sharing agreements, smart contracts).

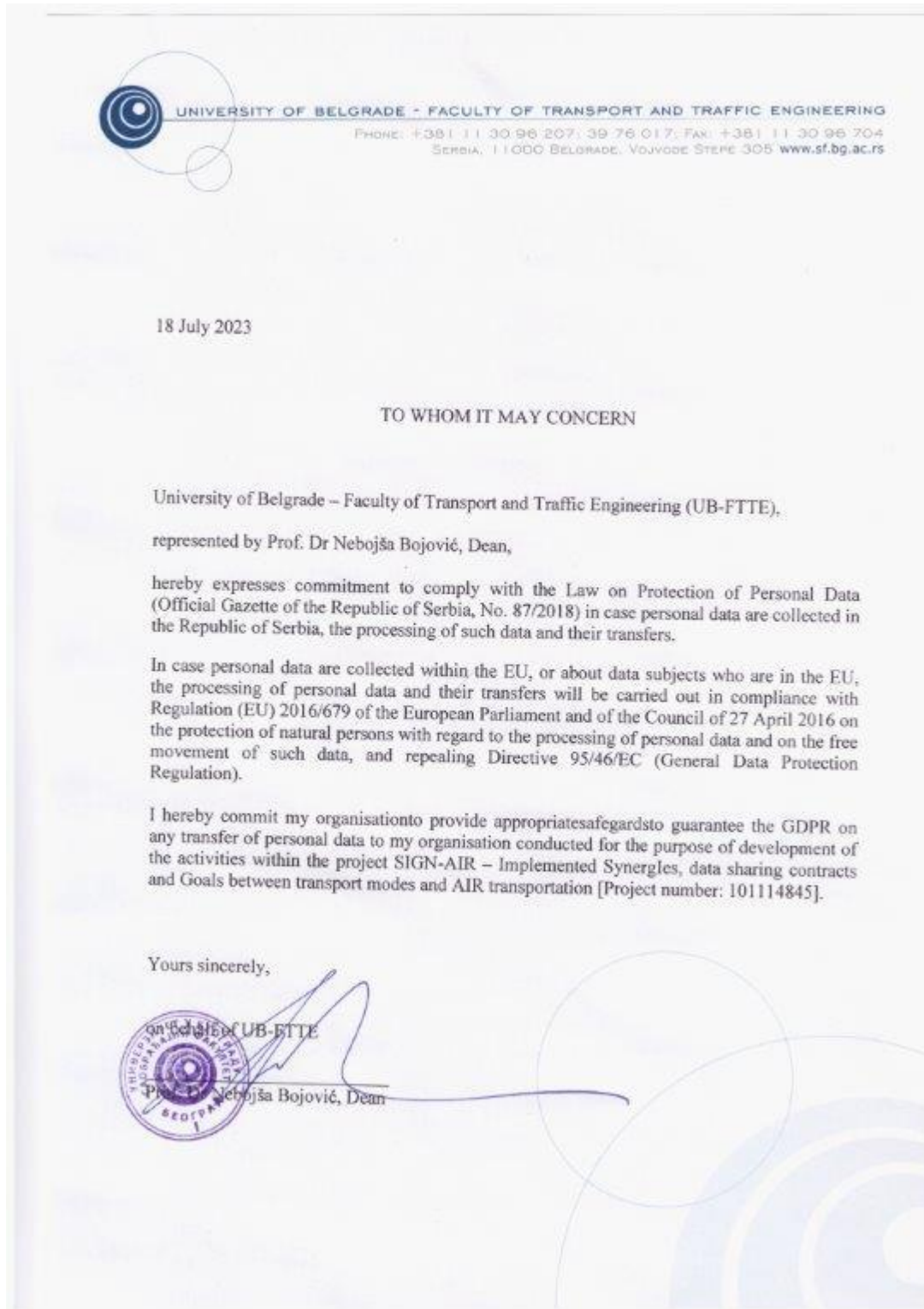
While performing such research activities, Josep Lluís Larriba Pey and SPA's team dedicated to the project will comply with the ethical guidelines as set up by the project and as referred to in the SIGN-AIR Data Management Plan and ethical guidelines.

Yours sincerely,

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JOSEP LLUIS 38073457Q JOSEP  
LARRIBA LLUIS LARRIBA  
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B65297038) B65297038)  
Fecha: 2023.10.03  
16:48:51 +02'00'

José Lluís Larriba Pey  
Legal representative  
Sparsity SL

## Annex VI – Statement of UB-FTTE/international data flows





## Annex VII – Conditions for the use of the “API portal” of Bologna

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### CONDITIONS FOR THE USE OF THE WEB APPLICATION “API PORTAL” OF BOLOGNA GUGLIELMO MARCONI AIRPORT

#### PREMISE

Bologna Airport (hereinafter referred to as “AdB”) developed a *web application* (hereinafter also referred to as “API portal”) that allows to display the available APIs, to test them, and to obtain the corresponding access keys for use by their own application, whose operational details are set in Annex 1 (Developer Notes).

Access to this API portal may be granted to any economic operator, company, public or private body submitting a request to use Bologna Airport data in form of API, explicitly indicating the end use that will be made (see the request template attached). The use of such data by applicants must be in accordance with the following procedures provided by Bologna Airport, as well as in compliance with all applicable regulations and legal provisions.

Applicants acknowledge and take note that the use of data implies the automatic and unconditional acceptance of these conditions and undertake, therefore, to comply with all the following. In case of non-compliance with the conditions, Bologna Airport may suspend, without notice or further communication, the use of data and, where deemed appropriate, claim for compensation for any possible damage suffered.

In addition, applicants commit to comply with the Ethical Code of Conduct and “Model 231” of AdB – Bologna Airport (which can be consulted and printed at [www.bologna-airport.it](http://www.bologna-airport.it)), ensuring that, in the execution of this agreement, any conduct likely to cause prejudice will be avoided, with reference to the offences indicated in Legislative Decree no.231/01.

The API portal already contains some datasets (hereinafter referred to as “the data”), whose formats and routes are detailed in Annex 2. This Annex will be updated as new routes and datasets become available.

The use by the requesting companies is subject to the following conditions and terms of use:

- a) the data remains Bologna Airport’s property and may not be manipulated and/or modified in any way by the companies that will use it and may not be used for purposes other than those stated in the request;
- b) it is forbidden to store historical series of data to be used for statistical purposes, unless expressly requested and authorized by Bologna Airport;
- c) it is not allowed to include advertising communications within the page/application through which the data is used or made public, without the prior authorization of Bologna Airport;
- d) any logo directly related to the used data -including Bologna Airport logo- shall not be modified or altered and may only be intended for the requested end use;
- e) applicants/data users will be required to show users the updates of the data in real time, where required by the purpose of the request;



- f) applicants/data users will be required to show to final users the latest update time of the data;
- g) applicants/users shall comply with the obligation to:
  - not use the APIs for any illegal or non-authorized purpose
  - not interfere with the security, integrity or performance of the APIs
  - not modify, decompile, disassemble or decode the APIs;
- h) (Changes to the Conditions) Bologna Airport reserves the right to modify the above conditions of use at any time. Changes will be promptly notified and will take effect immediately. Continued use of the API constitutes acceptance of the changes.

It should be noted that Bologna Airport could in no way be held responsible for the accuracy and/or completeness of the data, as mainly coming from external sources. Bologna Airport can also not be held responsible for any direct, indirect, incidental, special, consequential or punitive damages resulting from the use of the APIs, as well as for the incorrect use of the data and its wrong communication to end-users.

Applicants and data users hereby waive any judicial and/or extrajudicial action, pretense, charge, claim for damages and/or compensation, regarding the presence, correctness and/or completeness of the data available through the web application “API portal” of Bologna Airport.

For any disputes that may arise between the Parties in the interpretation and application of the conditions already mentioned, the Court of Bologna will have exclusive jurisdiction.

Annex 1 - Developer notes

Annex 2 - Data format and route list

Template – Request for API portal access

Date and Signature for conditions acceptance

**LARRIBA PEY,**  
**JOSEP LLUIS**  
**(FIRMA)**

Firmado digitalmente  
por LARRIBA PEY,  
JOSEP LLUIS (FIRMA)  
Fecha: 2024.09.26  
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## \*Sparsity

### Request to access and use the AdB API portal

This document represents the request to access and use the API catalogue, made available by Bologna Airport - Aeroporto G. Marconi di Bologna S.p.A., based on the defined conditions of use.

The following data are provided for the correct user profiling:

- reasons for using the APIs catalogue
- list of users to be enabled for access fulfilment
- list of IPs to be enabled to limit access to the service to known IPs only, for security and performance reasons.

#### 1. Reasons for using the APIs catalogue:

Sparsity Technologies SL (SPA) request access to your API for two key purposes related to the SIGN-AIR project (ID: 101114845).

#### **1. Data Feed for the Connectivity Index and Timetable Synchronization Module**

The API data will play a crucial role in facilitating the timetable synchronization module. The aim of this module is to enhance operational efficiency and user experience by synchronizing the timetables of rail and air operators, ensuring seamless transitions with minimal passenger wait times. Key variables in the synchronization process include connectivity, arrival and departure times, and transfer times between transport modes. Through the SIGN-AIR project, SPA is developing a module to measure air-rail connectivity, analysing schedule synchronization and network integration. The module calculates a "destination index," where direct connections (*Cdirect*) are added to indirect connections (*Cindirect*), assuming the connection time is within the defined [MCT, MACT] range. The data for BLQ's API will be used to calculate the new multimodality connectivity index and show how well is BLQ connected with other airports and cities of Europe allowing us to see which flights and trains (highspeed+monorail) can have an acceptable transfer time and therefore proposed to be synchronized and proposed to the airlines and highspeed railway operator for an agreement. Additionally, the connectivity can be an indicator for the airport and assist in disruption management as the network will be designed with the assistance of Sparksee graph and we could implement testing scenarios.

#### **2. Data Feed for Affected Flights Algorithms**

Additionally, we seek data to feed algorithms designed to calculate potential disruptions to flights due to train delays (from either Marconi Express or Trenitalia). These algorithms aim to identify which flights might be impacted by such delays, particularly highlighting any passengers potentially "trapped" in transit due to unforeseen circumstances. These algorithms will be developed to serve the contract generation of SIGN-AIR platform under G3: Disruption management.

#### 3. List of users to be enabled for access fulfilment (to be forwarded to the API portal service provider):

Surname	Name	Mail
Mrazovic	Petar	<a href="mailto:petar@sparsity-technologies.com">petar@sparsity-technologies.com</a>
Igen	Arystan	<a href="mailto:arystan@sparsity-technologies.com">arystan@sparsity-technologies.com</a>

*Note: the user agrees to provide the necessary information and to keep it up-to-date in a timely manner, in the event of any changes, and communicate to [nomineads@bologna-airport.it](mailto:nomineads@bologna-airport.it)*

Escale	Francesc	<a href="mailto:cesc@sparsity-technologies.com">cesc@sparsity-technologies.com</a>
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4. List of IPs to be enabled (to be forwarded to the API portal service provider), both for Production and Development environment:

IP PROD
IP 1
IP 2
IP 3
IP 4

IP DEV
IP 1 91.121.2.150
IP 2
IP 3
IP 4

Please find here enclosed, the conditions for the use of the API Portal, duly signed along with the related annexes.

Date and Signature of legal representative

**LARRIBA PEY,**  
**JOSEP LLUIS**  
**(FIRMA)**

Firmado digitalmente  
por LARRIBA PEY,  
JOSEP LLUIS (FIRMA)  
Fecha: 2024.09.26  
12:09:20 +02'00'

*Note: the user agrees to provide the necessary information and to keep it up-to-date in a timely manner, in the event of any changes, and communicate to [nomineads@bologna-airport.it](mailto:nomineads@bologna-airport.it)*