

DACEM

Digitising Academic Catalogues for Enhanced Mobility

WP 5. Dissemination, exploitation and sustainability

5.4 Sustainability Strategy and Long-Term Exploitation Plan

Authors:

Nikola Horáková, Charles University,

Carlos Vaz de Carvalho, Virtual Campus Lda,

Tiago Simões, Debora Lucque, European University Foundation

Manuel Caeiro Rodríguez, Universidade de Vigo

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Elaborated by	<i>Charles University</i>
Authors	<i>Nikola Horáková, Charles University, Carlos Vaz de Carvalho, Virtual Campus Lda, Tiago Simões, Debora Lucque, European University Foundation Manuel Caeiro Rodríguez, Universidade de Vigo</i>
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1. Introduction

The DACEM project has developed an innovative ecosystem consisting of an open-source online Academic Catalogue (AC) software solution, a cloud-based platform supporting interoperability, policy recommendations for the European Higher Education Area (EHEA), and a deployment methodology for Higher Education Institutions (HEIs). The purpose of this Sustainability Strategy and Long-Term Exploitation Plan (hereinafter referred to as the "Sustainability Strategy") is to ensure that these results remain available, maintained, adopted, and further developed after the end of the Erasmus+ funding period. The strategy establishes concrete actions, responsibilities, and governance mechanisms.

The sustainability approach is based on six pillars:

1. Organisational sustainability.
2. Financial sustainability.
3. Technical sustainability.
4. Community and stakeholder sustainability.
5. Adoption and Exploitation Strategy.
6. Policy and strategic sustainability.

To generate a lasting impact within the EHEA, it is essential that the project's results continue to be maintained, used, promoted, and further developed after the end of the Erasmus+ funding. Sustainability is therefore understood not only as the preservation of project outcomes, but also as their continued evolution and adoption by HEIs across Europe.

The purpose of this Sustainability Strategy is to establish a framework that will ensure the long-term exploitation and impact of the DACEM results. The strategy outlines the measures, responsibilities, resources, and actions that will support the continued availability and relevance of the project outputs. In particular, it aims to guarantee the maintenance and accessibility of the DACEM open-source software and cloud platform, encourage the adoption of the developed solutions by HEIs, and support the continuous improvement of the project's technical and operational resources.

Furthermore, the strategy seeks to facilitate knowledge transfer among current and future stakeholders, including university administrators, international relations officers, IT departments, software developers, and policy makers. Through ongoing collaboration and dissemination activities, DACEM will contribute to strengthening the digital transformation of higher education and support the wider implementation of interoperable and standardised online academic catalogues.

A key objective of the sustainability strategy is also to ensure alignment with existing and future European initiatives related to higher education digitalisation, including the Erasmus+

digital ecosystem, Erasmus Without Paper, the European Student Card Initiative, and other interoperability frameworks supporting student mobility. By fostering collaboration between institutions and encouraging community engagement, the project aims to create a sustainable European network of stakeholders committed to improving the management and accessibility of course information.

The scope of this strategy encompasses all major outputs developed within the DACEM project. These include the open-source online Academic Catalogue software, the DACEM cloud platform, technical and user documentation, deployment and implementation guidelines, policy recommendations, dissemination materials, training resources, and all supporting knowledge assets generated throughout the project lifecycle. The strategy therefore provides a comprehensive approach to ensuring that these results remain accessible, relevant, and beneficial to the European higher education community for years to come.

1.1. Sustainability Vision

Within the Sustainability Vision, the DACEM will be recognised as one of the reference open-source solutions supporting interoperable course catalogues in EHEA, contributing to more efficient mobility processes and improved digital cooperation between institutions.

The Sustainable Strategy aims to establish an ecosystem where:

- Institutions actively participate in DACEM solutions.
- New institutions continuously join the network.
- Software improvements are contributed by the community.
- DACEM outputs influence future European digitalisation initiatives.
- Students and mobility officers benefit from improved access to accurate course information.

1.2. Key Sustainability Assets

The long-term sustainability of DACEM depends on the continued availability, maintenance, and adoption of several key assets developed throughout the project. These assets represent the project's core intellectual, technical, and organisational outputs and therefore require dedicated measures to ensure their use and development beyond the funded project period. The Sustainable Strategy has identified three strategic categories of assets that will form the foundation of the project's sustainability efforts: the open-source software, the DACEM cloud platform, and the knowledge resources produced during the project.

1.2.1. Open-Source Software

The DACEM online Academic Catalogue software represents the project's most significant and innovative result. Its open-source nature provides a strong basis for long-term

sustainability, as it allows HEIs, developers, and external organisations to use, adapt, and improve the solution without licensing restrictions.

To ensure the software remains operational and relevant after the project ends, the DACEM consortium will maintain a publicly accessible source code repository for a minimum of five years following project completion. The repository will contain the software source code, technical documentation, installation guides, release notes, and contribution guidelines. The use of an open-source licence will enable institutions to deploy the solution independently, adapt it to local needs, and contribute improvements back to the wider community.

A transparent governance model will be established to manage future software developments. This will include a public issue-tracking system where institutions can report bugs, request new features, and share implementation experiences. Version control procedures will ensure that all modifications are documented and that software updates are released in a structured and reliable manner.

In practice, several scenarios may contribute to the continued evolution of the DACEM software. For example, if changes are introduced within the Erasmus Without Paper (EWP) ecosystem that affect the structure of course information exchange, University of Vigo may develop an updated integration module and make it available through the shared repository. Similarly, if Charles University identifies an increasing demand for the management and publication of Blended Intensive Programmes (BIPs) within institutional course catalogues, it could develop a dedicated module enabling universities to classify, publish, and search BIP opportunities in a standardised format. Once tested and validated, the enhancement could be contributed to the DACEM codebase, allowing all participating and future adopting institutions to benefit from improved visibility and management of BIP offerings.

1.2.2. Cloud Platform

The DACEM cloud platform serves as the operational environment that enables institutions to access, exchange, and manage course catalogue information in an interoperable manner. Ensuring the continued operation of this platform is therefore essential for maintaining the project's impact beyond its funding period.

The consortium will implement several measures to guarantee service continuity. These include long-term hosting arrangements, regular system backups, cybersecurity monitoring, annual technical reviews, and contingency planning for service interruptions. Detailed technical documentation and infrastructure specifications will be maintained to facilitate platform migration or replication if required in the future.

During the initial post-project period, EUF will continue hosting key platform services while a longer-term governance and hosting model is established. In parallel, consortium members will explore opportunities for shared hosting arrangements involving partner universities or European digital infrastructure providers.

Several practical sustainability scenarios have been identified. For example, if one hosting provider decides to discontinue support for a specific service, the platform architecture and documentation will allow another partner institution to assume hosting responsibilities with minimal disruption. Similarly, if usage of the platform increases significantly due to adoption by additional universities, the consortium may implement a distributed hosting model where technical resources are shared among multiple institutions.

To ensure reliability and trust among users, regular security assessments will be conducted. If a security vulnerability is identified, corrective actions will be implemented promptly and communicated to participating institutions. Backup systems will ensure that course catalogue data can be restored quickly in the event of technical failures.

The consortium will also explore opportunities to integrate the platform with other European higher education digital services. Such integrations would increase the platform's value proposition and improve its prospects for long-term sustainability and adoption.

1.2.3. Knowledge Resources

Beyond the technical solutions, DACEM has generated a substantial body of knowledge that will continue to provide value to HEIs after the project ends. These resources include user manuals, administrator guides, technical specifications, deployment materials, training materials, or examples of good practices.

To ensure their long-term accessibility, all documentation and training materials will remain publicly available through multiple channels: the project website (<https://projects.uni-foundation.eu/dacem/>) and Zenodo (<https://zenodo.org/>). Resources will be stored on the project website, within institutional repositories maintained by consortium partners, and in relevant European dissemination platforms whenever possible. This approach minimises the risk of information loss and ensures that future users can easily access the materials.

The consortium recognises that documentation must remain current to retain its usefulness. Therefore, updates to the software will be accompanied by corresponding revisions to user and technical documentation. Partners adopting the solution will also be encouraged to share implementation experiences and lessons learned, which can be incorporated into future versions of the guidance materials.

Practical examples of sustainability in this area include the continued use of DACEM training materials by International Relations Offices when onboarding new staff members responsible for mobility management. Similarly, technical implementation guides can support IT departments deploying the software several years after the project's completion.

Training materials will serve as a valuable self-learning resource for institutions considering joining DACEM. For example, a university that becomes aware of the project in the future, should still be able to access the complete set of training materials, understand the

deployment process, and implement the solution without requiring direct support from the original project consortium.

Together, the DACEM software, cloud platform, and knowledge resources form an interconnected ecosystem. By ensuring their continued maintenance, accessibility, and development, the consortium aims to create a sustainable foundation for the long-term digital transformation of course catalogue management within the European Higher Education Area.

2. Organisational Sustainability

2.1. Sustainability Governance Board

To ensure the long-term sustainability, coordination, and strategic development of the DACEM project results, a DACEM **Sustainability Governance Board** will be established upon completion of the project. The Board will serve as the primary body responsible for overseeing the continued exploitation, maintenance, and evolution of the project's outputs, ensuring that they remain relevant and beneficial to the European Higher Education community.

The **Sustainability Governance Board** will initially be composed of representatives from the European University Foundation (EUF), Virtual Campus, and the University of Vigo. These organisations have been selected due to their active involvement in the development, dissemination, sustainability planning, and technical implementation of the project results. Additional institutions may be invited to join the Board in the future as the DACEM community expands and new stakeholders adopt the platform and software.

The Board will meet once per year, either online or in a hybrid format, to review progress, discuss emerging needs, and coordinate future actions. Extraordinary meetings may be organised when significant technical, organisational, or strategic decisions are required.

The main role of the Sustainability Governance Board will be to monitor the long-term impact and uptake of the DACEM solutions across Europe. This includes reviewing key adoption indicators, such as the number of Higher Education Institutions using the DACEM software, the number of active platform users, and the level of engagement within the user community. Based on these findings, the Board will identify opportunities for improvement and define priorities for future development.

In addition, the Board will coordinate maintenance activities related to the DACEM software, cloud platform, and associated documentation. This will include overseeing software updates, reviewing user feedback, monitoring technical performance, and ensuring that responsibilities for maintaining project outputs are clearly assigned among participating organisations.

Another important responsibility of the Sustainability Governance Board will be the identification of **funding opportunities** that could support the continued development of DACEM. This may include participation in future Erasmus+, Digital Europe, Horizon Europe, or national funding initiatives, as well as the exploration of institutional contributions and collaborative funding models among participating universities.

Finally, the Board will be responsible for evaluating and approving strategic developments that contribute to the long-term growth of the DACEM ecosystem. Examples may include the introduction of new functionalities supporting emerging Erasmus+ mobility formats such as *Blended Intensive Programmes (BIPs)*, integration with new European digitalisation

initiatives, expansion of the platform to additional user groups, or the development of new interoperability services supporting the digital transformation of Higher Education Institutions.

Through this governance structure, the consortium aims to establish a sustainable and collaborative framework that will ensure the continued relevance, maintenance, and adoption of DACEM long after the formal conclusion of the project.

2.2. Partner Responsibilities

University of Vigo

Lead sustainability coordination.

Responsibilities:

- Governance oversight.
- Annual sustainability reviews.
- Community engagement activities.
- Coordination of future development priorities.

European University Foundation

Dissemination and stakeholder engagement.

Responsibilities:

- Promotion through institutional networks.
- Engagement with European University Alliances.
- Policy outreach.

Technical sustainability.

Responsibilities:

- Repository maintenance.
- Technical support coordination.
- Software release management.

Virtual Campus

Quality assurance and impact monitoring.

Responsibilities:

- Collection of user feedback.
- Updating training materials and providing support for staff.
- Evaluation reports.

2.3. Formal Continuation Agreement

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To give the Sustainability Governance Board (Section 2.1) a stable legal and organisational basis after the Erasmus+ grant ends, the partners will sign a Memorandum of Understanding (MoU), accompanied by Terms of Reference, before the project closes. This instrument formally records each organisation's commitment to the sustainability activities described in this strategy and prevents the governance arrangements from depending only on goodwill.

The MoU will define the membership and decision-making rules of the Sustainability Governance Board; the assets it stewards (software, cloud platform, documentation, course data and brand); each partner's committed contributions (see Sections 3 and 6.3); an initial five-year term, renewable; procedures for admitting new members and for the orderly withdrawal of a partner, including the reassignment of responsibilities and of any custodial intellectual-property duties (see Section 4.5); and the hosting and data-custody arrangements.

While the initial signatories are the University of Vigo, the European University Foundation and Virtual Campus, all nine consortium partners, also including Charles University, Tallinn University, the University of Thessaly, the University of Maribor, the University of Orléans and the Erasmus Student Network, will be invited to confirm their continuing role. The agreement may subsequently be extended to new adopting institutions and to European University Alliances as the DACEM community grows.

2.4. Risk Management

Beyond the financial risks addressed in Section 3.7, the consortium maintains a consolidated risk register covering the organisational, technical, legal and adoption dimensions of sustainability. The Sustainability Governance Board reviews and updates this register at its annual meeting. The principal risks and their mitigation measures are summarised below.

Risk	Likelihood	Impact	Mitigation
A key partner withdraws from the sustainability effort	Medium	High	Distributed responsibilities and documented procedures; the MoU reassigns tasks; community contributors reduce single-partner dependence
Loss of technical maintainers and know-how	Medium	High	Comprehensive documentation, code review and onboarding guides

Low adoption by HEIs	Medium	High	Structured adoption pathway; dissemination via the EUF and ESN networks; alliance engagement; demonstrable benefits
Security breach or data loss	Low	High	Security monitoring, prompt patching, regular backups and annual assessments (Sections 4.2 and 4.6)
Loss of interoperability due to EWP/ESCI changes	Medium	Medium	Active monitoring of the EU digital ecosystem; adaptation modules shared through the repository
Insufficient funding for major development	Medium	Medium	Minimum viable maintenance scenario; pursuit of future projects; revenue mechanisms (Section 3.6)
Course data becomes outdated	Medium	High	Data stewardship, the annual update cycle and data-quality KPIs (Section 4.4)
Legal, IP or data-protection non-compliance	Low	High	Clear IP framework (Section 4.5) and GDPR governance (Section 4.6)

3. Financial Sustainability

Ensuring the long-term sustainability of DACEM requires a diversified approach to funding and resource allocation. As an open-source initiative developed within the framework of the Erasmus+ Programme, DACEM will not rely on a single source of funding after the end of the project. Instead, its sustainability will be supported through a combination of institutional commitments from partners, participation in future European projects, and in-kind contributions provided by participating organisations.

This approach will reduce financial risks, distribute responsibilities among multiple stakeholders, and ensure that the software, cloud platform, and supporting resources remain available and continuously improved. The consortium recognises that sustainable exploitation of project results requires not only financial resources but also long-term institutional commitment, technical expertise, and active engagement from the wider higher education community.

3.1. Institutional Contributions

The DACEM partners are committed to supporting the continuation of the project results beyond the funding period through the allocation of institutional resources and staff time. While the level of contribution may vary between partners, each organisation will seek to integrate DACEM-related activities into its regular operational responsibilities wherever possible.

Examples of institutional contributions include:

- Annual software maintenance and testing activities.
- Regular maintenance of the platform and keeping information up to date.
- Updates of technical and user documentation.
- Participation in governance and coordination meetings.
- User support and troubleshooting for institutions joining the DACEM platform.
- Contribution to dissemination and community-building activities.
- Monitoring of emerging needs related to course catalogue management and mobility processes.

For example, the University of Vigo may dedicate a portion of staff time from its International Relations Office and IT Department to participate in annual reviews of the platform and identify opportunities for improvement. Similarly, Charles University may continue contributing to quality assurance activities and the collection of user feedback from institutions implementing the DACEM solution.

3.2. Future European Projects

An important component of the DACEM sustainability strategy is the active pursuit of future European funding opportunities that can support the further development, deployment, and scaling of the project results, taking into account that this will depend on the priorities and regulatory framework of the forthcoming European funding period.

The DACEM project partners will monitor and apply for relevant funding opportunities, including:

- Erasmus+ Cooperation Partnerships.
- Erasmus+ Forward-Looking Projects.
- Erasmus+ European Policy Experimentation initiatives.
- Digital Europe Programme.
- Horizon Europe research and innovation projects.
- National and regional funding schemes supporting higher education digitalisation.

Participation in future projects would enable to continue developing new functionalities, improve interoperability with other European digital services, and expand the adoption of DACEM across the European Higher Education Area.

For example, future project proposals could focus on strengthening interoperability between DACEM, Erasmus Without Paper, the European Student Card Initiative, learning management systems, and institutional student information systems. Additional projects could explore the use of artificial intelligence to improve course catalogue management, facilitate automatic course matching, or support mobility planning for students and staff.

The consortium will also seek opportunities to involve new partner institutions, European University Alliances, and relevant stakeholder organisations, thereby broadening the impact and sustainability of the DACEM ecosystem.

3.3. In-Kind Contributions

In addition to direct financial resources, DACEM will benefit from substantial in-kind contributions provided by members and future adopting institutions. Such contributions represent an important sustainability mechanism, particularly for open-source projects where collaborative efforts often play a central role in long-term success.

Partner institutions will continue supporting DACEM through:

- Staff expertise and technical knowledge.
- Hosting and server infrastructure.
- Testing and validation of new software releases.
- Meeting facilities and event organisation.
- Dissemination through institutional communication channels.

- Participation in training activities.
- Contribution of case studies and implementation experiences.

For example, University of Vigo may provide technical expertise related to platform maintenance and cloud services, while EUF may continue promoting DACEM through its extensive network of Higher Education Institutions and European University Alliances. Likewise, partner universities may offer meeting facilities for community workshops, user-group meetings, or training sessions without requiring additional project funding.

It is expected that, as the number of institutions adopting DACEM grows, new users will also contribute resources, expertise, and feedback to the community. This collaborative model will strengthen the resilience of the project and reduce dependence on any individual organisation or funding source.

Through the combination of institutional commitments, future project funding, and in-kind support, DACEM aims to establish a sustainable financial foundation that will enable the continued development, maintenance, and exploitation of its results for many years after the conclusion of the Erasmus+ project.

3.4. Estimated Annual Operating Costs

To move beyond a qualitative description of financial sustainability, the consortium has quantified the recurrent cost of keeping the DACEM software, cloud platform and course database operational after the funding period. The estimate distinguishes between in-kind staff effort, valued at the daily staff rates applied during the project, and direct cash costs for hosting and infrastructure. The figures below are indicative annual estimates for a baseline level of service and will be reviewed yearly by the Sustainability Governance Board.

Cost item	Responsible partner	Basis / effort	Est. annual value (EUR)
Software maintenance & release management (1 major + quarterly releases)	University of Vigo	25 researcher days @ €232	5,800
Software governance & release coordination	EUF	15 researcher days @ €160	2,400
Course catalogue data quality & update monitoring	U. Vigo / Charles University	12 researcher days @ ~€170	2,040
Documentation & training material updates	Charles University	10 researcher days @ €180	1,800

Community engagement & dissemination	EUf	10 researcher days @ €320	3,200
Quality assurance & user feedback handling	Virtual Campus	8 researcher days @ €180	1,440
Subtotal — in-kind staff effort (~80 person-days)			16,680
Cloud hosting & infrastructure (server, storage, bandwidth)	EUf	Cash	3,600
Domain, TLS certificates, backups	U. Vigo	Cash	600
Security monitoring & vulnerability scanning	EUf	Cash	1,200
Subtotal — direct cash costs			5,400
TOTAL estimated annual operating cost			~22,080

Approximately three quarters of the recurrent cost (~€16,680) is absorbed in kind through partner staff time, while only around €5,400 per year requires cash funding. This keeps DACEM financially viable at a modest and predictable level.

3.5. Cost-Coverage and Funding Model

The estimated annual cost is matched to identified coverage mechanisms so that no single source carries the full burden. Recurrent maintenance is sustained primarily through institutional in-kind contributions, the limited cash component is covered by the hosting partner and, in the medium term, by shared hosting arrangements, while major enhancements are financed through future project funding.

Cost category	Coverage mechanism	Indicative share
In-kind staff effort (~€16,680/yr)	Partner institutional contributions, staff time absorbed into regular operational duties	~75%

Cloud hosting & infrastructure (~€5,400/yr)	Initially absorbed by EUF; medium term via shared and managed hosting contributions	~25%
Major enhancements & new functionalities	Future Erasmus+, Digital Europe, Horizon Europe and national funding; co-funding via University Alliances	Project-based

Two operating scenarios are foreseen. A minimum viable maintenance scenario, security patches, critical bug fixes and continued hosting only (~30 staff days plus ~€5,400 cash, in the order of €11,000 per year), guarantees that the service remains available and secure even if no new project funding is secured. A growth scenario, triggered by wider adoption, scales effort and infrastructure and is co-financed by the revenue mechanisms described below and by new projects.

3.6. Revenue and Co-Funding Mechanisms

While DACEM remains free and open-source, the Sustainability Governance Board may introduce optional, non-exclusive cost-recovery mechanisms as adoption grows, in order to make hosting and maintenance financially self-sustaining. These mechanisms are designed not to compromise the open-source nature of the solution or the ability of institutions to self-host at no cost:

- **Optional managed-hosting tier.** Institutions that prefer not to self-host can subscribe to a fully managed cloud instance for a modest annual fee covering infrastructure, backups and technical support.
- **Voluntary membership contributions.** Institutions and University Alliances that benefit from DACEM may contribute an annual membership fee to a shared maintenance fund governed by the Board.
- **Paid support and onboarding services.** Bespoke deployment, system integration and training delivered by consortium partners on a cost-recovery basis.
- **Co-funding through European University Alliances.** Embedding DACEM maintenance and hosting into alliance work programmes and shared digital-service budgets.

All revenue generated through these mechanisms will be ring-fenced for the maintenance, hosting and further development of DACEM. The core software and the self-hosting option will always remain free under the open-source licence.

3.7. Financial Governance and Risk Management

The Sustainability Governance Board is responsible for the financial oversight of DACEM. As part of its annual review it will approve an indicative yearly budget, monitor actual costs

against available resources, maintain a small contingency reserve fed by managed-hosting and membership income, and decide whether the minimum viable or the growth scenario applies for the coming year. The main financial risks and their mitigation measures are summarised below.

Financial risk	Mitigation measure
Loss of the hosting partner or rising hosting costs	Portable, well-documented architecture allows migration to another partner or provider; managed-hosting fees build a reserve
Insufficient staff time available	Effort distributed across partners, maintenance automated where possible, and community contributors encouraged via open-source governance
No new project funding secured	Fallback to the minimum viable maintenance scenario (~€11,000/yr) keeps the service secure and available
Adoption growth outpacing resources	Activation of managed-hosting tier and membership contributions to scale capacity in line with demand

4. Technical Sustainability Strategy

The long-term success of DACEM depends on the continuous availability, reliability, and evolution of its technical components. As the project aims to provide a sustainable open-source solution for the management and interoperability of online academic catalogues, it is essential to establish clear mechanisms for software governance, maintenance, and documentation updates beyond the project lifetime.

The DACEM partners will therefore implement a technical sustainability framework that ensures the software remains operational, secure, adaptable to emerging requirements, and capable of supporting the evolving needs of Higher Education Institutions across Europe. The framework is based on three key pillars: open-source governance, release management, and documentation maintenance.

4.1. Open-Source Governance

The DACEM software will be managed according to transparent and collaborative open-source governance principles. This approach will encourage participation from both project partners and future adopters while ensuring the quality and stability of the software.

To support this objective, the DACEM partners will maintain:

- A publicly accessible repository containing the software source code and technical documentation.
- Clear contribution guidelines describing how institutions and developers can propose improvements or new functionalities.
- A structured code review process to ensure that all modifications meet agreed quality and security standards.
- A public issue-management workflow for reporting bugs, requesting new features, and tracking software enhancements.

The governance model will enable both project members and external institutions to actively contribute to the future development of DACEM. For example, if a university implementing DACEM develops a new integration with its local student information system, the institution may submit the enhancement to the shared repository. Following a technical review by the DACEM community, the contribution could be incorporated into future releases and made available to all users.

Similarly, if changes are introduced to Erasmus+ digital infrastructure services, such as Erasmus Without Paper or the European Student Card Initiative, consortium partners may develop the necessary adaptations and share them through the common codebase, ensuring that all institutions benefit from continued interoperability.

This collaborative approach reduces dependence on a single organisation and supports the creation of a sustainable community-driven ecosystem around DACEM.

4.2. Release Management

To ensure the long-term reliability and security of the software, DACEM will follow a structured release management process. Regular updates will enable the platform to respond to technological developments, user feedback, and changes within the European higher education digital ecosystem.

The planned release structure includes:

- One major software release per year, introducing new functionalities and significant improvements.
- Quarterly maintenance releases addressing minor issues, performance improvements, and compatibility updates.
- Security patches issued whenever critical vulnerabilities or security risks are identified.

All releases will be accompanied by release notes describing the implemented changes, known issues, and upgrade recommendations for institutions.

Regular software updates will ensure that DACEM remains secure, functional, and aligned with the needs of the European Higher Education community.

4.3. Documentation Maintenance

Comprehensive and up-to-date documentation is essential to ensure that a clear and reliable record of the DACEM solution, its development, and its functionalities is preserved over time. Maintaining such documentation enables transparency, continuity, and long-term accessibility of knowledge, regardless of changes in project partners or contributors.

For this reason, documentation updates will be integrated into the software maintenance process and will accompany every major release and significant software update. This will ensure that all relevant technical and operational information is consistently recorded and reflects the evolving state of the platform. The documentation may include, for example, installation and deployment guides, API and interoperability documentation, system descriptions, training materials, and examples of good practice, serving as a comprehensive knowledge base for the DACEM ecosystem.

4.4. Course Catalogue Data Maintenance and Updating

The value of the DACEM Academic Catalogue depends not only on the availability of the software, but on the accuracy, completeness and timeliness of the course data it contains. Because course offerings, ECTS credits, schedules, language of instruction and learning outcomes change every academic year, the database of courses requires a structured, recurring update process. Sustaining the software is therefore a necessary but not sufficient

condition: the data the platform holds must remain current. This subsection defines the mechanisms that will keep the course database up to date beyond the project lifetime.

Institutional data stewardship. Each participating HEI will designate an Academic Catalogue data steward (typically within the International Relations Office, supported by the IT department) responsible for reviewing and updating the institution's course data each academic year. The onboarding process (Adoption Pathway, Stage 3) will formalise this role so that responsibility for data currency is clearly assigned at institutional level and does not depend on the project consortium.

Annual update cycle. The maintenance of the course database follows a recurring cycle aligned with the academic calendar:

Period	Action
April–June (before the next academic year)	Institutions review and update course data: new and discontinued courses, ECTS, language of instruction, schedules, learning outcomes and prerequisites
July–August	Data validation and completeness checks; publication of the updated catalogue for the upcoming academic year
During the academic year	Continuous correction of reported errors and ad-hoc updates (e.g. timetable, capacity or contact changes)
End of academic year	Previous catalogue version archived for transparency and historical reference

Automated synchronisation and reduced manual effort. To minimise the burden of manual updates, the platform supports import and export through APIs and machine-readable formats and integration with Erasmus Without Paper. Where an institution maintains course data in its Student Information System or a local catalogue, automated import and synchronisation can be configured so that updates flow into DACEM without re-keying. This lowers the maintenance cost, improves timeliness and reduces transcription errors, building directly on the interoperability specifications defined in the project.

Data quality monitoring. The platform provides built-in mechanisms that make the currency and completeness of the course data visible and actionable:

Completeness indicators that flag missing mandatory fields (e.g. ECTS, language of instruction, learning outcomes).

Freshness timestamps recording the “last updated” date per course and per institution, with automated reminders as data approaches the end of its validity period.

Consistency checks against the ECTS Users' Guide structure and the controlled vocabularies and taxonomies adopted by DACEM.

A data-quality dashboard giving institutions and the Sustainability Governance Board visibility of catalogue currency across the network.

Reminders and governance. The Sustainability Governance Board monitors aggregate data-currency indicators as part of its annual review and prompts institutions whose catalogues have become outdated. Automated notifications remind the designated data stewards ahead of each annual update cycle. The following key performance indicators will be used to track the health of the course database:

Indicator	Target
Share of participating HEIs updating their catalogue each academic year	≥ 90%
Mandatory-field completeness across published courses	≥ 95%
Courses with a "last updated" date within the current academic year	≥ 90%
Average time to correct a reported data error	≤ 15 working days

Through this structured maintenance process, the DACEM course database remains accurate, complete and timely, preserving the core value proposition of the platform for students, mobility coordinators and partner institutions. The recurrent effort required is reflected in the financial plan (Section 3.4) as part of the estimated annual operating costs, ensuring that data maintenance is both organisationally assigned and financially accounted for.

4.5. Intellectual Property and Ownership of Results

A clear intellectual-property (IP) framework underpins the long-term exploitation of DACEM, ensuring that partners and future adopters know exactly what they may use, adapt and redistribute. The framework distinguishes background IP (the knowledge and tools each partner brought to the project) from foreground IP, namely the results generated within DACEM (principally the Academic Catalogue software, the cloud platform, the documentation and the policy outputs), in line with the project's Grant Agreement and Consortium Agreement.

- The DACEM software and its documentation will be released under recognised, OSI-approved open-source licences.

- The GNU General Public License version 2 or later will be adopted when required by upstream licensing, since the DACEM software is a derivative work.
- Certain individual components used in the DACEM software and developed by the consortium may be released under other open-source licences, depending on practical use cases and limitations.
- The selected licence and a clear copyright notice will be stored in each repository.

Ownership. Foreground results are owned by the partner or partners that generated them; jointly developed results are held under joint ownership, with the open-source licence guaranteeing that all partners and third parties retain the right to use and build upon them. Contributions submitted by the community will be accepted under a contributor agreement aligned with the project licence.

Brand and trademark. The “DACEM” name and visual identity will be held by the Sustainability Governance Board, or by a designated partner acting on its behalf, in order to protect the integrity of the brand; use of the name and logo will follow published guidelines.

Partner withdrawal. Because the results are openly licensed, the withdrawal of any partner does not jeopardise their continued availability; the MoU (Section 2.3) sets out how maintenance duties and any custodial IP responsibilities are reassigned.

Visibility and open access. In line with Erasmus+ rules, the results remain freely available and openly licensed, are acknowledged as co-funded by the European Union, and are published on the Erasmus+ Project Results Platform alongside the project's own code repository.

4.6. Data Protection and Data Governance

As an operational platform that stores institutional course information and user-account data, DACEM must remain compliant with the EU General Data Protection Regulation (GDPR) beyond the project period. This subsection defines the data-governance arrangements that support that compliance.

Categories of data. Institutional and course-catalogue data (largely non-personal) and a limited set of personal data of platform users, such as the names, institutional email addresses and roles of administrators and data stewards.

Controller and processor roles. Each participating HEI remains the controller of its own institutional and user data; the hosting partner (initially EUF) acts as processor for the cloud-hosted instance under a data-processing agreement. Institutions that self-host are the sole controller and processor of their own deployment.

Lawful basis and minimisation. Only the data necessary to operate the catalogue and manage accounts is collected; no sensitive or special-category data is processed.

Security. Access controls, encryption in transit (TLS), regular backups and the security monitoring described in Sections 4.2 and 2.4.

Data-subject rights and retention. Mechanisms for the access, rectification and erasure of personal account data; defined retention periods; and, on platform migration or discontinuation, an orderly transfer or deletion of data by the Sustainability Governance Board with notification to the controllers.

Accessibility. The platform will follow the Web Content Accessibility Guidelines (WCAG 2.1, level AA) so that course information remains accessible to all users, consistent with the project's accessibility objective.

A short data-governance policy and a template data-processing agreement will be maintained alongside the technical documentation, so that new adopting institutions can join the platform in a compliant manner.

5. Adoption and Exploitation Strategy

The long-term success of DACEM depends on its adoption by Higher Education Institutions and its integration into the daily processes supporting student mobility and course catalogue management. To maximise the impact of the project results, the DACEM project partners will implement a structured adoption and exploitation strategy aimed at raising awareness, supporting implementation, and fostering a sustainable user community across Europe.

The strategy recognises that institutions differ in terms of their digital maturity, organisational structures, and technical capacities. Therefore, DACEM promotes a flexible participation model that enables institutions to join the platform and engage with its functionalities according to their individual needs and resources. This approach allows institutions to contribute to and benefit from the DACEM ecosystem at their own pace.

As an example of this, DACEM will be organising a dedicated workshop during the Higher Education Transformation Week in Brussels this October 2026 (<https://highered-transformation.eu>).

5.1. Target Groups

The DACEM solutions have been designed to benefit a wide range of stakeholders involved in the management, administration, and digitalisation of higher education mobility processes.

5.1.1. Primary Target Groups

The primary target groups are those directly involved in the implementation, operation, and management of course catalogues and Erasmus+ mobility processes:

- **International Relations Offices (IROs)** responsible for managing student mobility and ensuring the availability of accurate course information, including Erasmus+ Coordinators and Mobility Officers who use course catalogue information to support students and manage mobility workflows.
- **IT Departments** responsible for technical implementation, system integration, and maintenance of institutional digital services.
- **University Management and Decision Makers** responsible for strategic planning, digital transformation, and institutional internationalisation policies.
- **Academic Staff** responsible for study programmes and courses for local and international students.

These stakeholders are expected to be the main users, promoters, and beneficiaries of the DACEM platform and software.

5.1.2. Secondary Target Groups

In addition to direct users, DACEM also addresses several strategic stakeholder groups that can support wider adoption and policy uptake:

- *European University Alliances and transnational university networks.*
- *National Erasmus+ Agencies.*
- *Student organisations and student representative bodies.*
- *European and national policy makers.*
- *Organisations involved in higher education digitalisation and interoperability initiatives.*
- *Networks and associations supporting internationalisation in higher education.*

Engagement with these stakeholders will contribute to broader dissemination, policy alignment, and long-term sustainability of the project results.

5.2. Adoption Pathway

To facilitate the uptake of DACEM across Europe, the consortium will promote a structured four-stage adoption pathway. This approach is designed to reduce barriers to accessibility and provide institutions with clear guidance throughout the process.

Stage 1: Awareness and Outreach (already carried out during the project lifetime)

The first step focuses on raising awareness about DACEM and demonstrating the benefits of interoperable online course catalogues.

Activities will include:

- *Presentations at European conferences and sector events.*
- *Online webinars and information sessions.*
- *Dissemination through partners' communication channels.*
- *Promotion through the European University Foundation (EUF) network and other relevant higher education networks.*
- *Publication of case studies and success stories from pilot institutions.*

The objective of this stage is to ensure that Higher Education Institutions understand the potential benefits of DACEM and are informed about opportunities to join.

Stage 2: Pilot Deployment and Exploration

Institutions expressing interest in DACEM (through direct contact with any of the partners) will be encouraged to explore more through pilot activities and demonstration environments.

Support measures may include:

- *Access to demonstration platform.*
- *Technical consultations.*
- *Access to guidelines, manuals and implementation documentation.*
- *Opportunities to exchange experiences with DACEM partners as pilot institutions.*

Stage 3: Institutional Onboarding and Platform Participation

Following a successful pilot phase, institutions may proceed with joining the DACEM platform and becoming active contributors to the European course catalogue ecosystem.

This stage may include:

- *Registration and onboarding to the DACEM platform.*
- *Creation and maintenance of institutional profiles.*
- *Upload and regular updating of course catalogue information.*
- *Provision of institutional information relevant to student mobility.*
- *Staff training on the use of the platform and data management procedures.*
- *Testing and validation of published information to ensure accuracy and completeness.*
- *Participation in interoperability and data quality activities coordinated by the DACEM consortium.*

The objective of this stage is to enable institutions to make their course information easily accessible to students, partner universities, and mobility coordinators through a common European platform.

For example, a HEI joining DACEM may create its institutional profile, upload information about available courses, learning opportunities, and mobility-related requirements, and regularly update this information through the platform. By participating in DACEM, the institution increases the visibility of its educational offer and facilitates access to reliable course information for incoming and outgoing students.

Through this onboarding process, participating institutions become active members of the DACEM ecosystem and contribute to the creation of a comprehensive, interoperable, and up-to-date European course catalogue platform.

Stage 4: Community Participation and Continuous Improvement

Once integrated, institutions will be encouraged to actively participate in the DACEM community and contribute to its future development. Institutions may provide feedback, suggest new functionalities and improvements, contribute to technical developments to the open-source repository, share good practices with other institutions.

Through this adoption pathway, DACEM aims to create a sustainable cycle of awareness, implementation, collaboration, and continuous improvement. By supporting institutions throughout each stage of the process, the consortium seeks to maximise the exploitation of project results and ensure that the DACEM platform and software become valuable components of the European higher education digital infrastructure.

5.3. Partner-Level Exploitation Commitments

In addition to the shared governance responsibilities set out in Section 2.2, each consortium partner has identified how it will exploit and promote DACEM within its own organisation, networks and activities after the project. These individual commitments distribute ownership of the results across the partnership and connect DACEM to existing communities. They are to be confirmed by each partner in the continuation MoU (Section 2.3).

Partner	Post-project exploitation commitment
University of Vigo (coordinator)	Lead sustainability coordination; manage software releases; embed DACEM in its internationalisation and IT operations; promote it through its European University Alliance membership
Virtual Campus	Maintain quality assurance; collect user feedback and disseminate through its networks and BIP-related activities
European University Foundation	Provide technical maintenance and cloud hosting; contribute platform improvements; exploit the acquired expertise in further projects and professional services Promote DACEM across its extensive HEI network and University Alliances; maintain repository visibility; lead policy communication
Charles University	Maintain training materials and disseminate through its networks and BIP-related activities

Tallinn University	Promote results among Estonian HEIs and digital-education networks; use the materials within its School of Digital Technologies
University of Thessaly	Disseminate results among Greek HEIs; exploit the mapping and technical know-how in teaching and future proposals
University of Maribor	Promote adoption among Slovenian HEIs and regional networks
University of Orléans	Promote DACEM within French HEIs and its alliance networks
Erasmus Student Network (ESN)	Channel the student perspective; promote DACEM to students and International Relations Offices through its pan-European network and events

5.4. Sustainability Monitoring and Key Performance Indicators

To track whether the sustainability objectives are being met, the Sustainability Governance Board monitors a consolidated set of key performance indicators (KPIs) at its annual review. These complement the course-data KPIs in Section 4.4 and provide an evidence base for decisions on funding scenarios and development priorities. Baselines are set at the end of the project (Year 0) and the indicative targets below are reviewed annually.

Indicator	Baseline (project end)	Target by Year 3	Target by Year 5
HEIs actively using the DACEM software or platform	Pilot institutions	25	60
Active institutional accounts on the cloud platform	To be set	30	75
Community contributions (issues / pull requests) per year	Not applicable	15	40
Annual major software releases delivered	1	1 per year	1 per year
Documentation and training kept current	Yes	Yes	Yes

New funding applications building on DACEM	0	2	4
Partners and alliances engaged in governance	4	6	8

The results of this monitoring will be summarised in a short annual sustainability report published on the project website and the Erasmus+ Project Results Platform.

5.5. Post-Project Implementation Roadmap

The following roadmap translates the strategy into time-bound actions with assigned responsibilities for the first five years after the project. It is reviewed and updated annually by the Sustainability Governance Board.

Timeframe	Key actions	Lead
Project closure (by 07/2026)	Sign the continuation MoU; finalise the licence and IP notices; publish the repository and results on the EU Results Platform; transfer hosting to the sustainability set-up	UVigo / All
Year 1 (2026–2027)	First annual Governance Board meeting; set baseline KPIs; deliver first maintenance releases; onboard the first post-project adopters; launch the managed-hosting option	UVigo / Virtual Campus
Year 2 (2027–2028)	Deliver a major release; submit at least one new funding proposal; expand partner and alliance engagement	EUf / Virtual Campus
Year 3 (2028–2029)	Mid-term review against KPIs; evaluate the applicable funding scenario; broaden adoption; refresh documentation and training	Charles U. / UVigo

Years 4–5 (2029–2031)	Scale adoption; integrate with the evolving EWP and ESCI; secure follow-up funding; review long-term hosting and data custody beyond the initial term	<i>Sustainability Governance Board</i>
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6. Policy Sustainability

DACEM contributes to several strategic priorities of the European Higher Education Area and supports ongoing European efforts to modernise and digitalise higher education. By improving the accessibility, interoperability, and management of online academic catalogues, the project directly contributes to the development of a more connected, transparent, and student-centred mobility ecosystem.

The DACEM project aligns with and supports a number of key European initiatives, including:

- Erasmus Without Paper (EWP), which promotes the digital exchange of mobility-related information between Higher Education Institutions.
- The European Student Card Initiative (ESCI), which seeks to simplify and digitalise student mobility processes across Europe.
- The European Education Area, which aims to remove barriers to learning and mobility and strengthen cooperation among educational institutions.
- The digital transformation of Higher Education Institutions, including the adoption of interoperable systems and data standards that improve institutional efficiency and student services.
- The ECTS Users' Guide, as the European Commission is working in a new version of this document to be published in 2027.

To ensure that DACEM continues to contribute to these priorities after the end of the project, the DACEM partners will actively promote the project's findings, recommendations, and lessons learned within relevant European policy and stakeholder networks. Particular attention will be given to demonstrating how standardised and interoperable online academic catalogues can facilitate student mobility, improve the quality of information available to students, and reduce administrative burdens for institutions.

The dissemination and exploitation of DACEM policy recommendations will be supported through ongoing engagement with stakeholders related to higher education digitalisation and mobility activities on EU level, alliances and university networks, international conferences (e.g. EAIE) related to internationalisation and student mobility, national Erasmus+ agencies and organisations involved in the implementation of Erasmus+ mobility actions, and other European and national stakeholders engaged in the digitalisation of higher education services.

The consortium will also seek opportunities to present DACEM results at conferences, workshops, policy events, and expert consultations where future developments of European mobility and digitalisation frameworks are discussed. Through these activities, DACEM can continue influencing decision-making processes and contribute practical insights derived from the implementation of interoperable course catalogue solutions.

For example, the policy recommendations developed within DACEM may support future discussions on the standardisation and exchange of course information across European universities. They may also contribute to the development of new interoperability standards, recommendations for mobility-related digital services, or future initiatives seeking to strengthen connections between course catalogues, learning agreements, student information systems, and other components of the European digital mobility ecosystem.

Furthermore, the experiences gathered during DACEM implementation may provide valuable evidence for policy makers and higher education stakeholders regarding the benefits of digital and interoperable course catalogues. Such evidence can support future policy developments aimed at reducing administrative complexity, improving data quality, and enhancing the overall Erasmus+ mobility experience for students, academic staff, and institutional administrators.

Through continuous engagement with European stakeholders and policy networks, DACEM aims to ensure that its results remain relevant and continue contributing to the ongoing digital transformation of higher education long after the conclusion of the Erasmus+ project.

7. Conclusion

The DACEM Sustainability Strategy provides a comprehensive framework to ensure that the project's results remain accessible, relevant, and impactful well beyond the funding period. Through coordinated governance, open-source maintenance, stakeholder engagement, institutional commitment, and continuous dissemination, DACEM will contribute to the digital transformation of Higher Education and support more efficient mobility processes across Europe for years to come.