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# Stimulating and Connecting the FINEST Experimentation Practices and Spaces

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## Deliverable 1.10

Data Management and Ethics Plan (DMP & Ethics v.3)

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|---|---|
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## Disclaimer

# Executive Summary

The **Data Management and Ethics Plan (DMP & Ethics)** for the FINEX project, funded under the European Union's Horizon Europe Framework Programme, outlines a robust framework for integrating ethical considerations and responsible data management into Open Science practices. The document emphasizes fostering transparency, inclusivity, and compliance with legal regulations, such as the GDPR, while promoting responsible research and innovation.

The plan highlights the importance of FAIR data principles (Findable, Accessible, Interoperable, Reusable) and their implementation through standardized metadata, secure repositories, Creative Commons licensing, and anonymization tools. Data governance is central to the plan, establishing strict guidelines for data collection, storage, and dissemination to ensure ethical practices, privacy, and appropriate sharing mechanisms.

In the FINEX project we must balance between the principles of open science emphasising the maximal access to all kinds of data and protecting personal data, for example not to be used outside and after of the project.

The project will utilize a mix of existing public data and new datasets generated to meet its objectives, which include training, networking, and stakeholder engagement. This approach ensures that all data management activities comply with ethical and legal requirements while promoting inclusivity and transparency.

Ethics in Open Science are addressed comprehensively, focusing on informed consent, data privacy, equity, and harm prevention. The plan ensures all research aligns with the highest ethical standards, adhering to national and international frameworks.

Open Science practices are central to the FINEX project, with a commitment to making data and publications openly accessible while addressing ethical and practical constraints. Collaborative platforms, pre-registration of research, and transparency in peer reviews are promoted to enhance reproducibility and collective knowledge creation. In this version of the GAP, the rapid changes in the publishing opportunities and their payabilities are considered.

Data security measures include secure storage, encryption, controlled access, and long-term preservation as well as which commercial data handling and repository services are used. Compliance with GDPR regulations governs the handling and transfer of sensitive data, and all partners are tasked with upholding these standards.

The plan defines the roles and responsibilities of various stakeholders in managing data and ethics, ensuring shared accountability and resource allocation. Despite its forward-looking approach, the project acknowledges challenges, such as equitable access and potential data misuse, and advocates for harmonized ethical guidelines and enhanced researcher education.

Through its comprehensive focus on ethics, Open Science, and responsible data management, the DMP & Ethics document underlines the FINEX project's commitment to advancing knowledge and innovation in a fair, transparent, and impactful manner.

This is the third and final DMP & Ethics document (v.3). The main two additions to the previous version of the DMP v2 are the following:

1. Totally new perspective in this document: instead of mere data security in the sense of data handling, accessibility and personal data, also the software products' geopolitical aspects were handled. Since being already in the last quarter of the project's lifetime, deployment of the alternative software products was not in the focus but rather raising awareness of the other options. A few European alternatives to de facto monopoly software products (operating system, collaborative online tools, online data repositories) of Microsoft and Google were listed.
2. Growing concern in academia dealing with new business models of publishers of academic journals, is noted as an open science problem. Article Processing Charges (APC) of thousands of euros improve the access for readers, but they may be also an equality problem between more and less resourced researchers.
    a. European Commission's recently (2021) established *Open Research Europe* is also handled as a partial solution for the growing costs of publishing research results.

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# List of Terms, Abbreviations and Definitions

*Table 1 Terms, Abbreviations and Definitions*

| Abbreviation | Definition |
|---|---|
| CDE | Communications, Dissemination and Exploitation |
| Clean tech | Cleantech, short for "clean technology," refers to a category of products, services, and processes that use renewable materials and energy sources, reduce emissions and waste, and have minimal negative impacts on the environment. The primary goals of cleantech are to improve operational efficiency, lower costs, and promote environmental sustainability. It encompasses a broad range of industries, including renewable energy (such as solar, wind, and bioenergy), energy storage, water and wastewater treatment, recycling, green transportation, and energy efficiency technologies. Cleantech is distinct from traditional industrial approaches in its focus on innovation, scalability, and profitability alongside environmental benefits. |
| Net-Zero Technologies | In 2026, “cleantech” has remained a colloquial term and superseded and formally updated to “Net-Zero Technologies”. The new term may be formulated also as a “Strategic Net-Zero Technologies” |
| EC | European Commission |
| EU | European Union |
| GA | Grant Agreement |
| GDPR | General Data Protection Regulation |
| General Assembly | GeA |
| IE | Innovation Ecosystem[1] |
| KPI | Key Performance Indicator |
| M | Month |
| PC | Project Coordinator |
| R&D | Research and Development |
| SC | Steering Committee |
| WP | Work Package |

[1] https://eismea.ec.europa.eu/programmes/european-innovation-ecosystems_en#european-innovation-ecosystems

# 1. Introduction

The integration of ethical considerations and responsible data management into Open Science practices is essential for fostering transparency, accountability, and trustworthiness in research & innovation activities. These principles ensure that scientific inquiry aligns with societal values, respects individual rights, and maximizes the impact of research outputs.

On the other hand, all personal data collected or generated (e.g. during events, use of the toolkit) will be processed based on informed consent, in compliance with the GDPR and other relevant applicable EU and national regulations. GDPR compliant privacy notices will be presented to the research participants including information about plausible data archival into the TalTech repository. In cases where the methods involve collection of personal data from social media posts, the ethical aspects are discussed with ethics experts and, e.g., publicly posted privacy notices may be used. In terms of ethical and legal aspects, the FINEX will ensure the highest ethical standards and legal restrictions regarding personal data with the DMP providing guidelines that define strict procedures for collection, handling and storage of personal data. Privacy-by-design / Privacy-by-default will be the basis of our target groups and stakeholders' engagement activities.

In FINEX, research data containing personal data may be archived to a repository (for example to TalTech repository) with restricted access so that it is accessible to only parties who have been granted a permit for a purpose compatible with the original purpose for processing. Research participants are informed of data archival in the research privacy notice. Since the FINEX project is funded as a coordination and support action, the actual academic research activities are in a minor role in the project. In addition, fully anonymous data, such as aggregated statistical data, may be published as open data.

Due to the geopolitical insecurities since late 2025, inter-continental risks of functioning of certain software products, not to mention the already current inter-organisational access problems of Microsoft's Sharepoint, European software products handling European data archives should be studied. Since the life-time of FINEX project is six months left when this deliverable is delivered, no tangible deployments will be done in the project. However, for further considerations of actual changes in the software products and collaborative digital repositories, it is worth to handle the topic also in this final Data Management Plan.

## 1.1 Scope and objectives

This deliverable is a plan of Data management and ethics especially in Open science practices but also throughout the whole FINEX project.

## 1.2 Relation to WPs, tasks and other deliverables

DMP is part of WP1, having horizontal relation to all other WPs similarly with the deliverables 1.2, 1.4, 1.5. and their updates.

# 2. Responsible Data Management

Responsible Data Management involves:

**Data Governance:** Establishing clear policies for data collection, storage, and dissemination. This includes defining roles and responsibilities for data stewards, custodians, and users.

**Metadata Standards:** Providing comprehensive metadata ensures that datasets can be understood and reused by others, promoting interoperability across disciplines.

**Long-Term Preservation:** Ensuring data is stored in repositories that support long-term access and preservation, avoiding loss of valuable scientific records.

**Ethical Data Sharing:** Balancing openness with privacy by using controlled access for sensitive data while sharing aggregated or anonymized data openly.

**Licensing and Attribution:** Clearly specify usage rights through standardized licenses (e.g., Creative Commons), ensuring that contributors receive appropriate credit.

### 2.1 FAIR data

For making data Findable, Accessible, Interoperable and Reusable, the FAIR Principles are followed (guidelines are based on FORCE-11 “The FAIR Data Principles”[6], Finnish Social Science Data Archive FSD guidelines in DMPTuuli[7], European Research Council guidelines for Open Access[8]). Also partners internal rules and guidelines are used for making the FINEX data FAIR (TalTech Data management Plan[9]). The FAIR data principles and how they are implemented in the FINEX project are summarised in Table 3.

## 2.1.1 Making data findable, including provisions for metadata

In the FINEX project, the data considered open for re-use will be deposited in TalTech repository[10] and will be discoverable by employing a standard identification mechanism (e.g., essential metadata, assignment of Digital Object Identifiers (DOI) via DataCite). Data searchability will be enhanced by the consistent usage of the Dataset Naming Convention (DSNC), metadata creation based on the Dublin Core Metadata standard and effective data versioning.

## 2.1.2 Making data accessible

The data collected/generated will be openly available with as few restrictions as possible, with due diligence to protect sensitive data. However, at this stage the project activities do not foresee to collect any sensitive data besides the gender of participants of events and the gender of organization leaders. Stakeholders will be able to access our open data by simply using their web browser. Where applicable, Open Science Cloud (EOSC), CERN Open Data Portal, European Data Portal, Research Data Alliance (RDA), CODATA and the Amnesia, OpenAIRE's data anonymization tool will be employed.

When TalTech's data repository (Sharepoint provided by Microsoft) is non-accessible for project partners having no TalTech account because of organisational reasons of data-security or bad usability, other platforms are used for temporary or working versions of documents.

### 2.1.3 Making data interoperable

We will use metadata vocabularies, standards, and methods to increase the interoperability of data collected/generated (e.g., Dublin Core Metadata standard). Data interoperability will be facilitated through EU Open Data Portal and European Open Science Cloud (EOSC) - metadata will be stored internally in JSON format in line with a defined JSON schema.

### 2.1.4 Increase data re-use

We will publish openly available data under the Creative Commons licensing scheme to ensure re-use by any interested third-party and we will implement diligent quality assurance (e.g. peer review of methods and data summaries) and quality control (technical checks on data consistency, integrity, and correctness) activities.

*Table 2 FAIR data Principles and how they are implemented in the FINEX project*

| Name of structure/ position | FAIR data principles | Implementation in FINEX |
|---|---|---|
| **To be Findable:** | F1. (Meta)data are assigned a globally unique and eternally persistent identifier.<br>F2. Data are described with rich metadata.<br>F3. (Meta)data are registered or indexed in a searchable resource.<br>F4. Metadata specify the data identifier. | In the FINEX project, the data considered open for re-use will be deposited in TalTech repository[11] and will be discoverable by employing a standard identification mechanism (e.g., essential metadata, assignment of Digital Object Identifiers (DOI) via DataCite). Data searchability will be enhanced by the consistent usage of the Dataset Naming Convention (DSNC), metadata creation based on the Dublin Core Metadata standard and effective data versioning. |
| **To be Accessible:** | A1. (Meta)data are retrievable by their identifier using a standardized communications protocol.<br>A1.1 the protocol is open, free, and universally implementable.<br>A1.2 the protocol allows for an authentication and authorization procedure, where necessary.<br>A2. metadata are accessible, even when | The data collected/generated will be openly available with as few restrictions as possible, with due diligence to protect sensitive data. Stakeholders will be able to access our open data by simply using their web browser. Where applicable, the Amnesia, OpenAIRE's data anonymization tool will be employed. |

| | | |
|---|---|---|
| | the data are no longer available. | |
| **To be Interoperable:** | I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.<br>I2. (meta)data use vocabularies that follow FAIR principles.<br>I3. (meta)data include qualified references to other (meta)data. | We will use metadata vocabularies, standards, and methods to increase the interoperability of data collected/generated (e.g., Dublin Core Metadata standard). Data interoperability will be facilitated through Zenodo - metadata will be stored internally in JSON format in line with a defined JSON schema. |
| **To be Re-usable:** | R1. (meta)data have a plurality of accurate and relevant attributes.<br>R1.1. (meta)data are released with a clear and accessible data usage license.<br>R1.2. (meta)data are associated with their provenance.<br>R1.3. (meta)data meet domain-relevant community standards. | We will publish openly available data under the Creative Commons licensing scheme to ensure re-use by any interested third-party and we will implement diligent quality assurance (e.g. peer review of methods and data summaries) and quality control (technical checks on data consistency, integrity, and correctness) activities. |

### 2.2 Other issues

All partners confirm that they collect and process data according to the EU and local legislation and follow the GA article 15 in regard to data collection and processing. The limited number of researchers within TalTech linked to this project follow the EU Charter and Code of Conduct for Researchers (that TalTech has accepted), all partners follow local Personal Data Processing and Protection organisational procedures when processing the data.

# 3. Data Summary

FINEX is not a research project as such, however, personal and administrative data will be collected to participate in the training, networking, matchmaking sessions, and targeted support actions towards the project target groups, as well as, to animate all innovation ecosystem actors and investors, as is described in the project objectives and workplan. Therefore, FINEX incorporates sound data management across its life cycle and beyond to make its data FAIR.

The FINEX will both re-use existing data from partners and third parties for mapping and improving the Net-Zero technologies IEs and will generate new data within the project. The project will re-use and produce different categories of data: IE stakeholder data, case studies data, best practices data, project documentation and dissemination materials. Furthermore, AI (LLM)-supported interview or questionnaire data will be produced. In the following, we describe the indicative types of data and the formats used/ to be used.

In more detail, the FINEX project will re-use existing publicly available data on the six Innovation Ecosystems (IE) that has been collected by other public stakeholders and support organizations and will use it for mapping the stakeholders in the six IEs, creating public reports and best practices on the IEs, sharing with IE stakeholders project results and outputs and inviting them to project activities.

The project will re-use existing lists of startups, scaleups, investors, accelerators, business support organizations, universities, government related support organizations, etc. (organization name, representative, e-mail, website) for creating a deep tech focused list of stakeholders that will be updated during the project timeline with the same data. In addition, as the project is focused on inclusive and gender equal deep tech innovation ecosystem with the main goal to support companies, start-ups and entrepreneurs to showcase innovative technologies, attract investment and reach global markets, also the gender of participants (if agreed by participants) is collected in participant lists.

The data is expected to be in widely used standard formats. Whenever possible, the data is machine readable and open. In the case of making use of the data collected by third parties, FINEX partners must make sure that all the legal, ethical, and professional obligations are met. The key characteristics of data management are the following:

- **For choosing the most suitable format** in which the data will be saved, the instructions of "The Open Data Handbook" of Open Knowledge Foundation and DANS (Data Archiving and Networked Services) suggestions for choosing file formats will be followed. The general guideline is to prefer most common and machine-readable formats.
- **For documenting the data**, the internal guidelines of TalTech will be followed (e.g. instructions on TalTech webpage for research data management[2], open science[3] and granting open access[4] to research data) as well as the guide for data documentation by Siiri Fuchs and M. E. Kuusniemi[5].

- **Expected size of the data**: Now the size of the data of the FINEX project is 8.5GB. To be re-used is planned to be 1 Giga Byte, The final state will be explained in the last updated version of the DMP & Ethics (D1.10).
- **The data collection, management, and storage will follow national and institutional legislation** (concerning data protection and copyright). Changes in legislation after 2018 due to reform of EU data protection rules are taken into consideration in all the partner institutions. All non-professional collaborators will be informed how the received information is used and who will have rights for the data. The data from user surveys will be anonymized.
- **Outside the FINEX project**, our data might be useful for public authorities (e.g., ministries, policy makers and government agencies responsible for developing the deep tech sector and women participation in there), entrepreneurs and startups who are looking for additional funding and collaboration opportunities, media and analysts interested in the deep tech sector, incubators and accelerators looking for deep tech startups and funding opportunities.
- **Quality procedures**: The consortium follows the internal quality procedures for internal documents, collected and generated data.
- **Legal compliance**: The rights and ownership of the project consortium, who will ensure the sustainability of the data after the project is completed. The published data will be licensed using a Creative Commons license for data (e.g. CC0, CC-BY).
- **Storing and maintaining the produced data:** The coordinator (FinEst Centre for smart Cities in TalTech) of the project will oversee storing the data after the project life-time, until the mentioned unit exists. The data will be updated aligned the updated DMPs (D1.10).

## 3.1 FINEX Helpdesk for innovators

FINEX has set up a joint international helpdesk to support innovators. The Helpdesk serves as a single coordinated entry point to connect Net-Zero technologies and deep tech innovators with matchmaking events, experimentation opportunities, and targeted support offered by FINEX partners.

The Helpdesk combines a publicly accessible online interface with a decentralised network of national contact points in all partner countries and an EU-level coordination point. It ensures innovators can easily find relevant contacts, understand the FINEX support pathway, and receive guidance on accessing experimentation spaces and piloting opportunities.

## 3.2 Other research outputs

As of being a csa project, other research outputs are in a minor role in the FINEX project. However, the Gender Task Force and Aalto University is planning to interview the already recognised and listed 126 stakeholders dealing with female leadership and publish the results as a research paper. If other research outputs will occur, this section will be updated in the next version at M12.

# 4. Data security

For data security TalTech and project partners provisions are in place (including data recovery as well as secure storage/archiving and transfer of sensitive data) that follow national and local regulations.

The storage and maintenance of data collected and generated in FINEX will be handled according to the data category, privacy level, need to be shared between the consortium, and its size. The long-term preservation of the data is discussed on the level of the General Assembly of the FINEX as well as the costs of the preservation when the need occurs and before updating the DMP. The WP Leaders (see Annex II) and Task Leaders (see Annex I) give suggestions to the General Assembly about what data is most valuable for long-term preservation.

## 4.1 Data recovery and secure storage of research Data

The FINEX data will be stored on secure, password protected IT server(s) or contracted secure cloud-based services at the FINEX partners' home institutions as well as on data repositories for long term preservation (e.g.EOSC). All personal data will be stored password-protected (with two-way traceable verification if needed). All personal and sensitive data (besides name, gender, e-mail and organization for the purpose of invitation to FINEX activities) will be deleted permanently after analyses. All FINEX beneficiaries are responsible for controlled access to the FINEX data, and that backup is provided by the IT services at the partner's home institution. TalTech provides secure and authorized data storing for the PC.

## 4.2 Transfer of Sensitive Data

In case of transferring Sensitive data, TalTech and all project partners will follow their respective internal rules for data handling (e.g., TalTech "Procedure for Processing and Protection of Personal Data"). If sensitive data is sent by e-mail, the data must be sent as an encrypted e-mail or included as an encrypted attachment. All beneficiaries of Data security.

For data security TalTech and project partners provisions are in place (including data recovery as well as secure storage/archiving and transfer of sensitive data) that follow national and local regulations.

The storage and maintenance of data collected and generated in FINEX will be handled according to the data category, privacy level, need to be shared between the consortium, and its size. The long-term preservation of the data is discussed on the level of the General Assembly of the FINEX as well as the costs of the preservation when the need occurs and before updating the DMP. The WP Leaders (see Annex II) and Task Leaders (see Annex I) give suggestions to the General Assembly about what data is most valuable for long-term preservation.

The reason for transfer as well as the secure transfer processes will be explained in more detail in the specific case(s). The right to transfer the personal data will be obtained from the participants of an analysis before the analysis starts.

The data transfer issues are especially central in the FINEX project, since its partners organises several events, online and onsite. Personal email addresses and direct phone numbers to certain persons are thus very valuable asset for all the partners, but especially for those whose main substance is brokering and networking. There is a strong temptation to use the contact lists collected in the FINEX for other purposes. For this reason, in the next sub-chapter (4.2.1) there are specific priniciples of the personal data processing.

In a case of a need to send sensitive data outside European Economic Area (EAA), the conditions set in GDPR Chapter 515 will be followed as well as European Commissions guidelines on “International Transfer of Personal Data”.

Data security risk analysis: The FINEX will apply TalTech’s crisis management regulation and cyber-crisis management plan (with restricted access, for internal use only).

### 4.3 The Principles of Personal Data Processing

These principles form the foundation of GDPR and dictate how personal data should be handled (to emphasise the obligative nature, the principles are presented in the second person singular) :

- **Lawfulness, Fairness, and Transparency:** You must have a valid legal basis for processing personal data, and you must be open and honest with individuals about how you're using their data. This includes providing clear and concise privacy notices.
- **Purpose Limitation:** You can only collect personal data for specific, explicit, and legitimate purposes. You cannot use the data for a new, incompatible purpose without a new legal basis or consent.
- **Data Minimization:** Only collect the minimum amount of personal data necessary to achieve your stated purpose.
- **Accuracy:** Keep personal data accurate and up-to-date. If data is found to be inaccurate, you must take reasonable steps to correct or delete it.
- **Storage Limitation:** You should only store personal data for as long as is necessary to fulfil the purpose for which it was collected.
- **Integrity and Confidentiality (Security):** You must implement appropriate technical and organizational measures to protect personal data from unauthorized or unlawful processing, as well as accidental loss, destruction, or damage.
- Accountability: You, as the data controller, are responsible for demonstrating compliance with all of the above principles. This often involves keeping detailed records of your data processing activities.

- 2. Data Subject Rights

GDPR gives individuals significant rights over their personal data. Organizations must have processes in place to honour these rights:

- **Right to be Informed:** Individuals have the right to be informed about the collection and use of their personal data.
- **Right of Access:** Individuals can request to see and receive a copy of their personal data.
- **Right to Rectification:** Individuals have the right to have inaccurate or incomplete data corrected.
- **Right to Erasure ("Right to be Forgotten"):** Individuals can request the deletion of their personal data in certain circumstances.
- **Right to Restrict Processing:** Individuals can request the suppression or restriction of their personal data's processing.
- **Right to Data Portability:** Individuals can request and receive their personal data in a machine-readable format and have it transferred to another data controller.
- **Right to Object:** Individuals can object to the processing of their personal data in specific situations, particularly for direct marketing.
- **Rights related to Automated Decision Making and Profiling:** Individuals have the right to object to decisions based solely on automated processing that produce legal effects or similarly significant effects concerning them.

### 4.5 Key Compliance Requirements

To achieve and maintain compliance, organizations must implement a number of specific measures:

- **Lawful Basis for Processing:** You must identify and document a valid legal basis for every data processing activity. The most common bases are consent, a contract, a legal obligation, or a legitimate interest.
- **Explicit Consent:** If you rely on consent, it must be freely given, specific, informed, and an unambiguous "opt-in." Consent cannot be a default option.
- **Data Protection by Design and by Default:** Data protection and privacy should be considered from the very beginning of any new project or system.

- **Data Protection Impact Assessments (DPIAs):** You must conduct DPIAs for any high-risk data processing activities to assess and mitigate potential risks.
- **Records of Processing Activities:** You are generally required to maintain detailed records of your data processing activities.
- **Data Breach Notification:** You must have a plan to detect, report, and investigate data breaches. If a breach poses a risk to individuals' rights and freedoms, you must report it to the relevant supervisory authority within 72 hours.
- **Data Protection Officer (DPO):** In some cases, a DPO must be appointed to oversee data protection strategy and compliance. This is typically required for public authorities, organizations that engage in large-scale systematic monitoring of individuals, or those that process large volumes of "special categories" of data (e.g., health data).
- **International Data Transfers:** There are strict rules for transferring personal data outside of the EU. This requires mechanisms like Standard Contractual Clauses (SCCs) or Binding Corporate Rules (BCRs) to ensure the data remains protected.

### 4.6 Data recovery and secure storage of research Data

The FINEX data will be stored on secure, password protected IT server(s) or contracted secure cloud-based services at the FINEX partners' home institutions as well as on data repositories for long term preservation (e.g. Zenodo). All personal data will be stored password-protected (with two-way traceable verification if more critical data). All personal and sensitive data (besides name, gender, e-mail and organization for the purpose of invitation to FINEX activities) will be deleted permanently after analyses. All FINEX beneficiaries are responsible for controlled access to the FINEX data, and that backup is provided by the IT services at the partner's home institution. TalTech provides secure and authorized data storing for the PC.

#### 4.6.1 European alternatives for online collaboration and data repositories

Until about half-way of FINEX project, autumn 2025, we have referred cloud-based services as a neutral, generic solution. However, due to geopolitical insecurities and the rising urge of European independency in digital matters, has made it clear that the "cloud-basedness" has referred always to software products of American Microsoft, and some cases those of Google, also a very powerful American company.

Since 1990s and the era of personal computers, local software products and hard drives, we have travelled towards cloud-based solutions of 2020s pretty much with Microsoft and then Google.

Typically, European universities, companies and even public authorities, have multi-year contracts and licence deals with Microsoft, including the support service that ends when the contract ends. This makes

migrations to other similar services very difficult, especially for units of thousands of employees that should be educated, supported and enabled to work normally with the new software products.

Instead of evaluating better options for Microsoft's software products and suggesting some of them, we just mention some options that are worth further scrutinise.

### 4.6.2 European Collaboration & SharePoint-Style Alternatives

These tools provide document management, team collaboration, intranet, and shared workspace features — similar to SharePoint — but are developed or hosted in Europe.

Productivity & Collaboration Suites

- **UpCloud** is a Finland-based **cloud infrastructure provider** that offers scalable, high-performance computing services for developers, startups, and businesses. It has a strong focus on simplicity, performance, transparent pricing, and European data sovereignty.
- **Nextcloud** — German-based open-source collaboration platform for file sharing, calendars, contacts, tasks, and with integrations for online editing (e.g., OnlyOffice/Collabora).
- **OnlyOffice** — Latvia-origin productivity suite that supports collaborative document editing and can be self-hosted or EU-hosted.
- **Collabora Online** — Browser-based open-source office suite (derived from LibreOffice), suitable for document collaboration with EU hosting.
- **vBoxxCloud** — EU-hosted file sharing and collaboration platform with GDPR compliance and strong encryption (Netherlands/Germany).

# 5. Allocation of resources

The costs for data management in FINEX are covered under each partner's indirect costs. In TalTech, 15 percentage points (out of 25) of Horizon Europe indirect costs are directed to the university centrally (covering different services provided by TalTech to FINEX, among others IT, data security and storage, data management training and other costs). Based on the project's organisational set-up the roles in data management are described in table 3 below.

*Table 3 Allocation of roles related to FINEX data management*

| Name of structure/position | Roles related to FINEX data management |
|---|---|
| General Assembly | Overall responsibility for the technical, financial, administrative and dissemination aspects. Pre-approval of WPs' task-related set up of data collection. All WP task leaders must explain to the General Assembly the purpose of the data collection. |
| Aalto together with PC & all Partners | Responsible for implementing the DMP & Ethics |
| Legal Officers of Project partners | Responsible for all the legal arrangements related to the collected and created data |
| Data and Ethics Officers of Project Partners | Responsible for setting-up and monitoring the enforcement of Data and Ethics requirements in line with the EU, Estonian and Finnish regulations on Data Management and Protection and Research Ethics. |
| WP Leads | Responsible for planning, collecting/creating and storing WP and task related data according to the project DMP & Ethics. |

# 6. Ethical considerations in the FINEX project

Since the FINEX project is coordination and support action, the most important ethical considerations are 1) how data related to people is handled, 2) ensuring it's done ethically and legally, especially given the project's focus on networking and coordination. Thus, the most important ethical considerations are the following.

## 6.1 Protection of Personal Data

This is the most critical aspect, directly linked to GDPR compliance. How the project will handle any personal data, which includes:

Lawful Basis: Clearly stating the legal reason for processing personal data (e.g., informed consent, legitimate interest, fulfilling a contract).

Data Minimization: Justifying that only the essential data needed for the project's purpose will be collected.

Anonymization and Pseudonymization: Explaining the process for anonymizing or pseudonymizing data to protect privacy, particularly before sharing. The goal is to make data "as open as possible, as closed as necessary."

Security: Describing the technical and organizational measures to secure data from unauthorized access, loss, or destruction.

## 6.2 Informed Consent

When collecting data from individuals, FINEX project must show how informed consent will be obtained and managed. This means that participants must be clearly informed about:

- The purpose of data collection.
- The types of data being collected.
- Who will have access to the data.
- How long the data will be stored.
- Their right to withdraw consent at any time without penalty.

## 6.3 Data Ownership and Intellectual Property Rights (IPR)

The FINEX project should clarify who owns the data and how IPR will be handled, particularly when data is contributed by different partners.

Clarity on Ownership: Defining ownership for both generated data and pre-existing data used in the project.

Licensing: Specifying the license under which the data will be made available. FINEX project is requiring data to be shared under an open-access license to promote re-use, but this must be balanced with privacy and IPR concerns.

### 6.4 Data Sharing and Reusability

While EU policy encourages FAIR (Findable, Accessible, Interoperable, Reusable) data principles, the FINEX project must ethically balance this openness with privacy.

Justification for Closure: If certain datasets cannot be made public due to ethical or legal reasons (e.g., they contain personal data that can't be anonymized), the FINEX project must provide a clear and well-justified explanation.

Access Protocols: Describing the procedures for granting restricted access to data that cannot be made fully open, ensuring that only authorized researchers can use it for legitimate purposes.

### 6.5 Research Integrity and Accountability

Responsibility: FINEX project must assign clear roles and responsibilities for data management and ethical oversight within the project consortium. In practice, the project coordinator looks over the general implementation of this DMP, and partners, especially dealing with one particular innovation ecosystem (=country), must take care of the national data.

### 6.6 Ethics in Open Science

Ethical practices in Open Science revolve around the responsible conduct of research. Key ethical considerations include:

**Informed Consent**: Researchers must obtain explicit consent from participants, ensuring they understand how their data will be used, stored, and shared. This is particularly important in sensitive areas such as health or social sciences, which the FINEX project do not handle much.

**Data Privacy and Confidentiality**: Researchers should implement robust measures to protect personal and sensitive data, anonymizing or pseudonymizing data where necessary. This aligns with regulations like the General Data Protection Regulation (GDPR).

**Equity and Inclusivity**: Open Science should be accessible to diverse groups, including underrepresented communities. Researchers must ensure that the benefits of open data are distributed fairly and that marginalized voices are included in the scientific dialogue.

**Avoiding Harm**: Ethical guidelines must ensure that research does not harm participants, communities, or the environment. This includes assessing potential risks associated with data sharing or reuse.

**Other Issues**. All partners confirm that they collect and process data according to the EU and local legislation and follow the GA article 15 regarding data collection and processing. The limited number of researchers within TalTech linked to this project follow the EU Charter and Code of Conduct for Researchers (that TalTech has accepted), all partners follow local Personal Data Processing and Protection organisational procedures when processing the data. Furthermore, all partners are aware of national guidelines regarding ethical assessment of research with human participants and shall apply for this assessment when the research design warrants so.

# 7. Open Science Practices

Open Science practices enhance the transparency and reproducibility of research while adhering to ethical and responsible data management principles:

- **Open Data**: Sharing datasets publicly to facilitate reuse and verification, provided ethical considerations are addressed. In FINEX, research data containing personal data may be archived to a repository (for example to TalTech repository) with restricted access so that it is accessible to only parties who have been granted a permit for a purpose compatible with the original purpose for processing. Research participants are informed of data archival in the research privacy notice In addition, fully anonymous data, such as aggregated statistical data, may be published as open data
- **Open Access Publications**: Making research articles freely available to the public, enabling broader dissemination and impact.
- **Pre-Registration**: Documenting research hypotheses and methodologies before data collection to prevent biases and promote reproducibility.
- **Collaborative Platforms**: Using open platforms for collaborative research, ensuring that knowledge creation is a collective and inclusive endeavour.
- **Open Peer Review**: Promoting transparency in the review process to enhance trust and accountability in scientific publishing.

# 8. Challenges and Future Directions

Despite the benefits, Open Science faces challenges such as ensuring equitable access to resources, addressing data misuse, and navigating intellectual property concerns. A tangible problem is the following. Referring to the "**Equity and Inclusivity**" principle above, there are also ethical problems in the open access publishing. While it is a good thing that a reader can access new scientific knowledge for free, a growing concern among researchers in universities is the inflation of the Article Processing Costs (APC). In some cases, a widely accepted APC culture encourages journals to easier their evaluation processes and make them so fast that no careful double-blind review is possible, for example. The extreme form of this are the fully digitalised academic conferences that includes no physical nor online attendance among the participants. APC policy also raises the question of equality among researchers. Typically, it is possible to include APCs to EU funded project plans. However, that of funding can be very competitive. In personal grants the APC resources are typically not possible. In general, APCs favours universities in the Global North with their general resources, compared to those in Global South.

Enhancing European infrastructure for open data sharing. One, still emergent solution for this problem could be the publishing channel for EU funded projects, called Open Research Europe (ORE) (https://open-research-europe.ec.europa.eu/), established and funded by the European Commission in March 2021. It provides a fast pre-print option and then later an evaluation by experts. As a rather recently established channel totally outside of the decades and centuries old channel, the scientific journals, its academic prestige remains to be seen among the researchers willing to proceed their careers in academia.

Future efforts should focus on

- Developing harmonized ethical guidelines that are adaptable across academic disciplines and European regions.
- Educating researchers on ethical data management and Open Science principles.

By prioritizing ethics and responsible data management, Open Science can achieve its goal of advancing knowledge in a manner that is fair, transparent, and beneficial to all.

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# Annex I: Gantt Chart

| Gantt chart | | Leader | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WP1** | **Project Management, Communication and Dissemination** *(24 months)* | **TalTech** | *1* | | | | | | | | | | | | | | | | | | | | | | | *24* |
| T1.1 | Coordination and quality management (M1-M24) | TalTech | D1.1 | | | | | | | | | | | | | | | | | | | | | | | |
| T1.2 | Multidisciplinary Expert Advisory Board (MEAB) setup and engagement (M1-M24) | EIT Digital | | | | | | | | | | | | | | | | | | | | | | | | |
| T1.3 | Project Meetings and reporting (M1-M24) | TalTech | | | | | | | | | | | | | | | | | | | | | | | | |
| T1.4 | Planning and Risk Management (M1-M24) | TalTech | | | D1.2 | | | | | | | | | D1.6 | | | | | | D1.9 | | | | | | |
| T1.5 | Ethics and Responsible Data Management and Open Science practices (M1-M24) | Aalto | | | D1.3 | | | | | | | | | D1.7 | | | | | | D1.10 | | | | | | |
| T1.6 | Communication, Engagement & Dissemination Strategy (M1-M3) | TalTech | | | D1.4 | | | | | | | | | D1.8 | | | | | | D1.11 | | | | | | |
| T1.7 | Setup of CED channels and primary tools (M1-M4) | TalTech | | | | D1.5 | | | | | | | | | | | | | | | | | | | | |
| T1.8 | Communication and Dissemination activities (M3-M24) | TalTech | | | | | | | | | | | | | | | | | | | | | | | | |
| **WP2** | **More inclusive and gender equal innovation ecosystems** *(24 months)* | **Aalto** | *1* | | | | | | | | | | | | | | | | | | | | | | | *24* |
| T2.1 | Gender Action Plan continuous development (M1-M24) | Aalto | | | D2.1 | | | | | | | | | D2.2 | | | | | | D2.3 | | | | | | |
| T2.2 | Monitoring and promotion (M3-M24) | Aalto | | | | | | | | | | | | | | | | | | | | | | | | |
| **WP3** | **CleanTech priority areas selection and validation** *(11 months)* | **STP** | *1* | | | | | | | | | | 11 | | | | | | | | | | | | | |
| T3.1 | Identify areas where the multi-sectoral and/or emerging nature of some innovations ... (M1-4) | STP | | | | | | | | | | | | | | | | | | | | | | | | |
| T3.2 | Identify legal, regulatory, fiscal, technical, and operational pre-requisites or ... (M2-M5) | Cleantech-EU | | | | | | | | | | | | | | | | | | | | | | | | |
| T3.3 | FINEX Policy Lab: identifying regulatory and legal levers for experimentation in ... (M3-11) | CLIMATE-KIC (until 31.03.2025) HEC Paris (from 1.04.2025) | | | | | | | | | | | | | | | | | | | | | | | | |
| T3.4 | Select most representative Cleantech use-cases building on the partners strengths... (M4-M11) | STP | | | | | | | | | | | D3.1 | | | | | | | | | | | | | |

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|---|---|---|---|
| **WP4** | **Capacity building - Enhancing Cleantech innovation ecosystems connectivity...** *(16 months)* | **Cleantech-FR** | 8 … 23 |
| T4.1 | Mapping FINEX support capabilities to facilitate the the experimentation practices... (M8-11) | HEC Paris | D4.1 |
| T4.2 | Identify and formulate experimentation and support tools & services best practices (M8-M11) | Cleantech-EU | D4.2 |
| T4.3 | Reinforcement of the FINEX support capabilities (M8-M23) | TalTech | |
| **WP5** | **Attracting & Accelerating Cleantech Innovators** *(18 months)* | **EID Digital** | 6 … 23 |
| T5.1 | Attracting innovators (M6-M12) | EIT Digital | |
| T5.2 | Exploring synergies and matchmaking innovators (M8-M12) | EIT Digital | |
| T5.3 | Setting-up a joint interregional helpdesk for supporting innovators (M9-M23) | EIT Digital | D5.1 |
| **WP6** | **Experimentation spaces and pilots: Action Plan Development & Deployment** *(15 months)* | **KIOS CoE** | 9 … 23 |
| T6.1 | Recruiting & matchmaking cleantech innovative solutions with experimentation spaces (M7-9) | KIOS CoE | |
| T6.2 | Formulating the FINEX Action Plan (M11-M14) | TalTech | D6.1 |
| T6.3 | Deploying the FINEX Action Plan - support the running of the experimentation... (M13-23) | KIOS CoE | |
| **WP7** | **Impact assessment, regulatory policy formulation and results exploitation** *(22 months)* | **CLIMATE-KIC (until 31.03.2025) HEC Paris (from 1.04.2025)** | 3 … 24 |
| T7.1 | Commonalities, Synergies & Complementarities with EU sister projects and initiatives (M3-23) | Taltech | |
| T7.2 | Project implementation monitoring, results analysis & policy formulation (M3-M23) | HEC Paris | D7.1 |
| T7.3 | FINEX results' Exploitation, Replicability and Sustainability (M6-M24) | RTU | D7.2 D7.3 |

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# Annex II: List of WPs and corresponding WP leaders

| WP No. | Work Package Title | |
|---|---|---|
| WP1 | Project Management, Communication and Dissemination *(24 months)* | TalTech |
| WP2 | More inclusive and gender equal innovation ecosystems *(24 months)* | Aalto |
| WP3 | CleanTech priority areas selection and validation *(7 months)* | STP |
| WP4 | Capacity building - Enhancing Cleantech innovation ecosystems connectivity, resources... *(18 months)* | Cleantech-FR |
| WP5 | Attracting & Accelerating Cleantech Innovators *(18 months)* | 28DGTL |
| WP6 | Experimentation spaces and pilots: Action Plan Development & Deployment *(15 months)* | KIOS CoE |
| WP7 | Impact assessment, regulatory policy formulation and results exploitation *(22 months)* | HEC Paris |

# Annex III: List of Deliverables and Corresponding Internal Reviewers

| Deliverable (No) | Deliverable Name | WP No | Lead Part. Short Name | Type | Dissemination Level | Due Date | Peer Review Responsible |
|---|---|---|---|---|---|---|---|
| D1.1 | Project Management and Quality Plan (MQP) | WP 1 | TalTech | R | SEN | 1 | ALL |
| D1.2 | Risk Management Plan | WP 1 | TalTech | R | SEN | 3 | ALL |
| D1.3 | Data management and Ethics plan (DMP & Ethics) | WP 1 | Aalto | DMP | SEN | 4 | ALL |
| D1.4 | Communication, Engagement and Dissemination (CED) Plan | WP 1 | TalTech | R | PU | 4 | ALL |
| D1.5 | CED Toolkit | WP 1 | TalTech | DEC | PU | 5 | ALL |
| D1.6 | Risk Management Plan (v.2) | WP 1 | TalTech | R | SEN | 12 | ALL |
| D1.7 | Data management and Ethics plan (DMP & Ethics - v.2) | WP 1 | Aalto | DMP | SEN | 12 | ALL |
| D1.8 | Communication, Engagement and Dissemination (CED) Plan (v.2) | WP 1 | TalTech | R | PU | 12 | ALL |
| D1.9 | Risk management Plan (v.3) | WP 1 | TalTech | R | SEN | 18 | ALL |
| D1.10 | Data management and Ethics plan (DMP & Ethics - v.3) | WP 1 | Aalto | DMP | SEN | 18 | ALL |
| D1.11 | Communication, Engagement and Dissemination (CED) Plan (v.3) | WP 1 | TalTech | R | PU | 18 | ALL |
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|---|---|---|---|---|---|---|---|
| D2.1 | Gender Action Plan | WP 2 | Aalto | R | PU | 3 | ALL |
| D2.2 | Gender Action Plan (v.2) | WP 2 | Aalto | R | PU | 12 | ALL |
| D2.3 | Gender Action Plan (v.3) | WP 2 | Aalto | R | PU | 18 | ALL |
| | | | | | | | |
| D3.1 | Cleantech priority areas selection | WP 3 | SUNRISE STP | R | PU | 7 | CLEANTECH-FR |
| | | | | | | | |
| D4.1 | FINEX support resources mapping | WP 4 | HEC Paris | R | PU | 8 | RTU |
| D4.2 | Experimentation and support tools & services best practices | WP 4 | CLEANTECH-FR | R | PU | 10 | 28DGTL |
| | | | | | | | |
| D5.1 | Helpdesk for innovators | WP 5 | EIT Digital | Other | PU | 12 | CLIMATE-KIC |
| | | | | | | | |
| D6.1 | FINEX Action plan | WP 6 | TalTech | R | SEN | 13 | GATE |
| | | | | | | | |
| D7.1 | Policy roadmap | WP 7 | HEC Paris | R | PU | 20 | CLEANTECH-FR |
| D7.2 | Exploitation, Replicability and Sustainability (ER&S) Plan | WP 7 | RTU | R | PU | 12 | KIOS |
| D7.3 | Exploitation, Replicability and Sustainability (ER&S) Plan (v.2) | WP 7 | RTU | R | PU | 20 | KIOS |