ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

Project Title	European Science Cluster of Astronomy & Particle physics ESFRI research Infrastructure
Project Acronym	ESCAPE
Grant Agreement No	824064
Instrument	Research and Innovation Action (RIA)
Topic	Connecting ESFRI infrastructures through Cluster projects (INFRA-EOSC-4-2018)
Start Date of Project	01.02.2019
Duration of Project	42 Months
Project Website	www.projectescape.eu

<ESCAPE DATA MANAGEMENT PLAN >

Work Package	WP1 MIND
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Date	20 August 2019

Versioning and contribution history

Version	Date	Authors	Notes
0.1	31.07.2019	J.Wagh (CNRS)	First internal draft
0.2	06.08.2019	G.Lamanna (CNRS)	Near complete draft
0.3	20.08.2019	J.Wagh (CNRS)	Final draft

Disclaimer

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Acronym list

ASTERICS: Astronomy ESFRI & Research Infrastructure Cluster

CERN: European Organization for Nuclear Research

CEVO: Connecting ESFRI projects to EOSC through the Virtual Observatory framework

CNRS: Centre National de la Recherche Scientifique

CTA: Cherenkov Telescope Array

DID: Data Identifier

DIOS: Data Infrastructure for Open Science

DOI: Digital object identifier

ECO: Engagement and Communication

EGO-Virgo: European Gravitational-Wave Observatory

ELT: Extremely Large Telescope (was E-ELT)

EOSC: European Open Science Cloud

EOSC-Hub: Integrating and managing services for the European Open Science Cloud

ERIC: European Research Infrastructure Consortium

ESAP: ESFRI Science Analysis Platform

ESCAPE: European Science Cluster of Astronomy & Particle physics ESFRI research infrastructures

ESFRI: European Strategy Forum on Research Infrastructures

ESO: European Southern Observatory

EST: European Solar Telescope

EVN: The European VLBI Network

FAIR: Findable, Accessible, Interoperable, Reusable *or* Facility for Antiproton and Ion Research

FITS: Flexible Image Transport System

GDPR: General Data Protection Regulation

IVOA: International Virtual Observatory Alliance

KM3NeT: A multi-km3 sized Neutrino Telescope

LSST: Large Synoptic Survey Telescope

MIND: Management, Innovation, Networking and Dissemination

OAI-PMH: Open Archives Initiative Protocol for Metadata Harvesting

OSSR: Open-source scientific Software and Service Repository

SKA: Square Kilometer Array

UCDs: Unified Content Descriptors

VO: Virtual Observatory

Project Summary

ESCAPE (European Science Cluster of Astronomy & Particle physics ESFRI research infrastructures) addresses the Open Science challenges shared by ESFRI facilities (SKA, CTA, KM3Net, EST, ELT, HL-LHC, FAIR) as well as other pan-European research infrastructures (CERN, ESO, JIVE) in astronomy and particle physics. ESCAPE actions are focused on developing solutions for the large data sets handled by the ESFRI facilities. These solutions shall: i) connect ESFRI projects to EOSC ensuring integration of data and tools; ii) foster common approaches to implement open-data stewardship; iii) establish interoperability within EOSC as an integrated multi-messenger facility for fundamental science. To accomplish these objectives ESCAPE aims to unite astrophysics and particle physics communities with proven expertise in computing and data management by setting up a data infrastructure beyond the current state-of-the-art in support of the FAIR principles. These joint efforts are expected result into a data-lake infrastructure as cloud open-science analysis facility linked with the EOSC. ESCAPE supports already existing infrastructure such as astronomy Virtual Observatory to connect with the EOSC. With the commitment from various ESFRI projects in the cluster, ESCAPE will develop and integrate the EOSC catalogue with a dedicated catalogue of open source analysis software. This catalogue will provide researchers across the disciplines with new software tools and services developed by astronomy and particle physics community. Through this catalogue ESCAPE will strive to cater researchers with consistent access to an integrated open-science platform for data-analysis workflows. As a result, a large community "foundation" approach for cross-fertilization and continuous development will be strengthened. ESCAPE has the ambition to be a flagship for scientific and societal impact that the EOSC can deliver.

Executive Summary

This first version of Data Management Plan (DMP) is expected to provide a strategy for managing data generated and collected during the H2020 ESCAPE project and optimise access to and re-use of research data. This data management plan was prepared following the guidelines on FAIR Data Management in Horizon 2020. This document provides an overview on what kind of datasets will be collected or generated by each workpackage and how each of the workpackage will make these dataset findable, accessible, interoperable and reusable (FAIR). During the course of the project, workpackage partners are expecting to collect and generate diverse datasets depending upon the inputs from the astronomy and particles physics ESFRI partners. All the workpackages shall put in efforts to make the generated or collected datasets FAIR and openly accessible respecting the data policies of the data providing ESFRI partner projects. Data interoperability in astronomy and astroparticle physics is one of the key objectives of the H2020-ESCAPE and cross fertilisation of software as well as datasets will be encouraged during the project following the IVOA standards. In order to increase the data reuse, various licencing schemes will be discussed during the course of the project. Data security will be ensured through the open source software and services repository which will be developed by the project. Ethical aspects concerning the Personal data collection will be respected following the GDPR guidelines.

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1. Introduction

European Science Cluster of Astronomy & Particle physics ESFRI research infrastructures (ESCAPE) aims to address the Open Science challenges shared by ESFRI facilities (SKA, CTA, KM3Net, EST, ELT, HL-LHC, FAIR) as well as other pan-European research infrastructures (CERN, ESO, JIVE) in astronomy and particle physics.

ESCAPE activities are organized in following seven workpackages

1. **WP1 Management, Innovation, Networking and Dissemination (MIND)**
   WP1 MIND will coordinate management of the project as well as networking and partnership with stakeholders, industries and other projects.

2. **WP2 Data Infrastructure for Open Science (DIOS)**
   WP2 DIOS will create a prototype of federated distributed data infrastructures, often referred to as a "Data Lake"

3. **WP3 Open-source scientific Software and Service Repository (OSSR)**
   WP3 OSSR will expose the tools of the ESCAPE ESFRI projects in a repository under the EOSC catalogue of services, ensuring compatibility with FAIR principles.

4. **WP4 Connecting ESFRI projects to EOSC through VO framework (CEVO)**
   WP4 CEVO will extend the concepts of the astronomical Virtual Observatory seamlessly into the domains of solar physics, particle physics and astroparticle physics.

5. **WP5 ESFRI Science Analysis Platform (ESAP)**
   WP5 ESAP will focus on tasks required to implement a flexible science platform for the analysis of open access data available through the EOSC environment.

6. **WP6 Engagement and Communication (ECO)**
   WP6 ECO will improve access to data and tools through citizen science crowdsourcing experiments for most of the facilities in the ESCAPE remit.

7. **WP7 Ethics requirements**
   WP7 sets out the 'ethics requirements' that the project must comply with.

In this first version of the ESCAPE data management plan we addressed following aspects of the data that will be generated and collected by each workpackage during the course of the project

- Data summary
- FAIR data
- Allocation of resources
- Data security
- Ethical aspects

1. Data Summary

WP1 MIND and WP7 ethics requirements activities will not generate or collect any technical or scientific data. WP1 MIND activities will consists of personal data collection for the registrations of workshops or training events following the GDPR guidelines. This personal data will be provided by the participants through an opt-in registration form. The personal data collected during the event registration will not be re-used for any other purposes. As all the work packages will be organizing and hosting internal and public events during the project, similar personal data collection performed for the event registration following the GDPR guidelines. More details on the registration data have been provided in the earlier project deliverable of WP7 ethics requirement entitled as POPD requirement 1 (D7.1). WP1 MIND would coordinate some science test projects that will be performed through open-access data provided by the project partners, especially the ESFRIs.

WP2 DIOS activities will focus on the development of the data-lake infrastructure prototype. For the commissioning purpose of this prototype, WP2 DIOS will collect a copy of the pre-existing scientific or simulation data generated by the ESFRI projects participating in H2020-ESCAPE. These datasets will be of derived data formats (images, n-tuples, root files). The expected size of collected data would be less than 1PB, however this size will be limited by storage capacity offered by other project beneficiaries.

The data collected under WP3 OSSR will be primarily test and training data for the software and services made public via the open-access repository. Some services could include data of the ESFRI projects with a wider scope than just test and training data, which will be further defined during the project. The data will be provided by the project partners, especially the ESFRIs via WP2 DIOS work package.

During the course of the project, WP3 OSSR will primarily collect data for test and training purposes for the software and services made public via the open access repository. WP3 OSSR will aim to provide services to re-use existing data that will be provided by the project partners. It also aims to cross-fertilise data analysis across the ESFRI projects. The types and formats will first be divers, as they will originate from the internal uses of the ESFRIs. There will be common formats (like FITS and ROOT) as well as custom-made ones. The types of data will span raw data, over higher level data products onto meta data. The extent of data needed for the purposes will be defined during the project. For test and training data, a volume of several TB will be sufficient. The raw and higher level data will be provided via the DIOS work package. One goal of the work package is the harmonisation and cross-fertilisation in the usage of common data formats. All the scientific data collected within WP3 OSSR will support the usability and reliability of the repository. The collected data will be useful for all users of the OSSR, especially in the field of astroparticle physics. The provisioning of the services directly to the end users will be via the WP5 ESAP work package.

WP4 CEVO Work Package activities will be focused on making the ESFRI data FAIR. The expected scientific data collection and generation within WP4 includes

- data related to the results of the WP activities (e.g. results of a scientific analysis done as part of the WP)

- derived data products, or value-added data products based on public scientific data or data from the WP partners

- subsets of scientific data from data archives that are managed by the WP partners

- information about the data holdings of the WP partners (e.g. statistics about the existing or future data to be collected by WP partners)

The scientific data collected through aforementioned activities will primarily include images, cubes, spectra, time series of the formats FITS, VOTable, HDF5 and visualisation formats jpeg, png etc. WP4 CEVO will plan to use existing scientific data in the developments related to making data available via the IVOA standards, and in the development of scientific capabilities such as adding-value to the content of existing archives. The origin of the data will be general astronomy data archives and services, including publicly available data, and data from the WP partner projects. WP4 CEVO expect to use data sets of sizes up to 100s of terabytes. The scientific data related to the WP4 activities is expected to be useful to the astronomical research community.

WP5 ESAP will collect existing data for prototyping the Science Analysis Platform. More specifically this data will be used for the prototyping exercises for the generation of research objects. The data types and formats will depend on the ESFRI and ERIC partners who will provide data for prototyping. Data type of the research objects will be decided in the later stages of the project. The expected size of the data will depend on the use cases. This data will be useful for the ESFRI and ERIC research community of science analysis platform.

WP6 ECO will collect the data for the citizen science experiments. The types and formats will primarily include classifications of astronomy and physics data. These classifications will be released following Zooniverse data release policies (https://www.zooniverse.org/privacy). The expected size of data is less than a Tb. WP6 ECO expects to collect a limited level of personal data through the H2020-ESCAPE website analytics respecting the GDPR guidelines. This data shall be used to monitor the stakeholders in H2020-ESCAPE activities as well as disseminate the project achievements through periodic newsletters. The privacy policy of the ESCAPE website can be found in appendix 1.

2. Making data findable, including provisions for metadata

WP1 will generate and manage the archive of all open-access ESCAPE deliverables. They will be made findable through a dedicated web page and when applicable through sub-set of metadata that will refer to partners and/or workpackages that have been major contributors/authors.

Under WP2 DIOS, data will be generally catalogued and assigned a unique DID (Data IDentifier) at the file level. The system will provide a limited set of metadata searching capabilities. The naming conventions, search keywords and clear version numbers will be provided by the ESFRI projects in the H2020-ESCAPE. WP2 DIOS expects a flat namespace (no directories) with the possibilities of organising objects in collections. The metadata to be created will again depend on the ESFRI project.

Within WP3 OSSR, repository implementation is being carried out. In this implementation phase, the requirements to make repository content discoverable with metadata, identifiable and locatable by means of standard identification mechanism are being discussed. The naming conventions used by OSSR will be provided by the ESFRI partners in a first step. In the later stages, harmonisation will be pursued. Search keywords and clear version numbers shall be provided in the repository to optimize possibilities for re-use. To our knowledge, there are no metadata standard in the astronomy and astroparticle physics. The types of metadata created will be structural, control and process metadata. The content and structures will be initially provided by the ESFRI partners, harmonisation will be pursued.

WP4 CEVO aims to enable the publication of data via the astronomical Virtual Observatory, and also uses data that are already published via the Virtual Observatory. These data have standardised IVOA metadata, IVOA identifiers, and in some cases DOIs. CEVO WP shall follow IVOA standards for naming conventions. The IVOA Registry standard includes metadata to facilitate discovery of data. Version numbers or data release identifiers are the responsibility of data providers, and various schemes are in place. In case of metadata standards, IVOA standards such as Uniform Content Descriptors (UCDs) will be used.

WP5 ESAP activities shall generate a set of research objects for prototyping the science platform. These research objects itself will be a collection of DOIs. The metadata created will depend on the use case of the ESFRI and ERIC partner providing the data that is used for prototyping. Search keywords as well as clear version numbers will be probably provided to optimize possibilities for re-use.

The data produced by WP6 ECO will be discoverable with metadata, identifiable and locatable by means of a standard identification mechanism as well. Metadata created, search keywords as well as clear version numbers will depend on each of the citizen science experiment.

3. Making data openly accessible

WP1 connections with the astronomy and particle physics ERA-NET consortia guarantees ESCAPE deliverables and data will be easy findable and consistent with users' community expectations. ESFRI projects participating in ESCAPE work programme have different policies for making data openly accessible and different embargo periods. WP2 DIOS will make data openly accessible respecting these policies and embargo periods. For some projects, the access to particular kind of data could be restricted to a sub-set of the community. WP2 DIOS expects to implement in the data-lake middleware the capability to set an embargo period and release for open access afterwards (also with anonymous credentials/no credentials). To make the data openly accessible, some ESFRI projects may prefer to make the data public through a dedicated repository, developed internally. In case of WP2 DIOS, the methods or software tools needed to access the data will depend on the ESFRI project. It could be anything from simple notebooks with mathematical and graphical libraries to specific software from the science project. Each ESFRI project provides cookbooks, examples and documentations on tools and practices to access the data. The code to analyse the public data will be released as open source. Each ESFRI project will be suggested to deposit the open source data either in the ESCAPE repository. If not possible, the ESFRI projects can always deposit the open data in their own repository. Access to restricted data needs to be discussed with the specific ESFRI project which will have a dedicated committee. In case of open access with credentials, the information or identity of an individual will be extracted from the credentials.

In the later stages of project, WP3 OSSR will define which data produced will be made openly available as the default. This openly accessible test and training data will be part of ESCAPE repository and in case of scientific data; it would be made accessible through WP2 DIOS. As these data will be provided by the ESFRI projects with a clear definition of access restrictions, a separate data access committee will not be required. The main objective of OSSR is to provide software tools that are needed to access the data along with the relevant software and necessary documentation about the software. WP3 OSSR efforts will be concentrated on making the ESCAPE repository a trusted, open-access repository within the EOSC context. Authentication and authorisation methods are part of the working plan of WP3 OSSR and these methods will be defined at a later stage.

In case of WP4 CEVO, some data is expected to be produced under the planned activities and aim will be to make this data openly available via the Virtual Observatory. It is expected to use data from the WP partners, preferably data that is already made openly available. The CEVO Work Package itself is focused on helping the ESCAPE partners to openly publish data using the VO, and to establish best practices for doing so. Nevertheless, the ownership of all data remains with the original data providers and it will be up to them on how to make their data available. The aim is for the data to be published by the data providers themselves using IVOA standards. There also may be some use of established repositories connected with the CEVO partners.

Various IVOA software tools and libraries will be provided to access the openly available data conforming to IVOA standards. The IVOA registries are OAI-PMH compliant. The independent software tools and libraries for using the VO have various levels of documentation. Many of the tools and libraries for using VO systems are open source. For the scientific data produced by WP4 CEVO,

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the emphasis will be on having the data providers publish the data themselves using IVOA standards. Some use of CoreTrustSeal certified repositories is envisaged. While exploring the appropriate arrangements with the identified repository, a repository managed by CEVO partner appears to be suitable for data associated with publications and various science-ready data products. In many cases anonymous access is available to access the data, so the identity will not be ascertained.

Under WP5 ESAP, all the research objects will be made public. Research Objects will be published and archived under ESCAPE repository complying with IVOA standards. All the necessary software and documentation shall be provided along with it.

WP6 ECO will make data openly accessible after a proprietary period following Zooniverse policies. This data will be released under Zooniverse repository; Open University's research data repository with all the necessary documentation as well as the software tools.

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4. Making data interoperable

Under WP2 DIOS activities, it has been observed that the astronomy data that will be produced within the workpackage will be highly interoperable, whereas for high-energy physics data it is less clear. As the project progresses further it will be possible to understand potential for making the high-energy physics data interoperable.

For WP3 OSSR, the cross-fertilisation of interoperability of software and data are one of the work package objectives. There have been harmonisation efforts during the ASTERICS project; those will be further pursued during this project. As most ESFRIs have well defined data formats - which are in large parts already openly available - the interoperability can be guaranteed by conversions between the different standards. At the same time, open standards for data will be pursed during the project. Data and metadata vocabularies, standards or methodologies to make WP3 data interoperable shall be defined during the course of the project. In case it is unavoidable to use uncommon or generate project specific ontologies or vocabularies, mappings to more commonly used ontologies will be provided.

A large part of the WP4 CEVO activities are focused on making data FAIR. Interoperability is the key word for the Virtual Observatory, and WP4 CEVO partners are contributing to the development and implementation of the IVOA standards for interoperability. IVOA standards including vocabularies will be used to make the data interoperable. IVOA vocabularies will be used as far as possible, and indeed a number of the WP4 CEVO activities will contribute to the development of IVOA vocabularies. The mappings between IVOA and EOSC systems for vocabularies will likely be a topic of study in the work package.

WP5 ESAP will make the research objects FAIR by design and VO vocabulary will be used for sky-based data. WP6 ECO data will be interoperable and the vocabularies used shall depend on the individual citizen science experiment.

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5. Increase data re-use (through clarifying licences)

Under WP3 OSSR, the licensing model of test and training data, software and services will be harmonised. Licensing schemes will be developed during the project and discussed with the ESFRI partners. The test and training data will be made available directly with the software and services. The embargo of the individual ESFRIs will be respected for all other data products. These embargo periods can potentially be derived from the data management plans of the ESFRI partners. All data provided will be re-usable after the project, if a long-term funding of the EOSC can be ensured.

Data made available via the VO is generally open to re-use. Astronomy research data typically has a 1 year proprietary period, but it is unlikely that any such proprietary data will be used. Data that has been published via VO standards as part of the project will likely be open for use after the end of the project. WP5 ESAP will release the research objects under open licence for the widest re-use. WP6 ECO will release the data one year after the completion of the project following the zooniverse privacy policy (https://www.zooniverse.org/privacy) .

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6. Allocation of resources

The data that will be used in the WP2 DIOS is not intended to be retained in the prototype, as it is a copy of the original data. WP2 DIOS will offer the tools to make data Findable, Accessible and Re-usable (Interoperability is more on WP4), but the costs of FAIR data will have to be addressed by the individual ESFRI project. For the data management aspects, WP2 DIOS expects the ESFRI project to appoint one person for their data. WP2 DIOS does not inted to retain any data in the Data-Lake prototype. The original data will be retained based on the policy of the science projects.

In case of WP3 OSSR, the data provided will mainly consist of test and training data. These costs cannot be distinguished from the software/service development and deployment costs. WP3 OSSR expects the project partners representing the ESFRI project to be responsible for the data management aspects. Long term preservation shall be discussed during the course of project for EOSC.

Under WP4 CEVO, no assessment of the cost of making data FAIR has been made beyond the cost of the work package itself. WP4 CEVO expects the data providers to be responsible for the data management aspects. The long term preservation of data is a subject that will be discussed as part of the work package activities. The individual data providers will decide what data is kept and for how long. Some data is expected to be kept for long term us in CoreTrustSeal certified repositories.

For WP6 ECO, the workpackage lead will be responsible for the data management aspects. In case of the data collected through the ESCAPE website, Trust-IT will be the data processor and CNRS will be the data controller. Long term preservation is yet to be discussed within the workpackage.

7. Data security

Under WP2 DIOS, data security is implemented at the level of the catalog (metadata) and storage (data) with 1 factor authentication and single sign on. WP2 DIOS partners do not foresee the need for data encryption while each ESFRI project might of course decide to store an encrypted version of the data. The possibility of data recovery depends on the policy of the ESFRI project and the value of the data, such as the possibility to re-create the data versus cost of storing multiple and more resilient copies. WP2 DIOS partners intend to certify the ESCAPE data centers with archival capabilities with ISO 16363.

Data security is a part of the requirements for the ESCAPE repository which will be developed by WP3 OSSR. This aspect will be answered after the launch of first prototype of the repository. The objective of WP3 OSSR is to create a certified repository for long-term preservation and curation, mainly for software and service, but also in parts for data.

The data providers involved in the WP4 CEVO have individual data security arrangements. Data produced within WP4 CEVO is expected to be stored in certified repositories.

WP6 ECO will perform onsite backups for the data security and the generated data is expected to be storied in certified repositories.

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8. Ethical aspects

WP7 Ethics requirements will ensure that ethical requirements are met during the course of the project. Personal data collected during the event registration will be protected and processed following the guidelines set in Art. 6 (1) (b) GDPR. More details on the registration data have been provided in the earlier project deliverable POPD requirement 1 (D7.1).

Appendix 1: ESCAPE Website Privacy Policy

DATACONTROLLER: ESCAPE - Laboratoire d'Annecy de Physique des Particules LAPP UMR5814. ("**LAPP**"), with registered offices in 9 Chemin de Bellevue, BP 110, Annecy-le-Vieux, F-74941 ANNECY CEDEX, FRANCE, is committed to protecting the online privacy of the users of this website ("**Website**").

As such, this Privacy Policy has been written in order to allow you to understand LAPP's policy regarding your privacy, as well as how your personal information will be handled when using the Website. This Privacy Policy will also provide you with information so that you are able to consent to the processing of your personal data in an explicit and informed manner, where appropriate.

In general, any information and data which you provide to LAPP over the Website, or which is otherwise gathered via the Website by LAPP, in the context of the use of Website's services ("**Services**") as better defined in Section 3 below, will be processed by LAPP in a lawful, fair and transparent manner. To this end, and as further described below, LAPP takes into consideration internationally recognised principles governing the processing of personal data, such as purpose limitation, storage limitation, data minimisation, data quality and confidentiality.

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1. Data controller

LAPP, as identified at the top of this Privacy Policy, is the data controller regarding all personal data processing carried out through the Website. You can contact ESCAPE - Laboratoire d'Annecy de Physique des Particules LAPP with any questions related to this Privacy Policy or the LAPP's personal data processing practices by sending a written communication to contact@projectescape.eu, or via the contact forms available on the Website.

2. Personal Data processed

When you use the Website, LAPP will collect and process information regarding you (as an individual) which allows you to be identified either by itself, or together with other information which has been collected. LAPP may also be able to collect and process information regarding other persons in this same manner, if you choose to provide it to LAPP, also via the Website.

This information may be classified as "**Personal Data**" and can be collected by LAPP both when you choose to provide it (e.g., when you subscribe to the newsletter or request other Services provided by LAPP over the Website) or simply by analysing your behaviour on the Website.

Personal Data which can be processed by LAPP through the Website are as follows:

a. Name, contact details and other Personal Data

In various areas of the Website – including, in particular, if you decide to create an account on the Website – you will be asked to submit information about yourself, such as your name, surname, organisation type, e-mail address and country of residence. Mandatory fields will be marked as such in the online registration forms – it is not possible to process your registration if any of the mandatory fields are left incomplete.

In addition, whenever you communicate with LAPP by submitting a general enquiry or a support ticket via the Website, as well as whenever you participate in surveys which may be available on the Website, LAPP may collect additional information which you choose to provide.

b. Special categories of Personal Data

Certain areas of the Website may include free text fields, where you can write messages to LAPP or otherwise allow you to post various types of content on the Website, which may contain Personal Data. Where these fields are completely free, you may use them to disclose (inadvertently or not) more sensitive categories of Personal Data, such as data revealing your racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership. The content you upload in

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these fields may also (inadvertently or not) include other types of sensitive information relating to you, such as your genetic data, biometric data or data concerning your health, sex life or sexual orientation.

LAPP asks that you do not disclose any sensitive Personal Data on the Website, unless you consider this to be strictly necessary. As it is totally optional to provide this information, if you nonetheless choose to do so, please mind that LAPP requires your **explicit consent** to process this sort of Personal Data (which can be provided, e.g., by declaring that you "explicitly consent to the processing of my special categories of personal data for the purpose of assessing my candidacy").

c. Other persons' Personal Data

As mentioned in the previous section, certain areas of the Website include free text fields where you can write messages to LAPP, or otherwise allow you to post various types of content on the Website. These messages and content may (inadvertently or not) include Personal Data related to other persons.

In any situation where you decide to share Personal Data related to other persons, you will be considered as an independent data controller regarding that Personal Data and must assume all inherent legal obligations and responsibilities. This means, among other things, that you must fully indemnify LAPP against any complaints, claims or demands for compensation for damages which may arise from the processing of this Personal Data, brought by the third parties whose information you provide through the Website.

As LAPP does not collect this information directly from these third parties (but rather collects them, indirectly, from you), you must make sure that you have these third parties' consent before providing any information regarding them to LAPP; if not, then you must make sure there is some other appropriate grounds on which you can rely to lawfully give LAPP this information.

d. Browsing data

The Website's operation, as is standard with any websites on the Internet, involves the use of computer systems and software procedures, which collect information about the Website's users as part of their routine operation. While LAPP does not collect this information in order to link it to specific users, it is still possible to identify those users either directly via that information, or by using other information collected – as such, this information must also be considered Personal Data.

This information includes several parameters related to your operating system and IT environment, including your IP address, location (country), the domain names of your device, the type of device, the URI (Uniform Resource Identifier) addresses of resources you request on the Website, the time of requests made, the method used to submit requests to the server, the dimensions of the file obtained in response to a request, the numerical code indicating the status of the response sent by the server (successful, error, etc.), and so on.

These data are used to compile statistical information on the use of the Website, to ensure its correct operation, as well as restore backup from possible failures of the Website and identify any faults

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and/or abuse of the Website. Save for this last purpose, these data are not kept for more than 60 business days.

e. Cookies

- Definitions, characteristics, and application of standards

Cookies are small text files that may be sent to and registered on your computer by the websites you visit, to then be re-sent to those same sites when you visit them again. It is thanks to these cookies that those websites can "remember" your actions and preferences (e.g., login data, language, font size, other display settings, etc.), so that you do not need to configure them again when you next visit the website, or when you change pages within a website.

Cookies are used for electronic authentication, monitoring of sessions and storage of information regarding your activities when accessing a website. They may also contain a unique ID code which allows tracking of your browsing activities within a website, for statistical or advertising purposes. Some operations within a website may not be able to be performed without the use of cookies which, in certain cases, are technically necessary for operation of the website.

When browsing a website, you may also receive cookies from websites or web servers other than the website being visited (i.e., "**third-party cookies**").

There are various types of cookies, depending on their characteristics and functions, which may be stored on your computer for different periods of time: "**session cookies**", which are automatically deleted when you close your browser, and "**persistent cookies**", which will remain on your device until their pre-set expiration period passes.

According to the law which may be applicable to you, your consent may not always be necessary for cookies to be used on a website. In particular, "**technical cookies**" – i.e. cookies which are only used to send messages through an electronic communications network, or which are needed to provide services you request – typically do not require this consent. This includes browsing or session cookies (used to allow users to login) and function cookies (used to remember choices made by a user when accessing the website, such as language or products selected for purchase).

On the other hand, "**profiling cookies**" – i.e., cookies used to create profiles on users and to send advertising messages in line with the preferences revealed by users while browsing websites – typically require specific consent from users, although this may vary according to the applicable law.

- Types of cookies used by the Website

The Website uses the following types of cookies:

- **Browsing** or **session cookies**, which are strictly necessary for the Website's operation, and/or to allow you to use the Website's content and Services.

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- **Analytics cookies**, which allow LAPP to understand how users make use of the Website, and to track traffic to and from the Website.

- **Function cookies**, which are used to activate specific Website functions and to configure the Website according to your choices (e.g., language), in order to improve your experience.

- **Profiling cookies**, which are used to observe the preferences you reveal through your use of the Website and to send you advertising messages in line with those preferences.

LAPP also uses **third-party cookies** – i.e. cookies from websites / web servers other than the Website, owned by third parties. These third parties will either act as independent data controllers from LAPP regarding their own cookies (using the data they collect for their own purposes and under terms defined by them) or as data processors for LAPP (processing personal data on LAPP behalf).

For further information on how these third parties may use your information, please refer to their privacy policies:

- **Google**

  - **Privacy Policy**: https://www.google.com/policies/privacy/partners/ ;
  - **Opt-out Mechanism:** https://tools.google.com/dlpage/gaoptout .

- **LinkedIn**

  - **Privacy Policy**: https://www.linkedin.com/legal/cookie-policy ;
  - **Opt-out Mechanism:** https://www.linkedin.com/psettings/guest-controls/retargeting-opt-out?trk=microsites-frontend_legal_cookie-policy .

- **Twitter**

  - **Privacy Policy**: https://help.twitter.com/en/rules-and-policies/twitter-cookies ;
  - **Opt-out Mechanism** (Digital Advertising Alliance / Network Advertising Initiative): http://optout.aboutads.info ; http://optout.networkadvertising.org/?c=1 .

- First-party cookies present on the Website

In detail, the cookies present on the Website are as follows:

Common

Technical name	Data Controller	Cookie type, function and purpose	Type of cookie	Duration
has_js	LAPP	Functional cookie to remember whether a visitor has javascript in his browser	first party cookie/browsing cookie	Expires at the end of the session

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Technical name	Data Controller	Cookie type, function and purpose	Type of cookie	Duration
cookie-agreed	LAPP	Cookie that records whether the cookies notification pop-up has been acknowledged by a user	first party cookie/browsing cookie	100 days

Google Analytics

Technical name	Data Controller	Cookie type, function and purpose	Type of cookie	Duration
_GA	Google	Google Analytics cookie used to distinguish users.	third party cookie/cookie analytics	2 Years
_gid	Google	Google Analytics cookie used to distinguish users.	third party cookie/cookie analytics	24 hours

Drupal

Technical name	Data Controller	Cookie type, function and purpose	Type of cookie	Duration
SSESS%ID%	LAPP	Drupal cookie that stores session identification.	first party cookie/session cookies	200000 seconds (about 56 hours)
Drupal.tableDrag.showWeight	LAPP	Drupal cookie that helps handle the consistent navigation of tabbed pages and forms across a range of different browsers.	first party cookie/functional cookies	1 Year

- Cookie settings

You can block or delete cookies used on the Website via your browser options. Your cookie preferences will be reset if different browsers are used to access the Website. For more information on how to set the preferences for cookies via your browser, please refer to the following instructions:

- [Chrome](#)

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- [Firefox](#)
- [Internet Explorer](#)
- [Safari](#)

You may also provide set your preferences on third-party cookies by using online platforms such as [AdChoice](#).

CAUTION: If you block or delete **technical** and/or **function cookies** used by the Website, the Website may become impossible to browse, certain services or functions of the Website may become unavailable or other malfunctions may occur. In this case, you may have to modify or manually enter some information or preferences every time you visit the Website.

3. Purposes of processing

LAPP intends to use your Personal Data, collected through the Website, for the following purposes:

1. To allow you to create and maintain a registered user profile on the Website, to allow you to participate in different areas over the Website and exchange information/documents with other participants, to verify your identity and assist you, in case you lose or forget your login / password details for any of the Website's registration services, to send you informative newsletters and other communications (linked to the collaborative areas which you participate in), to respond to your enquiries and requests for support, and to provide any other Services which you may request ("**Service Provision**");

2. To include information on you as a registered Member within the Website database ("**Database Publication**"); [PL3]

3. For future marketing, promotional and publicity purposes, by sending you direct e-mail marketing communication regarding events hosted and Services provided by the Website and which are of an identical or similar scope to those which you have previously signed up for or acquired via the Website ("**Soft Opt-in**");

4. For compliance with laws which impose upon LAPP the collection and/or further processing of certain kinds of Personal Data ("**Compliance**");

5. For development and administration of the Website, in particular by use of data analytics regarding how you and other users make use of the Website, as well as the information and feedback you provide, to improve our offerings ("**Analytics**");

6. To prevent and detect any misuse of the Website, or any fraudulent activities carried out through the Website, including by carrying out internal audits ("**Misuse/Fraud**").

4. Grounds for processing and mandatory / discretionary nature of processing

LAPP's legal bases to process your Personal Data, according to the purposes identified in Section 3 [PL4], are as follows:

1. **Service Provision**: processing for these purposes is necessary to provide the Services and, therefore, is necessary for the performance of a contract with you – Art. 6(1)(b) GDPR. It is not mandatory for you to give LAPP your Personal Data for these purposes; however, if you do not, LAPP will not be able to provide any Services to you.

2. **Database Publication**: processing for this purpose is based on your consent – Art. 6(1)(a) GDPR. It is not mandatory for you to give consent to LAPP for use of your Personal Data for these purposes, and you will suffer no consequence if you choose not to give it. Any consent given may also be withdrawn at a later stage (please see Section 8 [PL6] for more information). [PL7]

3. **Soft Opt-In**: processing for these purposes is based on LAPP's interest in sending you direct e-mail marketing communication regarding events and Services provided by LAPP and which are identical or similar to those you have previously signed up for or acquired through the Website – Art. 6(1)(f) GDPR. You can block these communications, and you will suffer no consequence if you do so (aside from not being able to receive further communications from the Website), by objecting through the link provided at the bottom of all such communications.

4. **Compliance**: processing for this purpose is necessary for LAPP to comply with its legal obligations – Art. 6(1)(c) GDPR. When you provide any Personal Data to LAPP, LAPP must process it in accordance with the laws applicable to it, which may include retaining and reporting your Personal Data to official authorities for compliance with tax, customs or other legal obligations.

5. **Analytics**: Information collected for this purpose is used to allow LAPP to understand how users interact with the Website and to improve the Website accordingly, with the aim to providing a better user experience – Art. 6(1)(f) GDPR.

6. **Misuse/Fraud**: Information collected for this purpose is used exclusively to prevent and detect fraudulent activities or misuse of the Website (for potentially criminal purposes) – Art. 6(1)(f) GDPR.

5. Recipients of Personal Data – Data Processors

Your Personal Data may be shared with the following list of entities ("**Data Processors**"):

- The following entities are engaged in order to provide or support the Website and Services (e.g., hosting providers, e-mail platform providers, technical maintenance providers Website administrators and Website user administrators):

    Trust-IT Srl
    Via Nino Bixio, 25

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56125 Pisa, Italy
P.I. e C.F. 01870130505
info[at]trust-itservices.com

Commpla Srl
Via Nino Bixio, 25
56125 Pisa - Italy
P IVA 01958380501
contact[at]commpla.com

6. Other Recipients of Personal Data

Your Personal Data may be shared with the following list of persons / entities ("**Recipients**"):

- Persons, companies or professional firms providing the LAPP with advice and consultancy regarding accounting, administrative, legal, tax, financial and debt collection matters related to the provision of the Services and which act typically as data processors on behalf of the LAPP;
- Persons authorised by LAPP to process Personal Data needed to carry out activities strictly related to the provision of the Services, who have undertaken an obligation of confidentiality or are subject to an appropriate legal obligation of confidentiality (e.g., members of the team operating the Website, and other functions with access to Personal Data processed via the Website);
- Public entities, bodies or authorities to whom your Personal Data may be disclosed, in accordance with the applicable law or binding orders of those entities, bodies or authorities.

Additionally, with your consent, some of your Personal Data may be published in the webpages available online at the Website. Furthermore, when you sign-up for an event, you will be listed in attendee lists made available on the Website.

More information on these transfers is available upon written request to the Website Managing Team at the following address: contact@projectescape.eu

7. Retention of Personal Data

Personal Data processed for **Service Provision** will be kept by LAPP for the period deemed strictly necessary to fulfil such purposes – in any case, as these Personal Data are processed for the provision of the Services, LAPP may continue to store this Personal Data for a longer period, as may be necessary to protect LAPP interests related to potential liability related to the provision of the Services.

Personal Data processed for **Database Publication** will be kept by LAPP from the moment you give consent until it is withdrawn. Where it is not withdrawn, consent will be renewed at fixed intervals. Once consent is withdrawn (or not given, following a renewal), Personal Data will no longer be used for these purposes, although it may still be kept by LAPP in particular as may be necessary to protect LAPP's interests related to potential liability related to this processing.

Personal Data processed for **Soft Opt-In** will be kept by LAPP from the moment where it is provided by you to LAPP (in the context of registrations for events or Services requested via the Website) until you object to this processing. Once you have objected, Personal Data will no longer be used for these purposes, although it may still be kept by LAPP, in particular as may be necessary to protect LAPP's interests related to potential liability related to this processing.

Personal Data processed for **Compliance** will be kept by LAPP for the period required by the specific legal obligation or by the applicable law.

Personal Data processed for preventing **Misuse/Fraud** will be kept by LAPP for as long as deemed strictly necessary to fulfil the purposes for which it was collected.

More information on applicable retention periods is available upon written request to the Website Managing Team at the following address: contact@projectescape.eu

8. Data subjects' rights

As a data subject, you are entitled to exercise the following rights before LAPP, at any time:

1. Access your Personal Data being processed by Trust-IT Srl (and/or a copy of that Personal Data), as well as information on the processing of your Personal Data;

2. Correct or update your Personal Data processed by Trust-IT Srl, where it may be inaccurate or incomplete;

3. Request erasure of your Personal Data being processed by Trust-IT Srl, where you feel that the processing is unnecessary or otherwise unlawful;

4. Request the restriction of the processing of your Personal Data, where you feel that the Personal Data processed is inaccurate, unnecessary or unlawfully processed, or where you have objected to the processing;

5. Exercise your right to portability: the right to obtain a copy of your Personal Data provided to Trust-IT Srl, in a structured, commonly used and machine-readable format, as well as the transmission of that Personal Data to another data controller;

6. Object to the processing of your Personal Data, based on relevant grounds related to your particular situation, which you believe must prevent Trust-IT Srl from processing your Personal Data; or

7. Withdraw your consent to processing (for **Database Publication** and **Soft Opt-in**).

Please note that most of the Personal Data you provide to LAPP can be changed at any time, including your e-mail preferences, by accessing, where applicable, your user profile created on the Website.

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You can also withdraw consent for **Marketing** (for communications received via e-mail) or object to **Soft Opt-In** by selecting the appropriate link included at the bottom of every marketing e-mail message received. The same applies to the Website's newsletter which you may have subscribed to and receive as a Service.

Aside from the above means, you can always exercise your rights described above by sending a written request to the Website Managing Team at the following address: contact@projectescape.eu

In any case, please note that, as a data subject, you are entitled to file a complaint with the competent supervisory authorities for the protection of Personal Data, if you believe that the processing of your Personal Data carried out through the Website is unlawful.

9. Amendments

This Privacy Policy entered into force on July 01, 2019

LAPP reserves the right to partly or fully amend this Privacy Policy, or simply to update its content, e.g., as a result of changes in applicable law. The Website Managing Team will inform you of such changes as soon as they are introduced, and they will be binding as soon as they are published on the Website. The Website Managing Team therefore invites you to regularly visit this Privacy Policy in order to acquaint yourself with the latest, updated version of the Privacy Policy, so that you may remain constantly informed on how LAPP collects and uses Personal Data.

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