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AREANA
AVIATION RESEARCH ECOSYSTEM ADVANCED NOVEL APPROACH

D1.11. – IT Concept

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Abstract

This deliverable presents an IT concept developed under Task 1.2 to support coordination among research funding bodies across governance levels. It examines past cooperation efforts, defines platform requirements, and reviews existing digital tools. The concept proposes a suitable solution and outlines key considerations for compliance, support, and long-term use.

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Executive Summary

This deliverable outlines a comprehensive IT concept aimed at supporting strategic coordination among European, national, and regional research funding bodies. Developed under Task 1.2, it builds upon the analysis of previous and ongoing cooperation initiatives such as ECARE, TRIMIS, TRIG, ACARE, and others, identifying lessons learned and existing challenges in facilitating joint research planning.

The core of the document includes a detailed requirements analysis, a survey of existing digital platforms, and a structured comparison of their capacities to support data exchange, collaboration, and strategic alignment. Based on this evaluation, the ECARE digital platform is proposed as the most suitable foundation for future use, despite some limitations regarding support for joint calls and application processes.

Recommendations are provided for adapting and enhancing the platform to meet identified needs, including adjustments for legal compliance, usability, and long-term sustainability. The final concept envisions a dynamic, interoperable digital environment enabling funding bodies to share strategic priorities, access structured data, and explore new opportunities for coordinated action in research and innovation.

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1. Introduction

Strengthening coordination among research funding bodies at European, national, and regional levels is critical to fostering synergies, improving strategic alignment, and maximizing the impact of public investments in research and innovation. Task 1.2 of the AREANA project contributes to this objective by identifying past and present efforts in strategic research cooperation—such as ECARE, TRIMIS, TRIG, ACARE, AZEA, AirTN, and ZAL—and evaluating the digital tools developed in their context.

Deliverable D1.11 – *"IT Concept"* – builds upon these findings to propose a concept for a digital platform that can support funding bodies in aligning priorities, exchanging knowledge, and accessing structured information on funding calls, research projects, and stakeholders.

This document:

- Defines key requirements for an IT platform supporting Research and Innovation (R&I) coordination,
- Assesses existing solutions on the basis of those requirements,
- Selects the most appropriate tool for the current project context, and
- Proposes potential adaptations to improve its suitability for future use.

This deliverable focuses exclusively on the IT-related features of a platform designed to support coordination among research funding bodies. It does not provide recommendations on the governance model such a platform should adopt. The governance model should guarantee research funding bodies with independence and reliability.

Based on this analysis, the **ECARE digital platform** has been identified as the most promising candidate. Originally developed under the ECARE project, the platform remains operational with support from EASN-TIS and EACP synergies working group. It offers structured data fields, collaboration spaces, multilingual accessibility, and user management functions that align well with the project's objectives.

However, it is acknowledged that the platform does not currently support the management of joint calls or application workflows—functionalities that may be relevant in the context of future cooperation. While the present project does not include budgetary provisions or mandate for technical development, this document outlines forward-looking, non-binding suggestions for potential enhancements. These ideas—such as improved integration, compliance features, and long-term scalability strategies—are proposed to inform future discussions, without implying any commitment within the current task scope.

The IT concept presented here provides a foundation for dialogue and decision-making among stakeholders, offering a realistic, needs-based, and scalable approach to digital support for research cooperation.

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2. Requirement analysis

2.1 Content requirements

The effectiveness of any digital platform supporting coordination among funding bodies is directly linked to the quality, structure, and relevance of its content. In this context, “content” refers not only to the data collected and shared within the platform, but also to the way this data is managed, structured, accessed, and used to facilitate strategic cooperation. Based on prior initiatives, three principal content domains are identified as essential: (1) Research Projects, (2) Funding Calls, and (3) Stakeholders.

2.1.1 Information in databases

A robust and well-structured database underpins the platform’s ability to serve as a reference point for funding bodies. The following categories of information are considered essential for building a comprehensive knowledge base:

Research projects

Information about research projects should be stored in a structured format, ensuring easy filtering and comparative analysis. The following fields are deemed essential:

- **Identification data**: Project ID, acronym, language of data entry.
- **Descriptive fields**: Full project title, concise and extended descriptions, main objectives.
- **Administrative information**: Name of coordinating organisation, project partners, country or region, and project duration (start year and total length).
- **Funding & financials**: Funding body, funding scheme, total budget, public funding contribution.
- **Technical scope**: Technology Readiness Level (TRL) at project start and end, and classification according to a thematic taxonomy (e.g. flight physics, propulsion, hydrogen, digitalisation).
- **Status & results**: Current status, main outcomes, links to deliverables or publications, and possible spin-offs.

This data structure allows users to gain insight into funded research trends, identify complementary efforts, and avoid duplication of work—critical goals for strategic alignment at both national and EU levels.

Funding calls

Funding call information is essential for understanding strategic directions and available financial instruments. The following elements are necessary:

- **Identification**: Call ID, language of the entry, issuing body.
- **Description**: Call title, summary of scope, expected impact, and target sectors.
- **Timeline & logistics**: Opening and closing dates, maximum project duration, eligible funding mechanisms.

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- **Financial provisions**: Total call budget, indicative budget per project, type of funding (e.g., grant, co-funding).
- **Scope & eligibility**: Eligible applicants, TRL expectations for entry and exit, geographical scope, and covered technical areas.

This information allows platform users to explore synergies across funding schemes and timelines, and to detect overlapping or complementary funding opportunities at early stages.

Stakeholders

Data about relevant stakeholders enhances collaboration potential and supports matchmaking across initiatives:

- **Entity identification**: Name of organisation, type (e.g., SME, research institute, public body), country/region.
- **Organisational profile**: Short description, mission or area of expertise, and strategic focus.
- **Contact information**: Email address, location, and relevant contact persons.
- **Thematic alignment**: Areas of work classified by technical topics, enabling effective filtering and mapping.
- **Participation records**: Involvement in projects or funding schemes, history of collaboration, preferred R&I topics.

The accuracy, depth, and categorisation of this data directly affect the platform's utility in mapping the ecosystem and fostering targeted cooperation.

2.1.2 Collaboration features

In addition to structured data, the platform should offer integrated collaboration spaces where users can exchange information, build strategic alignments, and develop common activities. The following functionalities are required:

- **Shared workspaces**: Private or public digital spaces where working groups can co-edit documents, upload project drafts, or develop joint initiatives.
- **Document exchange**: A secure file repository supporting access control, particularly useful in preparing joint proposals or policy inputs.
- **Discussion forums and messaging**: Tools for threaded discussions, comments on entries, and topic-specific messaging, enhancing real-time communication within or across organisations.
- **Notifications and updates**: Customisable alerts for new calls, updates on existing projects, or changes in stakeholder profiles, keeping users informed of relevant changes.

These features create an ecosystem where data is not only accessed but actively used to shape partnerships, identify funding options, and coordinate thematic actions.

2.1.3 User management

An efficient content structure must be paired with clear user governance and management. The following elements are essential to ensure appropriate access and content moderation:

- **Role-based access control (RBAC)**: Users should be assigned roles such as plain user, contributor, moderator, or administrator, with access tailored accordingly.
- **Account management**: Secure registration and authentication mechanisms, to enhance trust and traceability.
- **Content ownership & permissions**: Each data entry (e.g., project, call, stakeholder) should have a defined owner or custodian responsible for updates and accuracy.
- **Audit trails & logging**: Transparent recording of changes to records or collaboration spaces, essential for accountability and data protection compliance.

The platform must balance openness and control, ensuring that sensitive data remains protected while allowing meaningful engagement from a wide range of users.

2.2 IT infrastructure requirements

To support reliable and secure coordination among research funding bodies, the digital platform must be underpinned by a robust and scalable IT infrastructure. Beyond serving as a repository of information, the platform must guarantee consistent availability, fast performance, data protection, and compliance with European regulations. This section outlines the core infrastructure requirements that ensure operational integrity and long-term usability.

2.2.1 Hosting environment

The platform must be hosted on a stable and high-performance environment that ensures scalability, resilience, and security. Hosting considerations include:

- **Performance**: The system should respond promptly to user queries, even under high-load conditions. Page loading times and data access speed should remain consistently within acceptable thresholds.
- **Scalability**: The infrastructure should support future growth in both user base and stored content, without the need for a full system overhaul. Horizontal and vertical scaling options must be available to accommodate increased demand.
- **Reliability & redundancy**: Hosting must ensure high availability (ideally above 99.9%), with failover mechanisms and real-time backups in place. This is particularly relevant if the platform is used as a reference tool during coordinated actions among funding bodies.
- **European hosting location**: To align with GDPR and national data protection laws, it is recommended that all data be hosted on servers located within the European Economic Area (EEA), preferably with a provider certified under ISO 27001 or equivalent standards.

Cloud-based infrastructure is considered the most viable option for this platform, offering flexibility in managing capacity, updates, and geographical distribution of data.

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2.2.2 Security protocols

The platform must apply modern security standards to protect sensitive data and ensure trust among its users. Key measures include:

- **Data encryption**: All data in transit must be encrypted using HTTPS/TLS protocols. Data at rest, particularly sensitive user information and unpublished content, should be encrypted at the storage level.
- **Access control**: Secure login procedures, user authentication mechanisms, and session management must be enforced to prevent unauthorised access.
- **Granular permissions**: Access to datasets and editing rights must be managed through clearly defined roles and permissions (e.g., public access, read-only, moderation, admin).
- **GDPR compliance**: The platform must adhere to the General Data Protection Regulation, including user consent mechanisms, privacy notices, and procedures for data removal or export on request. Data minimisation principles should guide the handling of personal data.
- **Data integrity and audit logs**: Activities within the platform should be logged in an auditable manner, allowing for tracking content changes, user activities, and potential security breaches.

Security is not only a technical matter, but also a prerequisite for user confidence and institutional adoption. A transparent and verifiable security policy enhances the platform's credibility and encourages active participation.

2.2.3 Performance and uptime

Given the platform's strategic function as a coordination tool, its uptime and responsiveness are critical:

- **System uptime**: A minimum uptime of 99.5% should be targeted, supported by service monitoring and automatic alerts in case of system failures. Planned maintenance windows should be announced in advance.
- **Load handling**: The platform should be able to handle simultaneous users, particularly during peak usage periods (e.g., when new calls are published or when meetings prompt coordinated updates).
- **Speed and responsiveness**: The database must be optimised for query speed and searchability. Indexing, caching, and performance monitoring should be regularly conducted to maintain optimal response times.
- **Monitoring tools**: Continuous monitoring of server load, traffic, and error logs should be implemented using standard tools to proactively identify and resolve performance issues.

In summary, the IT infrastructure must be future-proof, security-conscious, and fully aligned with the platform's operational and strategic goals. As the user base grows and data volumes increase, infrastructure flexibility will be key to maintaining platform usability and reliability.

2.3 Viability and feasibility

In addition to meeting content and infrastructure requirements, the proposed platform must be evaluated in terms of its overall viability. This includes both its **technical feasibility**—the ability to operate within the project's technical and organisational constraints—and its **long-term sustainability**, ensuring continued relevance, usability, and support beyond the project's immediate timeframe.

2.3.1 Technical feasibility

The technical feasibility of a platform depends on its current development status, its alignment with the defined requirements, and the degree to which it can be extended or adapted to meet evolving needs. A feasible solution must demonstrate readiness for immediate use while also offering sufficient flexibility for future growth and enhancement.

Key aspects confirming technical feasibility include:

- **Proven functionality**: The platform should already be operational, with core features in place to support structured data sharing, user interaction, and information management. A modular design and user-friendly interface help ensure accessibility without requiring extensive onboarding.
- **Structured data management**: The ability to handle complex data models—including multi-field forms, thematic taxonomies, and multilingual content—is essential to meet the defined content requirements and ensure consistency across users.
- **Scalable infrastructure**: The platform's technical setup should support scalable web services and database operations, with the capacity to evolve in response to increased usage, expanded data volumes, or additional technical requirements.
- **Integration options**: Interoperability with third-party systems, for example through bulk data upload templates or API access, reduces the technical burden for contributing organisations and facilitates seamless data exchange.
- **Ongoing technical support**: Sustained operation requires reliable technical management, including regular maintenance, system monitoring, and the resolution of technical issues to ensure platform stability over time.

Nonetheless, certain advanced functionalities—such as integrated management of joint calls, application submission processes, or real-time project coordination—may not be natively supported in many existing platforms. Implementing such features would typically require dedicated development efforts. Given that no specific development resources are foreseen within the current project, this concept is limited to identifying these potential needs and proposing forward-looking, non-binding suggestions for future consideration.

2.3.2 Long-term sustainability

Ensuring the long-term sustainability of any digital platform is critical to prevent the common challenge faced by many tools that lose relevance or fall into disuse once the initial project or funding period ends. A sustainable solution requires both technical continuity and active stakeholder engagement beyond the initial development phase. Several factors can contribute positively to long-term sustainability, while certain challenges must also be considered.

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Positive enablers of sustainability include:

- **Institutional anchoring**: A stable organisational setup that ensures technical maintenance, platform operation, and content oversight is essential for long-term functionality. Sustained involvement from research networks, funding bodies, or stakeholder groups that contributed to platform development can further enhance continuity and encourage ongoing participation.
- **Community engagement**: Platforms with an active and diverse user base—such as universities, research and technical organisations, industry clusters, large enterprises, SMEs, and public authorities—benefit from broad ownership and knowledge sharing. Maintaining and expanding this community over time is key to platform relevance.
- **Alignment with strategic objectives**: A platform that supports wider policy goals—such as research coordination, transparency, and innovation efficiency—reinforces its relevance and increases the likelihood of long-term institutional and user support.

Challenges to be considered include:

- **Resource constraints**: Without guaranteed long-term funding, it can be difficult to implement major technical improvements, new features, or significant interface redesigns. This can limit the platform's ability to evolve alongside emerging needs.
- **Governance model**: While operational responsibilities may be assigned, the absence of a formalised governance structure—such as defined terms of reference, user rights, and decision-making procedures—can pose risks to the platform's credibility and future growth.
- **Data refresh and engagement**: Sustaining platform relevance requires regular updates to content and active participation from users. Without structured mechanisms to encourage this, there is a risk that information becomes outdated and engagement declines.

In conclusion, while a platform may be operationally sustainable within its current scope, preserving and expanding its relevance in the long term will depend on effective technical management, strategic coordination among stakeholders, and the identification of future funding opportunities to support targeted improvements.

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3. Market research & available solutions

This chapter evaluates existing digital platforms that aim to support the coordination of research and innovation funding efforts. The analysis draws on experience from related European initiatives and assesses how well existing tools meet the content, infrastructure, and strategic coordination requirements defined in Chapter 2. The objective is not only to identify available solutions, but also to highlight specific gaps that must be addressed if such platforms are to serve as reliable instruments for multi-level funding alignment.

3.1 Platform feature comparsion

Several digital platforms have been developed in recent years to support the coordination, tracking, and monitoring of research and innovation activities. Some were created within specific EU funded projects or institutions to address policy needs (e.g., TRIMIS, ACARE, CORDIS), while others have emerged from private or semi-public initiatives to meet broader digital collaboration demands. This section evaluates a curated selection of platforms based on their relevance to the coordination of funding bodies, particularly for sharing data on research projects, funding calls, and stakeholders.

In addition to domain-specific platforms, this analysis also considers **general-purpose digital collaboration tools**—particularly **Airtable**—which, while not developed for R&I coordination, offer high flexibility and could be adapted to some of the project's needs.

Comparative feature overview

Table 1. Functional capabilities comparison

Platform	Data on projects	Funding call info	Stakeholder info	Search & filter
ECARE	Structured DB	With metadata	Organisation-level	Multicriteria & taxonomy
TRIMIS	EU transport R&I	EU transport calls	-	Sector filters
CORDIS	EU projects	Detailed call info	-	Basic
ACARE Tools	Strategic R&I topics	-	-	Linked to SRIA
ZAL Tools	Internal DB	-	Org profiles	Advanced (internal)
OpenAIRE	Projects & outputs	-	ORCID/org data	Linked filters
Airtable *(configurable)*	Customisable DB	Via custom setup	Custom org fields	Full-text, views

This table highlights each platform's ability to store and structure key data types: research projects, funding calls, and stakeholder profiles. It also evaluates the depth of their search/filter functions. ECARE, TRIMIS, and Airtable perform best in terms of searchability and structured content.

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Table 2. Collaboration & user interaction

Platform	User interaction	Content upload	Custom workspaces
ECARE	Messaging, notifications	Manual, Excel, API	Private, public & role-based
TRIMIS	-	-	-
CORDIS	-	-	-
ACARE Tools	-	-	-
ZAL Tools	Internal tools	Manual/internal	Internal use only
OpenAIRE	-	Metadata ingest	-
Airtable *(configurable)*	Comments, mentions	Manual/API import	Flexible design

This table assesses the interactive and collaborative capabilities of the platforms. ECARE stands out as the only sector-specific platform supporting real-time collaboration and user-role-based access. Airtable also performs well, but as a general-purpose tool, it would need to be manually configured to match the domain's needs.

Table 3. Development & cost considerations

Platform	Development required	Development cost	Per-user cost
ECARE	Minor enhancements only	Low - medium	Free
TRIMIS	Closed platform	-	Free
CORDIS	Static dataset	-	Free
ACARE Tools	Not extensible	-	-
ZAL Tools	Proprietary system	-	Not public
OpenAIRE	Not editable	-	Free
Airtable *(configurable)*	Full custom build	High	€20–40/month/user

This table compares the cost implications and development needs of each platform. While ECARE requires only limited enhancements (suggested but unfunded), general-purpose tools like Airtable require a full setup from scratch, which can be costly both in terms of development effort and recurring user fees.

Key Observations

ECARE emerges as the only domain-specific platform that already integrates content, collaboration, and user management into one system. It supports structured data input and is equipped for multilingual, taxonomised content aligned with funding coordination needs. Further development (e.g., to support joint call workflows) would be beneficial but cannot be funded under the current project.

TRIMIS, **CORDIS**, and **OpenAIRE** serve as public information portals. While they provide useful reference datasets, they do not support user contributions, content ownership, or real-time collaboration among funding agencies.

ACARE and **ZAL** tools are either closed to external users or not extensible without internal access or resources.

Airtable, while not developed for R&I purposes, offers a viable baseline for creating structured environments rapidly. Its relational model allows linking projects to calls and organisations. However, building a fully operational coordination tool on this platform would require significant configuration, expert effort, and ongoing licensing costs. Moreover, challenges remain in ensuring GDPR compliance, long-term ownership, and public sector accountability unless carefully managed.

Conclusion

Among the platforms reviewed, **ECARE** stands out as the most feasible and strategically aligned solution for supporting the coordination of funding bodies. It provides a solid operational base, aligns with existing data structures, and offers key functionalities with minimal additional development needs. However, **general-purpose tools** such as Airtable could serve as fallback or prototyping environments where budgets are restricted or for testing lightweight solutions in parallel.

Their use should be carefully weighed against:

- Data governance challenges
- Maintenance dependencies on commercial licenses
- Potential limits in scaling or integrating into broader EU R&I digital infrastructure

3.2 Security & compliance analysis

Security and compliance are critical for any platform aiming to support public-sector coordination, particularly when personal data, sensitive project information, or cross-border collaboration is involved. In the context of this deliverable, the evaluation focused on four key areas:

- GDPR compliance and data protection measures
- Encryption (at rest and in transit)
- Access control and user role management
- Auditability and accountability

A platform's ability to meet these requirements directly affects its trustworthiness, adoption potential, and legal standing when used by funding agencies or public institutions.

Table 4. GDPR and Data Protection alignment

Platform	GDPR compliance	Privacy policy	Right to access/deletion
ECARE	Fully aligned	Published	Supported on request
TRIMIS	EU-hosted & compliant	EC-managed	Not applicable
CORDIS	EC-hosted	Published	Not applicable
ACARE Tools	Not public-facing	Unknown	Not applicable
ZAL Tools	Internal only	Not public	Not applicable
OpenAIRE	GDPR-aligned	Privacy-by-design	User rights supported
Airtable *(configurable)*	Depends on setup	For commercial version	Manual implementation needed

ECARE, TRIMIS, and CORDIS are built with EU data protection principles and offer compliance mechanisms as part of their design. Airtable can be configured to meet GDPR obligations, but **compliance depends entirely on how it is set up and hosted**, and it lacks default tools for managing legal requests such as the right to be forgotten.

Table 5. Security architecture & control features

Platform	Data encryption	Role-based access	Audit trails / logging
ECARE	At rest & in transit	RBAC with tiered roles	Activity tracking enabled
TRIMIS	HTTPS only	Read-only public site	Not applicable
CORDIS	HTTPS only	Read-only public site	Not applicable
ACARE Tools	Internal only	Restricted access	Likely but undocumented
ZAL Tools	Internal firewalled	Internal staff roles	Private audit logs
OpenAIRE	End-to-end encryption	Some metadata roles	Metadata audit only
Airtable *(configurable)*	HTTPS + encrypted DB	Fully customisable roles	With enterprise plans only

ECARE demonstrates strong alignment with standard security practices: encrypted communication, role-based permissions, and traceable actions. In contrast, most public-facing platforms (CORDIS, TRIMIS) operate as static information repositories without user interaction or authentication layers. Airtable supports these features **only in its enterprise versions** and with correct setup, making it a technically viable but **compliance-sensitive** option.

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Summary of key findings

ECARE provides robust compliance features, aligned with both GDPR and practical security needs. It balances user access with data protection and includes mechanisms for managing user roles and traceable activity.

General-purpose tools like Airtable, though flexible and technically secure, **place the burden of compliance on the system administrator**. Without careful configuration and documentation, such platforms can fall short of public-sector accountability requirements.

Public EU platforms (e.g., TRIMIS, CORDIS) are compliant by design but are not interactive systems and therefore do not support access control or data ownership.

3.3 Cost and scalability assessment

When selecting or recommending a digital platform to support multi-level research funding coordination, it is essential to assess both **initial and ongoing costs**, as well as the platform's ability to **scale** with growing data volumes, expanding user bases, and evolving strategic needs. This section compares the relevant platforms in terms of setup costs, user-related fees, maintenance requirements, and scalability potential.

Table 6. Cost structure overview

Platform	Initial setup cost	Licensing / subscription	Per-user cost estimate
ECARE	Low (already built)	Free	€0
TRIMIS	Not applicable	Free (EC-hosted)	€0
CORDIS	Not applicable	Free (EC-hosted)	€0
ACARE Tools	Not public	Not available	Not available
ZAL Tools	Proprietary/internal	Not applicable	Not public
OpenAIRE	Public open access	Free	€0
Airtable *(configurable)*	Medium–High (custom build)	Monthly subscription (tiers)	€20–40/month/user or enterprise plans

Public-sector platforms like ECARE, TRIMIS, and OpenAIRE are free at the point of use. ECARE's ongoing operation is supported by partner organisations, with no immediate user costs. General-purpose platforms such as Airtable incur recurring licensing fees and user charges, making them less suitable for public administration unless covered by a dedicated budget.

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Table 7. Scalability and maintenance capacity

Platform	Horizontal scalability	Data capacity growth	Maintenance responsibility	Custom feature expansion
ECARE	Yes	Proven in use	EASN-TIS (technical)	Limited (suggestions only)
TRIMIS	Static content	Limited scope	European Commission	Not extensible
CORDIS	Static content	Basic growth	European Commission	Not extensible
ACARE Tools	Unknown	Internal only	No public info	Not open for changes
ZAL Tools	Internal cloud	Private DB scaling	ZAL IT team	Restricted
OpenAIRE	Federated architecture	Designed for growth	Maintained via EU projects	Limited external feature dev
Airtable *(configurable)*	Strong native scaling	Very high storage tiers	User/Org-admin dependent	Customisation possible (manual or via partners)

The ECARE digital platform demonstrates reliable scalability within its current operational context. While it does not offer development capacity under the current project, its infrastructure and modularity allow future enhancements if funding becomes available. Airtable offers excellent technical scalability but lacks built-in support for domain-specific logic, and all responsibility for growth, data governance, and maintenance falls on the user or organisation managing the deployment.

Summary of cost and scalability findings

ECARE is the most cost-efficient platform for immediate use. Its no-cost user model and managed infrastructure make it particularly suitable for publicly funded cooperation projects, even though further enhancements would require external funding or partner support.

Airtable, while attractive in terms of flexibility and user experience, introduces operational costs and administrative burdens. It may be considered for lightweight pilots but is not ideal for institutional deployment unless fully resourced.

Other platforms (TRIMIS, CORDIS, OpenAIRE) are scalable only in terms of content visibility but not user interaction or data contribution. Their static or read-only design limits their utility as coordination tools.

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4. Solution selection & customization

Following the structured requirements analysis and the comparative evaluation of available platforms, this chapter presents the **selection of the ECARE digital platform** as the most suitable solution for facilitating coordination among funding bodies in the context of European, national, and regional research and innovation (R&I) efforts. While not initially designed to support certain functionalities such as joint calls or direct application handling, ECARE nonetheless offers the strongest alignment with the operational, technical, and content needs identified in this deliverable.

4.1 Selection of the preferred solution

Following a detailed evaluation of multiple existing platforms—ranging from public EU repositories to configurable general-purpose tools—the ECARE digital platform has emerged as the most suitable and realistic option for supporting the coordination of research funding bodies. Its technical readiness, thematic relevance, and compliance with key requirements make it the strongest candidate for adoption within the scope of this project. Unlike many alternatives that would require significant configuration or are not designed for interaction, ECARE offers an integrated solution tailored to the R&I ecosystem, particularly within the aeronautics domain.

Justification for choice

The **ECARE platform** has been selected based on its:

- **Proven operability and readiness for immediate use**, with a functioning infrastructure already in place,
- **Support for structured, multilingual databases** covering research projects, funding calls, and stakeholder organisations,
- **Built-in collaboration tools**, including user workspaces, document sharing, and notification mechanisms,
- **Secure infrastructure**, hosted within the European research environment and aligned with EU digital sovereignty principles,
- **Role-based access control and GDPR-compliant data handling**, ensuring data protection and accountability,
- **Operational continuity ensured by EASN-TIS, which is responsible for the platform's technical maintenance and management, supporting its stable operation and long-term availability.**

Unlike general-purpose platforms, **ECARE was specifically developed with the needs of research coordination in the aeronautics domain in mind**. Its data model, permission logic, and user collaboration features are closely aligned with the requirements identified in Chapter 2, reducing the need for adaptation and lowering the entry barrier for institutional users.

Decision criteria

The selection process followed a clear and transparent methodology, informed by both technical evaluation and strategic alignment with project goals. The key decision criteria included:

- **Functional fit**: Alignment with the project's operational needs, including support for structured content, user roles, and cross-organisational collaboration,
- **Compliance and security**: Conformity with European legal frameworks, particularly GDPR, and implementation of robust data protection mechanisms,
- **Cost-efficiency**: Absence of licensing fees and minimal adaptation requirements due to the platform's existing maturity,
- **Sustainability**: Continued support and relevance beyond the project lifecycle, supported by operational entities with long-term institutional mandates,
- **Customisation potential**: The ability to implement future enhancements if additional resources or strategic opportunities arise.

While other platforms such as **TRIMIS** and **Airtable** were considered during the evaluation process, none matched the **sector-specific design, institutional backing, and low implementation overhead** that ECARE offers. Its combination of usability, strategic focus, and operational support makes it the most appropriate foundation for a digital coordination platform under current conditions.

4.2 Feature enhancements and adjustments

Although the ECARE digital platform already satisfies the essential requirements for structured data sharing and coordination, several potential enhancements have been identified that could further strengthen its relevance and effectiveness in supporting multi-level research funding cooperation. It is important to emphasise that **no development budget is foreseen within the scope of** the **AREANA project**; therefore, the following proposals are presented as **non-binding recommendations** for consideration in the event that additional support or future investment becomes available.

These suggested improvements are aimed at increasing the platform's utility for strategic collaboration, enhancing user experience, and ensuring long-term compliance with evolving digital governance standards.

Feature enhancements (suggested)

To expand the strategic and operational capabilities of the platform, the following features are proposed as modular extensions:

- **Joint call coordination module**
  A future module could enable funding bodies to announce upcoming calls, express interest in co-funding opportunities, and align on topics, eligibility criteria, and implementation timelines. This would support more transparent and proactive planning of joint activities.
- **Proposal collaboration space**
  The platform could offer secure virtual workspaces where consortia or interested parties can co-develop joint proposals in their early stages. Access could be limited to authorised contributors, ensuring confidentiality and thematic focus.
- **Strategic alignment dashboard**
  A visual interface could map overlapping technical priorities, identify underfunded research areas, and correlate project data with broader policy objectives. Such a tool would leverage the platform's existing taxonomy system and enhance foresight capabilities.

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- **Feedback & analytics engine**
  Integrating user activity monitoring and feedback collection would enable platform managers to track engagement levels, assess the relevance of uploaded content, and identify gaps in usage or data coverage. This could support iterative platform refinement over time.

These enhancements could be developed as standalone modules, preserving the stability of the core platform while allowing selective deployment based on user needs and resource availability.

Compliance adjustments (if needed)

While the ECARE platform currently adheres to GDPR and general cybersecurity standards, future use—particularly by a broader set of funding bodies—may warrant additional adjustments to reinforce compliance and accessibility. The following areas are identified for potential improvement:

- **Automated data rights management**
  Implement user-facing tools to manage personal data access, portability, and erasure in line with GDPR requirements, reducing the administrative burden on platform managers.
- **Enhanced consent procedures**
  Establish more granular and transparent consent mechanisms for users contributing content, especially where data is public-facing or reused for analytical purposes.
- **Privacy and security audits**
  Introduce routine privacy assessments and vulnerability scans as part of a standardised maintenance protocol to ensure ongoing compliance and early detection of risks.
- **Web accessibility compliance**
  Strengthen adherence to EU web accessibility directives (e.g. WCAG 2.1) by improving contrast, navigation, and screen-reader compatibility, thereby ensuring inclusive access across user groups.

These adjustments would enhance the platform's robustness without altering its lightweight and user-friendly design. As with the feature enhancements, they are not mandatory under the current framework but serve as a roadmap for potential future development aligned with best practices.

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5. Additional considerations

While the technical and functional aspects of the platform are central to its effectiveness, several additional dimensions must be taken into account to ensure successful and sustained deployment. These include legal and compliance safeguards, structured user support, and strategies for long-term maintenance and scalability. The following sections outline key aspects that complement the technical concept and contribute to a robust operational model.

5.1 Legal and compliance reviews

In any cross-border digital infrastructure used by public bodies and institutional stakeholders, **legal compliance and liability management** are central to sustainable platform operation. This is particularly relevant when dealing with structured information on organisations, projects, and funding instruments that may include personal or sensitive data.

This section outlines the **data protection obligations and legal risk considerations** associated with the continued use and potential expansion of the ECARE digital platform. It is essential that all users and administrators share a clear understanding of their roles and responsibilities regarding data integrity, privacy, and liability.

Data protection and GDPR alignment

The platform must continue to operate in full compliance with the **General Data Protection Regulation (GDPR)**, particularly given the cross-border nature of its users and data contributors. Key considerations include:

- **Clear consent collection**: Users contributing data must explicitly agree to terms of use and data processing conditions.
- **Right to access and erasure**: The platform must retain mechanisms for individuals and organisations to review, export, or request the deletion of their data.
- **Data minimisation and purpose limitation**: Only data essential to the platform's functionality and stated objectives should be collected and retained.
- **Secure storage and hosting**: All data should be stored on secure servers located within the European Economic Area (EEA), with appropriate encryption and backup policies.

A comprehensive and up-to-date **privacy policy** should be maintained and publicly available at all times. Furthermore, any significant future updates to the platform—particularly those involving analytics, automation, or third-party integration—should be subject to a **Data Protection Impact Assessment (DPIA)** to ensure continued compliance.

Liability and risk management

As a collaborative environment, the platform must define the boundaries of liability and establish a shared understanding among participants regarding:

- **Content responsibility**: Contributors remain accountable for the accuracy and legality of the information they upload.
- **Service availability**: While the best efforts will be made to ensure uptime and support, no guarantees of uninterrupted service can be made under the current operational model.

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- **Security incidents**: A basic incident response plan should be in place to handle potential breaches or misuse of the platform.

To reinforce mutual understanding, it is recommended that participating organisations consider signing the **Memorandum of Understanding (MoU)**. This non-binding agreement could outline shared responsibilities for data governance, user behaviour, content contributions, and compliance adherence, helping to formalise cooperation while maintaining flexibility.

5.2 User training and support

For the ECARE platform to deliver lasting value and achieve broad adoption among research funding bodies and their stakeholders, a robust user support system is essential. While the platform's interface is intentionally designed to be intuitive, the diversity of potential users—ranging from policy officers to technical administrators—necessitates the availability of comprehensive, user-friendly guidance and responsive support mechanisms.

Effective support infrastructure not only facilitates onboarding but also builds user confidence, encourages engagement, and ensures consistency in how data is entered, managed, and interpreted across the platform.

User guides and documentation

High-quality documentation is critical for minimising barriers to entry and ensuring that users across different regions and organisations can contribute effectively. Key materials include:

- **Step-by-step manuals**: Clear, non-technical guides for project entry, call uploads, stakeholder profiles, and filtering functions.
- **Video tutorials and walkthroughs**: Particularly useful for onboarding new users or explaining more complex workflows.
- **Glossary and taxonomy reference**: Supporting consistency in thematic tagging and metadata usage.

Helpdesk and technical support

A centralised support service provides users with reassurance and guidance, particularly during their initial interactions with the platform or when encountering technical difficulties.

- **Dedicated support channel**: Email or form-based helpdesk coordinated by the EASN-TIS team, with typical response times defined.
- **Frequently Asked Questions (FAQ)**: Publicly available section addressing recurring user issues, platform logic, and troubleshooting.

Feedback mechanisms

Capturing user feedback is essential for the platform's continuous improvement and for aligning its development with user needs.

- **User feedback forms**: Embedded within the platform to gather user experience insights and identify potential areas for refinement.

- **Periodic user satisfaction surveys**: Optionally issued to assess usability, feature adequacy, and perceived value.

Taken together, this support structure reinforces transparency, enhances user satisfaction, and promotes sustainable platform usage. By lowering the learning curve and fostering ongoing communication between users and platform administrators, it creates a more responsive and adaptable digital environment.

5.3 Future maintenance and scalability

Ensuring the long-term operability and adaptability of a digital platform is essential for avoiding the common fate of post-project abandonment. While the current initiative does not provide a dedicated budget for future technical development, the **ECARE digital platform** benefits from a **basic yet functional sustainability framework**. This foundation enables continuity of service and incremental improvement. However, scaling up usage across the European research funding landscape would require to update the platform governance model to ensure the necessary ressources for content management and update.

Maintenance strategy

The ongoing technical and content management of the platform is already supported by key partners, allowing for uninterrupted functionality and quality control. The existing maintenance approach includes:

- **Ongoing updates**: Managed by EASN-TIS, including bug fixes, small interface improvements, and performance monitoring.
- **Security updates**: Regular application of patches and auditing of infrastructure against evolving threats.

Content moderation and revision: Overseen by EACP synergies working group, with periodic review of outdated entries and coordination with contributors. This task is carried out on a voluntary basis as part of the sustainability of the ECARE project results. However, no clear content management scheme has been identified yet to ensure moderation in case of a scale-up of the platform.Together, these measures ensure the platform remains both stable and trustworthy, even in the absence of continuous development funding. Additional funding or support would however be necessary to enable a large adoption by European stakeholders without compromising the quality of the content.

Long-term scalability

The **modular and flexible architecture** of the ECARE platform enables expansion without the need for major structural changes. This positions the platform for gradual but meaningful scaling in line with future demand. Key scalability features include:

- **Expansion of user groups**: New national or regional funding bodies can be onboarded without reengineering the core.
- **Thematic extension**: New topic categories or taxonomies can be added as required.
- **Data volume management**: The infrastructure can support increased numbers of records and active users through horizontal scaling.

A **key recommendation** is to explore future opportunities for platform enhancement and governance expansion through competitive EU programmes—such as **Horizon Europe Coordination**

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and Support Actions (CSAs) or **Digital Europe funding schemes**. These mechanisms could provide the financial and institutional support necessary to implement the enhancements proposed in Chapter 4 and to formalise a long-term governance model.

This forward-looking strategy ensures that the ECARE platform remains not only relevant and reliable, but also capable of responding to the evolving coordination needs of research funding bodies across the EU and beyond.

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6. Summary and alignment with project requirements

This chapter concludes the deliverable by summarising the outcomes of the platform assessment process and highlighting how the selected solution—the **ECARE digital platform**—aligns with the key requirements identified earlier in the document. It also outlines a practical usage strategy and acknowledges potential limitations, providing a realistic, actionable outlook for future implementation.

6.1 Summary of the selected platform

The ECARE digital platform has been identified as the most appropriate and operationally viable tool for supporting the coordination of research funding bodies within the framework of this project. Originally developed under an EU-funded initiative, the platform has since been maintained through the ongoing efforts of EASN-TIS, which oversees technical operations, and the EACP Synergies WG, which manages content integrity and strategic alignment.

Designed specifically to serve the European aeronautics research community, ECARE offers a structured, multilingual environment for the management and sharing of information on research projects, funding calls, and stakeholder organisations. Its interface supports thematic classification, advanced filtering, secure role-based access, and GDPR-compliant data governance. Data can be entered manually, uploaded via Excel templates, or integrated through an API, offering flexibility to users with different levels of technical capacity.

ECARE's design aligns closely with the requirements outlined in earlier chapters of this deliverable. It enables strategic mapping across initiatives and funding bodies, encourages collaboration through user workspaces, and provides robust search capabilities that facilitate evidence-based decision-making. The platform's operational model is sustainable in its current form, with no licensing fees or per-user costs, and only limited enhancements recommended to extend its functionality further.

When compared to general-purpose platforms such as Airtable, or to static repositories like CORDIS and TRIMIS, ECARE stands out for offering a purpose-built balance between structured data management and interactive collaboration. While sector-agnostic platforms may offer higher levels of customisability, they often require significant adaptation, introduce ongoing commercial costs, and lack built-in alignment with the European research policy landscape. Conversely, institutional repositories provide authoritative datasets but do not support dynamic user interaction or data contribution.

As such, the ECARE digital platform offers a unique combination of technical maturity, strategic focus, and low implementation overhead, making it the most appropriate foundation for enhancing research funding coordination under current conditions.

6.2 Alignment and project requirements

The evaluation conducted throughout this document confirms that the ECARE digital platform aligns effectively with the core requirements identified for supporting coordination among European, national, and regional research funding bodies.

From a content perspective, the platform meets all key functional expectations. It supports structured entries for research projects and funding calls, includes comprehensive stakeholder profiles linked to thematic areas, and enables multilingual content input. Its classification system and advanced filtering capabilities allow users to navigate large datasets efficiently, while its collaborative features offer a practical space for strategic exchange among funding agencies.

On the infrastructure side, ECARE is fully compatible with the project's technical requirements. The platform is securely hosted within the European Economic Area, adhering to GDPR standards and offering role-based access control to safeguard data. It demonstrates acceptable system performance and uptime, with the flexibility to incorporate modular enhancements as future needs arise.

Although the current project does not allocate budget for additional platform development, ECARE remains a sustainable solution in its present form. This is largely due to the continued operational support provided by key partners, which ensures both technical maintenance and content oversight. Its modular architecture also allows for future expansion, should external funding become available.

Taken together, these elements confirm that ECARE is not only aligned with the technical and operational requirements of this initiative but also positioned to remain relevant and usable over the long term.

6.3 Implementation and usage strategy

The ECARE digital platform is well-positioned to serve as a practical coordination and information-sharing tool in the immediate term. Within the context of this initiative, the platform can be used by participating funding bodies to communicate strategic priorities, upload and cross-reference national or regional funding calls, map ongoing and completed research projects, and identify potential areas for alignment or collaboration. Its existing functionality allows for structured content entry, comprehensive search and filtering, and meaningful engagement through stakeholder profiles and thematic mapping.

Organisations involved in this initiative are continuously joining the platform and contributing content directly through the dedicated interface. The platform is open to a broad range of institutional actors, including universities, research and technical organisations, funding authorities, clusters, associations and networks, SMEs, large companies, and other public or private entities active in the research and innovation landscape. Users have the option to enter data manually via structured forms or submit bulk uploads using preformatted templates. This flexibility supports a wide range of technical capabilities across institutions and facilitates faster data onboarding during the initial adoption phase.

Despite its readiness for use, several challenges may affect the long-term success of the platform if not adequately addressed. Most notably, the platform currently lacks integrated functionality to support joint call management—such as call planning, topic coordination, or collaborative evaluation workflows. While this feature is not essential for short-term operation, it may be desirable in the future and would require targeted development.

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Sustaining user engagement also poses a potential challenge. The platform's effectiveness depends on regular content updates, active usage, and coordination among participating actors. Without ongoing moderation and outreach efforts, there is a risk that data may become outdated or participation uneven across countries and sectors.

Lastly, as usage expands, the absence of a formal governance framework may hinder further adoption. Establishing a lightweight operational structure—such as a Memorandum of Understanding (MoU), steering group, or terms of participation—could help clarify roles and responsibilities, encourage consistency, and ensure strategic alignment among users.

Despite these considerations, the ECARE platform offers a strong starting point for digital coordination and can deliver immediate value with minimal setup, provided that stakeholders commit to its collaborative use and future enhancement.

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7. Conclusions

The analysis and recommendations presented in this deliverable demonstrate that the **ECARE digital platform** offers a practical and cost-efficient solution to support enhanced coordination among research funding bodies across Europe. Its existing architecture, structured data model, and collaboration functionalities are well-suited to address the identified needs for strategic alignment, information sharing, and stakeholder engagement.

While the platform was not initially designed to manage joint calls or application workflows, its modular structure, institutional support, and operational maturity make it a strong candidate for future expansion, should resources become available. Its compliance with European data protection standards and integration of multilingual, taxonomised content further reinforce its potential as a central point of contact and information exchange within the R&I funding ecosystem.

The success of the platform's deployment will depend not only on its technical capabilities, but also on **ongoing partner participation**, regular content contributions, and the establishment of a sustainable governance model. If these conditions are met, the ECARE digital platform can evolve into a valuable tool for supporting coordinated research efforts across national, regional, and European levels—advancing the shared objectives of transparency, synergy, and innovation impact.

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