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# FreeTwinEV

D4.1 Audit report with project office upgrade roadmap

<b>Project</b>	FreeTwinEV	<b>Start – End</b>	1 May 2024 – 30 April 2027			
<b>Dissemination level</b>	SENSITIVE	<b>Nature</b>	REPORT			
<b>Due Date:</b>	Month 7 (November 2024)					
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<b>Versions:</b>						
V1 – preparation of the structure of the deliverable 07-08/24						
V2 – 1 <sup>st</sup> draft of the deliverable for review by STU, 1 November 2024						
V3 – 2 <sup>nd</sup> draft based on comments received from STU, 24 November 2024						
V4 – final version for submission, 29 November 2024						

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## 1 Executive Summary

The executive summary of the "D4.1 Audit Report with Project Office Upgrade Roadmap" outlines the systematic evaluation of the Project Management and Administration (PMA) system at STU and its faculties, conducted under the FreeTwinEV project. This deliverable pertains to Task 4.1, which aims to audit and enhance cross-faculty cooperation and improve project management efficiency while ensuring alignment with Horizon Europe requirements. The audit, led collaboratively by ADDSEN and STU, involved an extensive review of existing practices, surveys, and interviews with researchers, administrators, and university management. Its primary objectives included identifying systemic gaps, fostering interdisciplinary collaboration, and proposing a sustainability roadmap for the university's project offices.

The findings revealed several areas needing improvement, including inconsistent project management practices across faculties, inadequate training and support for administrative staff, and a lack of digital tools for project tracking and cost management. Challenges in calculating and reimbursing personnel costs under Horizon Europe regulations posed financial risks for the institution. Further issues such as communication gaps, insufficient co-financing mechanisms, and the absence of standardised guidelines hampered administrative efficiency and project implementation.

The report recommends developing a comprehensive PMA handbook, digitising project management processes, standardising procedures, and fostering better coordination among project centres. Creating faculty-specific directives and enhancing legal support for international projects are proposed to address administrative challenges. The roadmap also emphasises strengthening the CEPSIT unit by expanding its functions in technology transfer, business development, and international collaboration. Additional measures include improving researcher engagement, streamlining administrative practices, and ensuring alignment with European standards to achieve management excellence.

The proposed strategies aim to build a sustainable and innovative ecosystem at STU, leveraging partnerships with institutions such as the University of Twente and Linz Center of Mechatronics to exchange best practices. Legislative reforms, capacity building, and enhanced digital infrastructure are identified as key enablers for aligning the university's operations with global research and innovation standards. The deliverable underscores STU's commitment to improving project management efficiency, fostering interdisciplinary collaboration, and positioning itself as a leader in international research initiatives.

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## 2 Task overview, partner roles, and timeline of implementation

### 2.1 Task 4.1 description

This deliverable is related to task 4.1 Audit of STU project administration and cross-faculty cooperation. The main goal of this task is to audit the existing system of project management and administration (PMA) at STU and its Faculties to foster interdisciplinary cooperation and management excellence. ADDSEN will carry out the audit from different perspectives (e.g. project life cycle, administrative support of the researchers, responsibilities of different PMA actors, etc.) by analysing the relevance of internal directives with the rules of Horizon Europe and by a survey conducted with STU researchers, administration and STU management. Recommendations for upgrading a project office and cross faculty cooperation with clear responsibilities will be suggested and implemented in the following tasks of the WP4. A proposal for ensuring the project offices' sustainability after the project's end will be described.

### 2.2 Roles of partners

The main responsibility for this task lied with ADDSEN, s.r.o. and STU, working collaboratively to achieve the objectives outlined in the project.

ADDSEN held the primary responsibility for conducting the audit of the existing project management and administration (PMA) system at STU and its faculties. As stated above, this included analysing the project life cycle, administrative support provided to researchers, and the roles and responsibilities of various PMA actors. ADDSEN assessed the alignment of STU's internal directives with Horizon Europe regulations and gather input through surveys and interviews with STU researchers, administrators, and management. Based on the findings, ADDSEN proposed recommendations for enhancing the project office, fostering cross-faculty collaboration, and ensuring the sustainability of project offices after the project concludes.

STU was responsible for ensuring timely feedback and full engagement of relevant personnel throughout the audit process. This involved facilitating the participation of researchers, administrative staff, and management in surveys and interviews. STU also provided the necessary documentation and support to enable ADDSEN to carry out the audit effectively. Additionally, STU collaborated in reviewing and implementing the recommendations proposed by ADDSEN to achieve management excellence and strengthen interdisciplinary cooperation.

### 2.3 Timeline of task realisation and methodology

The implementation of the task began in Month 1 (M1) and was concluded in Month 7 (M7) with the submission of the deliverable to the European Commission via FTP. The timeline includes the following key milestones and activities:

1. **Review of Previous Audit Findings (M1)** Examine the findings and recommendations from the 2021/2022 audit, with results provided in April 2022, to establish a baseline for the current task.

2. **Assessment of Implementation Progress (M2)** Evaluate the implementation status of the 2021/2022 audit recommendations, focusing on updates to directives and processes since the audit.
3. **Online Survey (M2–M3)** Conduct an online survey targeting relevant personnel to gather insights and feedback on the current state of project management and administration.
4. **Interviews with Key Stakeholders (M2–M4)** Organise and carry out detailed interviews with selected personnel (members of online surveys from previous point) to explore specific areas of concern and gain qualitative insights into the functioning of PMA processes.
5. **Deliverable Preparation (M6)** Compile the findings from the review, survey, and interviews into the deliverable, including actionable recommendations for improving project management and administration. Prepare a roadmap of the PMA activities for the duration of the project and beyond.
6. **Finalisation and Submission (M7)** Finalise the deliverable, incorporating feedback and conducting thorough reviews to ensure quality and completeness. The deliverable is being submitted to the European Commission at the end of M7.

This structured timeline ensures a comprehensive approach to evaluate STU's project management system, provide actionable recommendations while adhere to the project schedule. Details of the methodology are provided in the following chapters.

### 3 Audit of the project office at STU

#### 3.1 Scope of the Audit including reflection on findings of the previous audit

The audit focused on **evaluating the PMA system** at STU and its faculties with the primary goal of enhancing interdisciplinary cooperation and achieving management excellence. A key area of investigation is the alignment of STU's internal regulations with Horizon Europe requirements to ensure compliance and relevance to widely recognised methodologies. The audit examines processes across the entire project life cycle, including preparation, implementation, reporting, and closure, to identify areas for improvement.

Additionally, the audit evaluates the effectiveness of administrative support provided to researchers, such as the availability of tools, resources, and guidance. It also reviews the roles and responsibilities of various PMA actors, including project managers, administrative staff and management to uncover any gaps or overlaps. Input from stakeholders was gathered through surveys and interviews with researchers, administrators, and management, offering insights into current practices, challenges, and potential opportunities for development.

The audit also revisits the findings of the previous 2021/2022 audit, assessing the extent to which its recommendations have been implemented. Lastly, it proposed a roadmap to ensure sustainability of project offices beyond the project's duration, focusing on institutional support and capacity building. This comprehensive approach provides a holistic evaluation of STU's PMA system, with actionable recommendations aligned with European standards and institutional goals.

## 3.2 Methodology of the Current FreeTwinEV Audit

The methodology for this task was designed to evaluate and enhance the PMA system at STU. It consists of the following structured steps:

### 1. Audit and baseline review

Analysis of the PMA system by reviewing findings and recommendations from a prior audit conducted in 2021/2022. This step established a baseline for identifying gaps and areas requiring improvement.

### 2. Alignment assessment

Assessing the relevance and alignment of STU's internal directives with Horizon Europe regulations, ensuring compliance and applicability at the institutional level.

### 3. Data collection

- **Online Surveys:** Conducting surveys targeting relevant personnel, including researchers and project centres representatives, to gather quantitative and qualitative insights into current PMA practices and challenges.
- **Interviews:** Conducting detailed interviews with selected stakeholders (including researchers, administrators, and management of STU) to explore specific issues and gain deeper insights into the functioning of the PMA processes.

### 4. Employees engagement

Complementing the previous bullet point, facilitating active participation from STU personnel at all levels, ensuring timely feedback and involvement during surveys and interviews. Collaboration with researchers, administrative representatives, project centres employees and STU management was prioritised to ensure diverse perspectives. Specifically, the following personnel was involved in audit activities:

- employees of project centre from Faculty of electrical engineering and information technology STU – FEI STU (3 people), Faculty of Materials Science and Technology STU – MTF STU (2 people), Centre of European Projects (CEP) at the rectorate (4) and one representative from each of the remaining faculty project centres.
- researchers from FEI STU and MTF STU (13)
- administrative representatives from FEI STU and rectorate (3)
- vice-rector for Strategic Projects, Development, Innovation and Praxis (1)

### 5. Analysis and recommendations

Analysing collected data to identify strengths, weaknesses, and opportunities for improvement. Developing actionable recommendations for upgrading the project office, fostering cross-faculty collaboration, and defining clear responsibilities for all PMA actors.

### 6. Roadmap for sustainability and risk assessment

Defining a roadmap to ensure the long-term sustainability of PMA activities at STU, addressing strategic goals beyond the project's duration. This included risk assessment to

identify potential challenges and mitigation strategies for ensuring consistent performance and compliance with HORIZON EUROPE standards.

## **7. Deliverable development and finalisation**

Compiling findings and recommendations into a structured deliverable, including a roadmap for PMA activities.

## **8. Implementation timeline**

The task was implemented over a seven-month period, divided into distinct milestones:

- M1: Audit review and baseline assessment.
- M2: Implementation progress review and initial surveys.
- M3–M5: Surveys and interviews.
- M6: Drafting deliverable with actionable recommendations.
- M7: Finalisation and submission of the deliverable to the European Commission.

## **4 Information on the Last Conducted Audit and Audit Conclusions**

The audit of the processes for managing international projects at STU, conducted by ADDSEN, s.r.o. in 2021/2022 and reported to the university's high-level management in April 2024, identified several areas requiring improvement. Key findings highlighted the lack of unified methodologies, varied approaches across faculties, and gaps in alignment with Horizon 2020 (H2020) and Horizon Europe programme requirements. The audit noted that the internal regulations in place at the time did not fully support international project implementation, particularly for H2020 and HORIZON EUROPE. Furthermore, the absence of centralised guidelines and limited digital tools for project management contributed to inefficiencies and increased risks during project implementation, such as potential ineligible costs. These conclusions are related to the following specific areas:

### **1. Limited guidelines on management of international projects focusing on EU research programmes**

Internal directives at the time of the audit could have benefitted from updates to align more effectively with the evolving requirements of H2020 and Horizon Europe. They lacked descriptions of specific methodologies for project implementation and cost categorisation under these programmes.

### **2. Varied and not fully aligned approaches across faculties**

Faculties employed varied approaches to managing international projects, which, while not contradictory to programme rules, would have been enhanced by a unified methodology at the university level. Such an approach could have streamlined processes and improved consistency across faculties.

### **3. Personnel cost calculations**

Existing procedures for calculating eligible personnel costs required refinement to enhance clarity and consistency. Standardised methods (e.g., annual or monthly calculations) written down in internal directives and aligned with H2020 and HORIZON EUROPE guidelines

would have strengthened confidence in financial reporting and mitigated the risk of discrepancies during reports and audits.

#### **4. Insufficient digital infrastructure**

The project management system relied heavily on ad hoc solutions, such as Excel files and manual tracking, which resulted in inefficiencies and increased administrative burdens. Digital tools for project tracking, cost management, and reporting were not sufficiently implemented across faculties at the time.

#### **5. Administrative and financial considerations**

Challenges in co-financing, cash flow management, and pre-financing of projects were identified as areas with potential for optimisation. These aspects varied across organisational units and addressing them could have facilitated smoother project implementation.

#### **6. Lack of training and support**

Limited support and training for project managers and administrative staff regarding H2020 and HORIZON EUROPE processes were observed. This created unclear responsibilities and placed additional burdens on researchers, reducing their focus on core scientific activities.

#### **7. Centralised coordination gaps**

The absence of a centralised project management system contributed to fragmented communication and uncoordinated efforts between STU's rectorate and faculties. This also resulted in insufficient sharing of best practices and inadequate oversight of submitted and ongoing projects.

The next sections of this chapter focus on elaborating these conclusions supported with actions (recommendations) made by the ADDSEN from different perspectives:

- preparation and management of funded projects,
- implementation of projects with an emphasis on project costs and the extent to which internal procedures and directives provide guidance to support their eligibility, and
- qualitative investigation of common practices among process participants

#### **4.1 Preparation and management of funded projects**

The audit reviewed the processes for preparing and managing funded projects, with a particular focus on those supported by Horizon 2020 (H2020) and Horizon Europe. The below mentioned findings highlighted areas where adjustments could enhance efficiency, compliance, and overall project success and are detailing or complementing the general findings from the section:

##### **1. Lack of comprehensive guidelines**

Existing internal directives for project preparation and management were primarily tailored to structural funds and national projects, leaving gaps in coverage for international frameworks like H2020 and HORIZON EUROPE. The audit identified the need for more detailed

methodologies to support project implementation, cost categorisation, and compliance with international frameworks.

## **2. Varied practices across faculties**

Faculties employed different approaches to project preparation and management, reflecting their individual needs and capacities. While these approaches did not contradict programme rules, a more unified methodology at the university level could streamline processes, improve consistency, and facilitate sharing of best practices.

## **3. Support for proposal development**

While support mechanisms existed, researchers reported challenges in accessing assistance for preparing competitive proposals. Enhanced guidance and resources, such as templates and targeted training, could assist researchers in meeting the evaluation criteria of H2020 and HORIZON EUROPE calls.

## **4. Administrative workload**

The audit identified an imbalance in administrative responsibilities, with researchers often taking on tasks that could have been more efficiently handled by administrative staff. This additional workload reduced the time available for scientific activities.

## **5. Co-financing and budget management**

Processes for budget planning and co-financing arrangements varied across organisational units. A more consistent approach could help reduce complexity and improve financial planning across faculties.

To address these findings, the audit **recommended the following activities**:

- Develop a comprehensive handbook for managing international projects, tailored to the specific requirements of H2020 and HORIZON EUROPE and ensure its regular update in line with Programmes rules. This should include detailed guidance on proposal preparation, cost categorisation, and post-award project management;
- Establish a centralised support unit to assist faculties with proposal preparation, offering resources such as templates, training, and one-on-one consultations;
- Standardise project management procedures across faculties, ensuring alignment with university-wide priorities and international guidelines;
- Implement regular training programmes for researchers and administrative staff to enhance their understanding of H2020 and HORIZON EUROPE guidelines and best practices;
- Streamline administrative processes to alleviate the workload on researchers, allowing them to focus on scientific and technical contributions / excellence;
- Introduce uniform budgeting tools and templates to ensure consistency in financial planning across faculties;

## 4.2 Implementation of projects from the perspective of cost categories

International projects typically include several key cost categories: personnel costs, procurement of equipment and goods (e.g., consumables), contracted services (e.g., audits), travel expenses, and indirect costs. Among these, personnel costs represent the largest share of total project expenditures, accounting for approximately 70% on average, according to European Commission data. However, audits have shown that personnel costs also tend to have the highest error rates, making accurate calculation and reporting in this category essential for the university's compliance and financial sustainability.

The audit focused on all types of costs but placed significant emphasis on the evaluation of personnel costs and identified the following main findings:

### 1. Alignment of salary policies with national legislation

The salary framework at STU adhered to Slovak legislation, clearly defining components of functional pay and allowing for personal pay supplements.

### 2. Absence of a project-specific remuneration directive

This point complements the previous finding. The audit noted the lack of a directive specifically addressing project remuneration although the usual practise of the organisation is to provide different types of bonuses, including in national and international projects. To ensure compliance with Programmes rules, the audit recommended avoiding arbitrary salary increases, incl. bonuses which are not based on predefined, objective criteria.

### 3. No directive on statutory bonus allocation

A directive or policy for awarding performance bonuses based on objective criteria was missing. Bonuses provided on objective grounds could qualify as statutory bonuses and be eligible personnel costs under H2020 and HORIZON EUROPE. However, the arbitrary allocation model rendered these costs ineligible under the programmes.

### 4. Procurement guidelines for other cost categories

The existence of the rector's directive covering procurement processes for consumables, equipment, travel, subcontracting, and other direct costs, was positively evaluated. Its supplementation at the organisational level further supported compliance in these areas.

### 5. Allocation of indirect cost contributions

The guidelines for distributing indirect cost contributions allowed a portion of the indirect costs to be allocated to indirect costs of units and thus research teams involved in the project implementation and also compensating for institutional overheads.

### 6. Travel cost guidelines

The audit positively noted the existence of directives governing domestic and international travel for employees. These guidelines ensured proper management of travel costs within project budgets.

Based on the provided observations, the main recommendations were concluded for personnel costs:

- **Internal directive on project-based remuneration for Horizon Europe**

Develop and introduce an internal directive on project-based remuneration (national and international projects) reflecting existing unwritten usual practices. This directive should be binding for all university units and based on objective criteria.

- **Internal directive on performance-based remuneration**

Design and implement an internal directive linking the annual employee evaluation system, based on objective criteria, with a performance-based remuneration scheme. This approach would align employee rewards with their measurable contributions.

## 4.3 Qualitative Investigation of Common Practices Among Process Participants

As part of the qualitative investigation, various personnel groups were engaged, including researchers, administrative staff, project centre members, and university management represented by vice-deans and faculty secretaries. Below are the key conclusions derived from this survey:

### 1. Co-financing and cash flow management

Variability in the ability of organisational units to manage project co-financing and pre-financing created significant challenges. Insufficient financial resources in some units posed obstacles to project implementation.

### 2. Insufficient support for research teams

Researchers reported inadequate support for developing their teams and securing international grants. High administrative burdens and complex institutional procedures diverted time from research activities. In some cases, researchers lacked financial motivation to participate in H2020 and HORIZON EUROPE projects.

### 3. Concerns about personnel cost calculations

Uncertainty regarding accurate calculation and allocation of personnel costs raised concerns about potential audit findings. Errors could lead to funding reductions not only for the audited project but potentially for others, creating financial risks for the institution.

### 4. Lack of centralised support and guidelines

This finding complements the previous one. The absence of unified rules for implementing international projects resulted in inconsistent practices. This increased the risk of errors in cost reporting and hindered the efficiency of units involved in project preparation and implementation.

Based on these findings following **activities were recommended**:

- Create and implement a comprehensive handbook for administering Horizon Programme projects at the STU rectorate level. The handbook should define project

roles, outline the competencies and responsibilities of each role in a competency matrix, and provide training for all relevant personnel, including staff from support units, to ensure the effective application of the procedures outlined in the handbook.

- Acquire and implement an IT system to streamline project administration, including project tracking, budget allocation, cash flow management, cost recording, and calculations in line with project methodology requirements.
- Establish ongoing collaboration with researchers by providing timely information about opportunities to participate in HORIZON EUROPE and EIT projects. Conduct regular training sessions for project managers. Offer targeted training for employees interested in international projects, focusing on project proposal writing, and provide strategic support for preparing high-impact projects.

## 5 Audit of project management and administration at STU within the FreeTwinEV project

This chapter evaluates the degree to which the recommendations from the 2021/2022 audit have been implemented at STU as part of the FreeTwinEV audit. The analysis focuses on assessing progress in updating internal directives, enhancing project management and administration processes, and addressing previously identified gaps. By reviewing the measures undertaken since the initial audit, this section aims to identify areas of successful implementation, persistent challenges, and opportunities for further improvements. The findings provide critical insights into STU's efforts to align with Horizon Europe standards and to foster interdisciplinary collaboration and management excellence.

### 5.1 Analysis of Directives from the perspective of cost categories and project preparation and implementation

This section examines the directives governing the implementation of international projects at STU, with a particular emphasis on their alignment with Horizon 2020 and Horizon Europe programmes. Significant improvements have been observed in the development and refinement of these directives, establishing clearer rules and guidelines to support the effective management and administration of projects. Notably, STU has successfully implemented two directives that have a direct and positive impact on this area.

1. First directive – Rules for preparation and implementation of international projects, establishes a comprehensive framework for the preparation, implementation, and administration of international projects at STU, with particular emphasis on Horizon 2020 and Horizon Europe programmes. It provides clear procedural guidelines, definitions, and responsibilities to standardise and streamline project management processes across the university, its faculties and organisational units. The directive sets minimum standards for project administration, including processes for documentation, financial reporting, and compliance. It does not replace the contractual documentation provided by funding organisations. Specifically relates to:

- defining the procedures for registering and submitting project proposals within STU, ensuring transparency and accountability throughout the project lifecycle. The inclusion of the director or the authorised person of the Centre of European Projects, Cooperation with Practice, Innovations and Technology Transfer STU (CEPSIT), newly created department that includes CEP at the rectorate, as a contact point is mandatory for all project proposals;
- mandatory include the director or the authorised person of CEPST as a main contact point in all awarded project proposals and active projects at STU. This ensures centralised coordination, oversight, and support throughout the project lifecycle and for financial audits;
- centralising the contract submission and signing process through CEPST and the rector ensuring accountability and consistency in legal and financial commitments across all international projects at STU;
- specifying the procedures for preparing the personnel matrix and budget expenditure plan for projects, ensuring structured and transparent resource management;
- establishing common rules for recording and reporting time worked on international projects, ensuring accuracy and compliance with funding body requirements. Templates for time recording have been provided to ensure uniformity and compliance across STU in tracking work on international projects. These templates serve as a standardised tool for recording hours worked by employees, whether on multiple projects, teaching responsibilities, or other institutional duties. The templates are designed to align with the requirements of Horizon 2020 and Horizon Europe, facilitating accurate reporting and are shared on the official website of the CEP:

[https://www.stuba.sk/sk/pracoviska/cepsit/pracoviska/centrum-europskych-projektov-stu/dokumenty-a-navody.html?page\\_id=16794](https://www.stuba.sk/sk/pracoviska/cepsit/pracoviska/centrum-europskych-projektov-stu/dokumenty-a-navody.html?page_id=16794)

- defining the procedures for budgeting personnel and other direct costs during the preparation phase of international projects, ensuring compliance with grant provider requirements and STU policies;
- outlining the methodology for calculating eligible personnel costs during project implementation. In cases where multiple cost calculation options are available under H2020 or HORIZON EUROPE programmes, the directive establishes uniform procedures applicable across the entire university;
- outlining the responsibilities and procedures for preparing and submitting project reports, both technical and financial, to ensure timely and accurate documentation of project progress and expenditures;
- establishing procedures for resolving discrepancies and aligning best practices across STU to ensure compliance and consistency in the administration and implementation of international projects – requirement to collaborate with CEPST;
- defining the responsibilities for co-financing and pre-financing project expenses, ensuring that financial obligations are distributed equitably among STU's organisational units – **this section could be improved in the future**;

2. The second directive – Project based remuneration directive, formalises previously unwritten procedures related to project-based remuneration, providing a structured framework that aligns with Horizon Europe rules. By codifying these practices, the

directive enables the organisation to fully leverage project-based remuneration opportunities, ensuring compliance and maximising benefits for both the institution and its personnel.

## 5.2 Qualitative investigation of practices in project preparation, implementation, and cost management

This chapter presents the results of a qualitative analysis conducted to evaluate the PMA processes at STU. To enable a meaningful comparison with the audit conducted in 2021/2022, the structure of this qualitative investigation was aligned with the previous audit's framework. The analysis aimed to identify strengths, challenges, and opportunities for improvement, focusing on key areas critical to the effective implementation of international projects.

The evaluation process included two primary activities:

1. An **online survey** distributed among selected personnel using a structured questionnaire designed to capture insights across various PMA dimensions. Project centre employees and researchers from FEI STU and MTF STU were involved in this activity.
2. **Interviews** conducted with employees who participated in online survey supplemented with representatives from other organisational units including support departments and high-level management, to gain deeper qualitative insights into identified issues.

The structured questionnaire addressed a wide range of topics, including the co-financing and cashflow management system for projects, administrative burdens, calculation of personnel costs, digitalisation of processes, and cooperation of researchers with support departments such as faculty/institute secretariats, public procurement, and accounting. Other key areas of focus included the effectiveness of STU's directives, project evidence management, and the contributions of CEP. Participants were also invited to propose training topics relevant to their roles, covering themes such as resource planning, consortium communication, data management, best practices and others. This serves as a basis for the further specification of the training activities under WP2.

This qualitative analysis combines survey responses with detailed interview findings, providing a comprehensive perspective on the current PMA environment at STU. The results offer valuable insights into areas requiring attention and provide a foundation for developing actionable recommendations to improve project management and administration across the university.

The following sections will delve into the key findings derived from these activities, highlighting achievements in the last two years but also challenges and opportunities for enhancing the PMA framework.

### 5.2.1 Findings based on inputs from project centres representatives

Below, we provide an overview of findings from project centre representatives, highlighting both common issues and positive developments achieved over the past two years. Additionally, we are addressing specific perspectives and unique challenges raised by individual project centres, providing a more detailed and balanced analysis of the current state of project administration and collaboration at the university:

1. Directives in place: The representatives of project centres positively evaluated the existing directives described in Chapter 4.1. However, the involved faculties do not have its own specific faculty-level directives.
2. Project management and administration handbook: To enhance project management practices, representatives request to develop a comprehensive handbook that would complement the existing directives by providing detailed guidance and procedural clarity, ensuring proper management and administration of international projects.
3. Coordination among project centres: Participants positively highlighted the organisation of two university-wide in-person meetings of project centres, with all faculties represented. These meetings were seen as a significant step toward coordinated efforts in project management and administration across STU.
4. Collaboration with CEP:
  - a. Positive aspects:
    - i. Collaboration with CEP has significantly improved over the last two years. CEP and CEPSIT is now widely recognised as a methodological unit for international projects within the university.
    - ii. The biannual meetings organised by CEP with other project centres have been highly appreciated. These meetings provide a platform for exchanging best practices among faculty project centres and offering training sessions tailored to the needs gathered from these centres.
  - b. Challenges:
    - i. Representatives from the project centres suggested the creation of a **contact and competency map** to better identify personnel responsible for different aspects of project management and administration within CEP.
    - ii. Participants also reported the need for streamlined access to information. Excessive effort is still required to obtain the necessary details for proper project preparation and implementation. To address this, they recommended developing an FAQ system and compiling recurring questions to reduce the burden on CEP. Together with the proposed contact map, these tools would enhance efficiency for both CEP and the project centres.
5. Digitalisations need: Improvement in digitalisation remains a priority, with significant inefficiencies identified in the current paper-based procedure for signing legal documents. This manual process consumes substantial time and resources, which could be allocated to more productive tasks. Implementing a digital system for obtaining approvals from employees across various units before the rector's signature would streamline this process and save considerable time.

Additionally, delays in handling cover letters submitted for the rector's signature were highlighted as a recurring issue. Missing information is often identified and communicated only after a week, further prolonging the process.

6. Challenges in communication with the unit responsible for Erasmus (feedback from faculty project centres): Communication with the Department of International Relations, which is not part of CEPSIT, presents notable challenges. This department, staffed by nine employees, manages Erasmus+ projects that are primarily educational but still fall under the umbrella of international projects. The separation of these responsibilities from CEPSIT creates confusion and inefficiencies in project management. Additionally, the level of training of personnel within the Department of International Relations in handling international projects is reported to be insufficient, resulting in their inability to provide relevant and timely information to other units.
7. Insights from the biannual project centre meeting: As part of the qualitative investigation process, ADDSEN attended one of the biannual meetings of all project centres at STU. While the collaboration with CEP received positive feedback in general similar to FEI STU and MTF STU, several issues were raised by other project centres, highlighting areas requiring further attention and improvement:
  - a. Employing personnel in projects: One faculty reported ongoing uncertainty regarding the appropriate use of employment contracts versus other types of agreements, such as agreements on work performance. This lack of clarity creates inconsistencies in the management of project personnel and highlights the need for clear guidelines to standardise contract practices across the university.
  - b. Common documentation: Greater alignment is required between CEP and other units responsible for managing different types of projects, such as those funded by ESIF and SRDA grants. Disparities in documentation standards and procedures hinder smooth coordination and project administration.
  - c. Communication challenges: Ineffective communication was frequently cited as a major challenge. Information intended for project centre staff is often sent to deans or vice-deans but does not reach the relevant personnel. Examples were also reported where notifications about important events were sent only after the events had occurred. Addressing these gaps requires improved communication protocols and clearer dissemination practices. Frequently, faculty project centres learn about events intended for STU project managers after they have been promoted on the STU website or social media.
  - d. Principal investigator acting as a financial manager: In non-faculty units, principal investigators often take on financial management duties, a practice that is unsustainable in the long term. This dual responsibility detracts from researchers' primary focus on scientific and technical work, emphasising the need for administrative support personnel to handle financial tasks.
  - e. Internal procedures not sufficiently adapted to the requirements of international projects: One of the recurring issues raised are ineffective internal procedures not aligned with the requirements of international

projects, particularly those funded by programs like Horizon Europe. Key concerns include the duplicity in reporting to various support units and the lengthy duration of internal approval processes. These inefficiencies create additional administrative burdens for researchers and project managers, detracting from their ability to focus on core project activities.

- f. **Digitalisation:** The current university accounting and academic information systems, MAGION and AIS, lacks functionality for proper role allocation and differentiated access to data. This hampers efficient project administration and reduces the system's effectiveness in meeting the needs of project managers and administrators.
- g. **Review of directives:** While the new directives have been positively received, participants recommended regular reviews to ensure the guidelines remain effective, address emerging needs, and continue to support best practices in project management.
- h. **Document management system:** A centralised document management system is urgently needed to streamline the handling, sharing, and archiving of project-related and supporting documents. High-priority areas include the processes for signing grant and consortium agreements by the rector and managing travel orders. Such a system would reduce administrative burdens, improve efficiency, and facilitate better collaboration across units.

8. **Specific situation and findings at MTF STU:** At MTF STU, the existing two departments—one for international projects and the other for ESIF projects—were merged. During this process, employees responsible for international projects resigned, resulting in a loss of expertise. The primary challenge now is to rebuild this lost capacity. CEP is expected to play a major role in addressing this issue by providing comprehensive training to the newly hired employees.

Despite this negative experience, several additional issues and steps for improvement were identified:

- a. **Hesitation to submit projects:** Departments often hesitate to submit projects due to fears of administrative burdens. To address this, the head of the project centre took proactive steps by organising a meeting with all department heads. During the meeting, she guaranteed full support from the project office in identifying funding opportunities, preparing applications, and assisting with project implementation.
- b. **Geographical disadvantage:** MTF STU is a faculty that is located outside Bratislava, meaning they are not "at the centre of events." Regular online meetings could help compensate for this limitation.

9. **Specific contributions and findings from CEP:**

- a. **Internal communication:** CEP acknowledged that while communication with faculties has improved, it remains in the early stages of development. Following the European Commission's second-level audit, faculties have begun collaborating more closely with CEP. This improved cooperation has resulted in the organisation of training sessions, particularly on calculating personnel costs, to address specific administrative needs.
- b. **Directives implementation:** The successful implementation of new directives requires better communication, periodic reminders, and, where feasible,

simplification of processes. These measures are essential to ensure consistent application and enforcement across all units.

- c. Common co/pre-financing schemes: STU currently lacks a unified system for co- and pre-financing projects across faculties. While individual faculties or units have their own advance payment systems, these do not accommodate cross-faculty projects. Decisions regarding financing are managed at the project level by the project manager or principal investigator, highlighting the need for a unified approach.
- d. Document management system: Administrative processes are often redundant, with the same information needing to be submitted multiple times. To address this inefficiency, the introduction of a document management system is strongly recommended
- e. Legal support: Currently, legal advice for projects is provided externally. CEP suggested that the possibility of employing an in-house legal expert should be explored to ensure timely and specialised support for project-related legal matters.
- f. Future priorities:
  - i. Advancing digitalisation remains a top priority to improve the efficiency of project management processes.
  - ii. In the second half of the FreeTwinEV project, updates to existing directives and procedures are planned to address emerging needs and refine current practices.
- g. Financial trainings carried out: Following the 2<sup>nd</sup> level audit, financial managers from CEP conducted targeted training sessions at each faculty. These sessions included a PowerPoint presentation and a short workshop, primarily focusing on the calculation and reporting of personnel costs. During the training, the new directives were presented in detail to ensure faculty staff understood and could implement them effectively.
- h. Internal financial audit: As part of its commitment to improving financial management, CEP initiated an internal audit process. CEP selected one active project from each faculty and conducted a thorough review. This included checks on timesheets, invoices, and other financial documents, as well as an evaluation of the methodology used for calculating and reporting personnel costs. This initiative is repetitive as it aims to identify and address any inconsistencies or issues, ensuring compliance and improving financial reporting practices across STU.

### 5.2.2 Findings based on inputs from researchers

This section highlights the findings derived from researchers' feedback on various aspects of project management at STU and their interactions with project offices. The analysis covers key areas such as the role of CEP and faculty-level project centres, cooperation between researchers and administrators, and the effectiveness of support services like travel management, technology transfer, and legal aid.

The feedback reflects a combination of successes, such as the positive impact of CEP and the exemplary collaboration at the FEI STU project centre, and ongoing challenges,

including inefficiencies in public procurement, communication gaps, and the need for better co- and pre-financing mechanisms:

1. CEP: The changes of CEP two years ago has been positively evaluated as a critical development in improving project management at STU. The project centre has taken over several essential responsibilities, including support with timesheets, harmonisation of processes, and coordination among faculties. By centralising these functions, CEP has provided a consistent methodology for international project management. However, continued improvements in communication and responsiveness, along with regular training sessions, will be essential to fully realise its potential
2. Collaboration with FEI STU project centre: The collaboration between the FEI STU project centre and researchers at the faculty has been recognised as particularly effective. Researchers appreciated the project centre's proactive approach in supporting project preparation, handling administrative tasks, and ensuring compliance with programme rules. This successful collaboration highlights the critical role of a well-functioning, faculty-level project office as a bridge between researchers and CEP, facilitating seamless interaction when required. Expanding this model of collaboration to other faculties could significantly enhance project management practices across STU.
3. Cooperation between researchers and administrators: The collaboration between researchers and administrative personnel remains a challenge that requires further automation and streamlining. To align with the anticipated requirements of Framework Programme 10 (FP10), processes should be digitised to minimise manual intervention.
4. Management of travels: Although the directive related to travel is well-developed, travel management at STU faces notable inefficiencies, particularly regarding the flexibility of flight ticket purchases. The anonymous system for processing business trips frequently results in unrecognised expenses, such as taxi fees, and fails to accommodate the unpredictability of last-minute savings on flight costs. Researchers have also expressed frustration over the lack of support for arranging accommodation and flights, an administrative burden that diverts their attention from technical and scientific responsibilities. Establishing a dedicated travel support team or implementing a streamlined system integrated with CEP could effectively address these issues.
5. Supporting technology transfer: Support for technology transfer at STU remains underdeveloped, particularly in facilitating the commercialisation of research outcomes and connecting them with potential industry partners. Key challenges include a lack of dedicated business development resources, insufficient legal support, and limited proactive efforts in consortium building and project identification. Expanding the expertise of the existing technology transfer office within CEPST to address these gaps would enable more effective commercialisation and dissemination of research outputs, fostering stronger collaboration with industry stakeholders.
6. Public procurement: Although a directive exists and aligns with current legislation, public procurement at STU is widely regarded as a weak point, with internal processes often described as inefficient and time-consuming. This inefficiency

frequently necessitates the engagement of external firms to manage procurement activities, increasing costs and diminishing institutional control. To address these challenges, simplifying procurement procedures and offering specialised trainings either to administrative or project office staff could significantly enhance efficiency.

7. CEP/Faculty project centre services vs. Indirect costs: Concerns were raised regarding the alignment between the services provided by CEP and the proportion of indirect costs allocated to it. Researchers questioned the sustainability of CEP and emphasised the need for greater transparency about the services they receive in return for the indirect costs contributed by their projects. Specific areas, such as media and dissemination support (e.g., promoting projects on social media), were noted as responsibilities where project centres could provide additional assistance.
8. Legal services: Legal support at STU is perceived as underdeveloped. Researchers emphasised the need for more tailored, solution-oriented advice rather than general guidance. Specific areas requiring improvement include the negotiation of consortium agreements, intellectual property rights, and dissemination strategies. Employing an in-house legal expert with a focus on project-related issues would significantly enhance the quality and responsiveness of legal support.
9. STU Brussels liaison office: The STU Brussels Liaison Office could play a more proactive role in connecting faculty researchers with relevant stakeholders. Developing a research map to identify key researchers and their expertise would enable more targeted outreach and foster collaborations with industry and academic representations in Brussels.
10. Communication: Improvements in the dissemination of information within faculties are necessary to ensure that relevant stakeholders receive updates promptly. Often, communications intended for project centre staff are delayed or misdirected to deans and vice-deans, resulting in inefficiencies. Establishing clear communication protocols and leveraging digital tools for announcements and updates could significantly improve information flow.
11. Researchers map: A comprehensive research map to identify key researchers across STU is currently missing. This tool would enhance internal collaboration and external visibility, enabling industry partners and academic institutions to engage directly with the most relevant experts. Hosting a conference to present faculty capabilities and foster networking opportunities could complement the creation of this map.
12. Co- and pre-financing: The lack of a unified co- and pre-financing system is a persistent challenge. Faculties currently manage advance payments independently, which complicates cross-faculty projects. This decentralised approach creates inconsistencies and administrative burdens. Developing a unified financing system that offers standardised support for project pre-financing would alleviate these issues and ensure smoother implementation across faculties.
13. Sharing information about projects and consortia: Researchers highlighted the value of sharing information about ongoing and planned projects across the university. For instance, the presentation of the EURYS consortium by STU rectorate was appreciated. Establishing a standard practice for introducing new projects and consortia to relevant stakeholders at STU would enhance transparency, foster networking opportunities, and improve internal support for these initiatives.

14. Providing basic information on calls: It was suggested that CEP could provide a centralised system for disseminating basic information about funding calls, including the identification of key workplaces or departments likely to be involved. This system would also ensure that these workplaces are informed about each other's activities, fostering better collaboration and coordination within the university.

### 5.2.3 Findings based on inputs from administration

This section examines insights and challenges identified by administrative departments regarding personnel cost accounting and reimbursement under Horizon Europe (HEU). The findings highlight systemic issues in the European Commission's methodologies, including difficulties in calculating personnel costs over multi-year projects and limitations in reimbursement due to misaligned assumptions about productive working days.

1. Challenges in accounting: A key finding from the accounting department highlights significant challenges in the methodology used to calculate personnel costs for Horizon Europe (HEU) projects. The preferred current methodology, based on closed periods, does not adequately accommodate the identification of personnel costs at the end of the calendar year. This issue is particularly pronounced in cases where the calculation spans multiple years—sometimes up to 18 months—making it difficult to identify the project's personnel costs in the closing year.

Factors such as changes in salary or employees taking long sick leave directly impact the number of hours worked on a project, which in turn affects also the calculation of personnel costs. Compounding this issue is the inability to reduce the maximum day equivalents allowed under HEU rules, which further limits flexibility in cost adjustments.

2. Limitations in personnel cost reimbursement under Horizon Europe: A significant challenge under Horizon Europe is the inability to fully cover personnel costs due to removal of a productive hours option – individual productive hours in Horizon Europe, as was available in Horizon 2020. This issue is particularly pronounced for researchers and academic staff, who constitute the majority of project personnel at STU and are entitled to 45 days of annual leave.

The European Commission's methodology assumes an average of 215 maximum day equivalents (MDE) per year. However, the actual number of productive days at STU is significantly lower, typically around 205 days when accounting for public holidays. Additionally, employees can take up to 14 additional days for medical visits or accompanying family members to appointments, potentially reducing the number of productive days to approximately 191.

This discrepancy could result in more than 10% loss in personnel cost reimbursement for the university (when fully allocated for project implementation). The gap between the EC's assumed productive days and the actual situation at STU highlights a structural issue in the methodology, leading to a substantial financial shortfall for personnel costs.

Addressing this misalignment will require advocating for changes in the EC's reimbursement methodology or finding institutional strategies to mitigate the financial impact on universities like STU.

3. Other findings largely align with those previously mentioned, emphasising the need for further digitisation, clarity in competencies, and the preparation of a comprehensive handbook.

## 6 Summary of recommendations for PMA upgrade and their benefits

The following recommendations aim to address the key challenges and opportunities identified in Chapter 5. These proposals focus on enhancing efficiency, fostering collaboration, and aligning institutional practices to ensure long-term sustainability and success:

1. Improved coordination among project centres: Institutionalise regular meetings among project centres to promote collaboration, exchange best practices, and enhance coordination across STU.
2. Focused training and capacity building: Organise targeted training sessions to build administrative and project management capacities, particularly in compliance and finance.
3. Cooperation with FreetwinEV partners' project centres: Leverage the FreeTwinEV project to establish connections and foster collaboration with the project centres at the University of Twente (UTWENTE) and the Linz Center of Mechatronics (LCM) for exchanging best practices.
4. EARMA involvement: Maintain active membership in the European Association of Research Managers and Administrators (EARMA) to stay engaged with the broader research management community.
5. Proactive role for STU Brussels liaison office: Create a research map to connect researchers with external stakeholders and foster targeted collaborations through enhanced networking and outreach.
6. Enhanced collaboration with CEP:
  - a. Develop a contact and competency map for CEP staff to improve communication and task allocation.
  - b. Create an FAQ system to streamline information sharing and reduce repetitive inquiries.
7. Improved communication protocols – communication strategy: Establish clearer communication protocols within faculties to ensure timely dissemination of information to relevant stakeholders.
8. Basic information on open calls: Create a system for centralised dissemination of funding call information, including identifying of potential workplaces to be involved in proposal preparation and ensuring research teams are informed about each other's involvement.
9. Project and consortium information sharing: Formalise the practice of presenting new projects and consortia to relevant stakeholders, improving transparency and fostering collaboration.
10. Comprehensive project management handbook: Develop a detailed handbook to provide guidance on project management and administration, ensuring procedural clarity and effective implementation of international projects.
11. Regular review of directives: Conduct periodic reviews of existing directives to ensure their continued relevance and effectiveness in addressing emerging challenges.
12. Development of faculty-specific directives: Create tailored faculty-level directives to complement the existing university-wide directives, addressing the unique needs and challenges of individual faculties.

13. Simplification of public procurement: Simplify procurement procedures and provide specialised training for administrative or project office staff to reduce reliance on external firms and increase efficiency.
14. Improvements in travel management: Establish a dedicated travel support team or integrate travel management into document management system to simplify booking and reimbursement processes and reduce administrative burdens on researchers.
15. Comprehensive digitisation strategy: Prioritise further digitisation of processes across project management, administration, and accounting to streamline workflows and improve efficiency.
16. Digitalisation of administrative processes: Implement a centralised digital system for document approval and management.
17. Support for technology transfer: Expand the expertise of the technology transfer office within CEPSIT to include business development resources and enhanced legal support for commercialisation of research outcomes.
18. Strengthening legal services: Employ in-house legal experts with specialised knowledge in project-related matters, such as consortium agreements, intellectual property rights, and dissemination strategies.
19. Alignment of CEP services with indirect costs deduction: Increase transparency about services provided by CEP in return for indirect cost allocations and expand support for dissemination and communication activities.
20. Unified co- and pre-financing system: Implement a unified system to manage co- and pre-financing for cross-faculty projects, reducing inconsistencies and administrative burdens.
21. Advocacy for adjustments in EC reimbursement methodology: Advocate for changes in the European Commission's methodology for personnel cost calculations to align with the realities of academic institutions like STU.

## 7 Future of CEPSIT – the perspective of vice-rector for strategic projects, development, innovation and praxis

As part of the investigation, we examined the strategic development of CEPSIT. A dedicated meeting with the Vice Rector for Strategic Projects, Development, Innovation, and Praxis provided valuable insights into the university's vision and CEPSIT's evolving role within this framework. Based on this discussion, we have summarised CEPSIT's existing and planned future activities, which extend beyond the administration of international projects to include functions as a university technology incubator and a centre for technology transfer at STU.

1. CEPSIT financing and expansion: Currently, CEPSIT's activities are funded primarily through project-related income, highlighting the urgent need to establish a sustainable funding model. Ensuring financial stability will be critical for CEPSIT to expand its scope and continue supporting strategic initiatives across STU. One such initiative is the STU Brussels liaison office, which focuses on areas such as Smart Cities, construction and architecture, and cultural heritage where it assisted in identifying relevant partners for research proposals. The office plays a vital role in

supporting proposal development, facilitating stakeholder interactions, and fostering collaborations at the European level. Following its pilot phase, which is set to conclude in early 2025, the office aims to secure independent funding for its operations and become an integral part of CEPSIT. Its current objectives include securing new projects, attracting external funding for STU research teams, and strengthening partnerships with stakeholders across Europe.

Additionally, STU is actively building its business development capacity to bridge the gap between its technological innovations and industry needs. To enhance this effort, a dedicated business development professional is being recruited. This new role will focus on identifying and pursuing external opportunities, connecting STU's research outputs with industrial partners, and fostering collaborations that drive innovation and commercialisation.

This strategic expansion underscores CEPSIT's evolving role as a hub for project management, business development, and international collaboration, aligning its efforts with STU's broader goals of innovation and sustainability.

2. Startup ecosystem development at STU: The STU incubator, part of CEPSIT, plays a pivotal role in fostering student startups through a structured support system. Its program begins with an intensive 3-month phase, during which participants receive training on business development, market research, marketing strategies, legal setup, and preparing investor pitches. This is followed by a 5-month mentoring phase that provides ongoing guidance to ensure startups are well-positioned for success. To further enhance the viability of these ventures, the incubator has strengthened its partnership with the University of Economics, enabling the creation of multidisciplinary teams of students that integrate technical and economic expertise within the startups.

3. Challenges in funding and equity: Despite the incubator's success in nurturing startups with a collective turnover of over €52 million in 2023, STU does not currently benefit financially from these outcomes. The university does not hold equity in these companies, primarily due to legislative constraints that prevent it from owning shares in student-founded startups.

While employee spin-offs are already regulated by internal directive, the absence of a similar framework for student startups limits STU's ability to participate financially in their success. Updates to relevant legislation are being considered, which could enable the university to align with international practices and enhance its role in supporting and benefiting from entrepreneurial ventures.

4. Legislative constraints: Legislative constraints, particularly those related to Slovak tax laws, significantly hinder the payments flow from patents or technology sales back to the researchers who contributed to their development. Current regulations create administrative and financial barriers, making it challenging for inventors and research teams to directly benefit from the commercialisation of their innovations.

To address these issues, *inter alia*, proposed amendments to tax legislation have been put forward, with support from key stakeholders, including VAIA (Research and Innovation Authority) and CVTI SR (Slovak Centre of Scientific and Technical Information). These amendments aim to streamline the redistribution of revenues from technology transfer, ensuring that a fair share reaches the researchers and innovators. By addressing and minimising the administrative burdens and introducing a more transparent and efficient framework, the changes are expected to incentivise

innovation and enhance the attractiveness of technology transfer activities at Slovak institutions.

5. Plans towards technology transfer and commercialisation: The university is working towards establishing **acceleration and investment funds** to provide tailored financial support for both startups (student-led ventures) and spin-offs (employee-led ventures). Pilot efforts have been initiated through contributions from industrial partners, such as Slovenský plynárenský priemysel (SPP), with plans to expand and diversify funding sources in the future. However, the establishment of a fully operational investment fund is a long-term endeavour, expected to take several years.

STU aspires to play an active role in such a fund, aiming to secure membership or participation, potentially through the involvement of its company – STU Scientific, s.r.o. Long-term plans include establishing a dedicated fund management entity, with strategic oversight provided by the rectorate and the STU Scientific.

To strengthen its capacity for technology transfer, STU is actively expanding its **business development capabilities**. A dedicated business development professional is being onboarded to bridge the gap between university research and industry needs. This role will focus on identifying market opportunities, fostering collaborations, and aligning STU's technological innovations with industry demands. Over the past year, the Office of the Vice-Rector has received multiple inquiries regarding potential technology transfer opportunities, particularly in the fields of green technology, artificial intelligence (AI) and information technology (IT). This growing interest underscores the importance of a robust business development function to capitalise on such opportunities, strengthen industry partnerships, and maximise the impact of STU's research outputs.

STU has also initiated **international partnerships** to enhance its innovation ecosystem. Collaborations include *inter alia* working with David Bridges, Vice President of the Enterprise Innovation Institute from Georgia Tech. Such partnerships aim to bring global best practices to STU and position it as a key player in the international technology transfer landscape.

To enhance the visibility of its startups and attract international investors, STU organises events such as **startup pitch presentations**. With the involvement of major investment funds like SpeedInvest, these events are now conducted in English to better engage global financial stakeholders. They serve as a platform for showcasing innovative ventures, fostering valuable networking opportunities, and establishing connections with prominent investors.

6. International partnerships: STU is committed to strengthening its international collaborations by partnering with foreign incubators and innovation centres to exchange best practices and enhance its innovation ecosystem. Through projects like **FreeTwinEV**, the university is actively analysing international approaches to startup support and technology transfer, leveraging expertise from partners such as the University of Twente (UTWENTE) and Linz Center for Mechatronics (LCM).

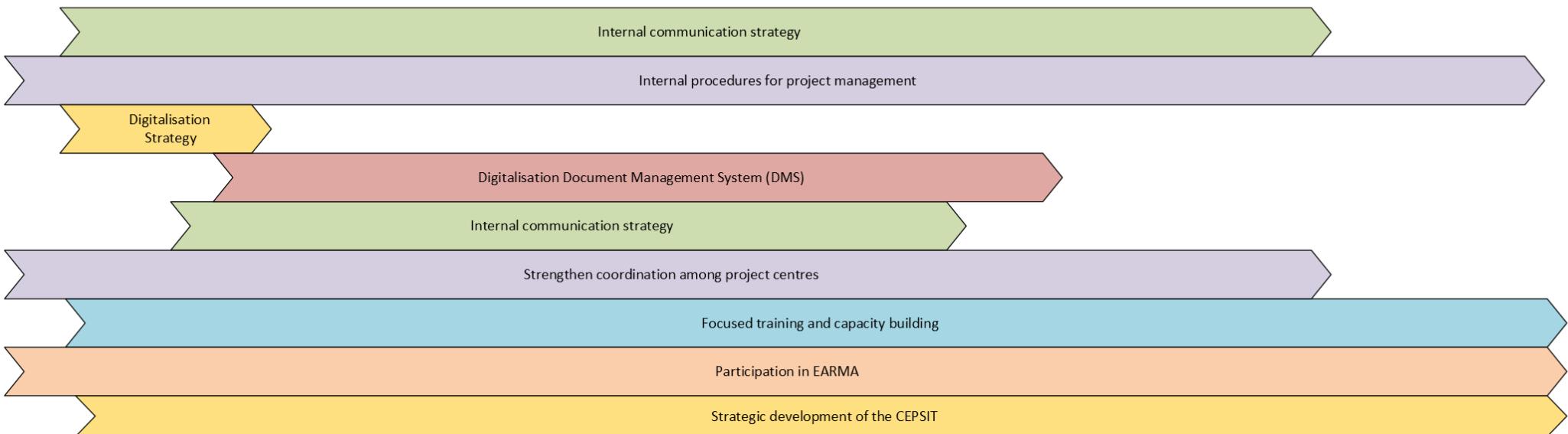
In addition, STU is exploring joint ventures with institutions like TU Vienna and other European universities as part of initiatives such as **EULiST**, an alliance of universities dedicated to fostering cooperation in research, education, and innovation. These partnerships aim to integrate global best practices into STU's operations, expand its international network, and position the university as a key player in the European innovation landscape.

Conclusions:

1. The strategic vision for CEP and CEPSIT reflects STU's ambition to evolve into a comprehensive hub for innovation, integrating international project management with technology transfer, business development, and startup incubation. However, achieving this vision requires addressing key challenges in sustainable funding, legislative frameworks, and internal capacity building.
2. The planned initiatives, such as the establishment of acceleration funds, the expansion of the Brussels liaison office, and enhanced collaboration with international partners, underscore STU's commitment to leveraging global best practices and fostering international networks.
3. Legislative and systemic barriers, particularly in areas like technology transfer revenue redistribution and equity in student startups, remain significant obstacles. Addressing these through proposed legislative amendments and institutional reforms will be critical to realising the full potential of STU's innovation ecosystem.
4. Strengthening business development capabilities, securing diverse funding sources, and fostering targeted international collaborations will play a pivotal role in aligning STU's research outputs with industry needs and enhancing its global presence.

## 8 PMA Roadmap for sustainability

12/24 | 01/25 | 02/25 | 03/25 | 04/25 | 05/25 | 06/25 | 07/25 | 08/25 | 09/25 | 10/25 | 11/25 | 12/25 | 01/26 | 02/26 | 03/26 | 04/26 | 05/26 | 06/26 | 07/26 | 08/26 | 09/26 | 10/26 | 11/26 | 12/26 | 01/27 | 02/27 | 03/27 | 04/27 | 



Area of improvement	Implementation date	Actions carried out	Milestones/Means of Verification	Responsible (person/department)
Internal directives review	01/25 - 04/25	<p><b>01/25</b> Gather comprehensive feedback from diverse university stakeholders</p> <p><b>02/25</b> Revise and update the directives (if necessary, based on the feedback)</p> <p><b>03/25</b> Conduct a workshop to present the updated directives</p> <p><b>04/25</b> Finalise the directives and ensure their dissemination across the university</p>	Updated directives are published and workshops conducted.	CEPSIT - Peter Cuninka, Viltare Platzner
	09/26 - 12/26	<p><b>09/26</b> Gather comprehensive feedback from diverse university stakeholders</p> <p><b>10/26</b> Revise and update the directives (if necessary, based on the feedback)</p> <p><b>11/26</b> Conduct a workshop to present the updated directives</p> <p><b>12/26</b> Finalise the directives and ensure their dissemination across the university</p>	Updated directives are published and workshops conducted.	CEPSIT - Peter Cuninka, Viltare Platzner
	01/25 - 04/2025	<b>Cont.</b> Creating new directives at faculties level where relevant (based on feedback gathered in 01/25)	New directives at faculties in place	FEI STU MTF STU
Internal procedures for project management	12/24 - 04/27	Update of the PMA Handbook - in line with the FreeTwinEV task T4.3, prepare new elaborated version of the PMA Handbook	PMA handbook approved and implemented across faculties.	CEP, ADDSEN
Digitalisation Strategy	01/25 - 04/25	<p><b>01/25 - 02/25</b> Development of digitalisation strategy for international projects:</p> <p><b>03/25</b> Feedback gathering via surveys and interview</p> <p><b>03/25-04/25</b> Development of a brief Digitalisation strategy for the international projects</p>	Digitalisation strategy ready	CEP - Barbora Cutrikova

Area of improvement	Implementation date	Actions carried out	Milestones/Means of Verification	Responsible (person/department)
Digitalisation Document Management System (DMS)	04/25 - 05/25	<b>04/25</b> Overview of existing Document management tools on the market <b>05/25</b> Rank of the DMS according to their features and suitability for university	Prioritised list of available DMS at the market	CEP STU STU
	05/25 - 11/25	<b>05/25 - 06/25</b> Definition of groups for testing and piloting the solution, specification of testing areas (GA and CA signing, travels process) <b>07/25 - 11/25</b> Piloting and testing the preferred DMS solutions	Identification and formalisation of testing groups Approved pilot testing plan	STU FEI STU MTF STU
	12/25 - 7/26	<b>12/25 - 03/26</b> Procurement of the solution or integrating relevant features into existing solutions (optional) <b>04/26 - 07/26</b> Implementation of the solution at STU	Signed contract with the vendor or service provider  Initial setup and deployment of the solution  Full implementation and operational readiness of the system	CEP STU / STU
Internal communication strategy	03/25	<b>03/25</b> Conduct surveys and interviews with STU employees on how CEPSIT communicates with stakeholders involved in international projects <b>03/25</b> Develop a contact and competency map for CEPSIT staff + Create an FAQ system for the most common questions	Survey and interview results compiled - identification of key communication challenges and opportunities  Competency map created + FAQ section established on intranet	CEP STU - Maria Bujnova

Area of improvement	Implementation date	Actions carried out	Milestones/Means of Verification	Responsible (person/department)
Internal communication strategy	04/25 - 05/25	<b>04/25</b> Setting up system on published call on STU intranet <b>04/25</b> Creating internal communication protocols <b>05/25</b> Implementation the protocols into daily life	Calls published on intranet Drafted document of internal communication protocols Dissemination of the communication protocols to all relevant departments	CEP STU - Maria Bujnova
	05/26	<b>05/26</b> Review of the internal communication strategy	Report from the review presented at biannual project centres meeting	CEP STU - Viltare Platzner, Peter Cuninka
	03/25+	<b>Cont.</b> Presenting new projects and consortia to relevant stakeholders	Online events organised	All STU project centres
Strengthen coordination among project centres	12/24 - 12/26	<b>12/24, 06/25, 12/25, 06/26, 12/26</b> Organise meeting of all STU project centres with both formal and informal part, reflect the needs of PMA employees in the event program	Biannual coordination meetings scheduled and held	CEP
Focused training and capacity building	01/25-04/27 and beyond	<b>01/25</b> Development of the training plan for PMA and project centres - including topics defined in training plan developed in M7 for soft/hard skills <b>Cont.</b> - Implementation of the training plan until the end of project	Trainings on project administration and financial issues in HEU projects concluded	CEP and Faculties, ADDSEN

Area of improvement	Implementation date	Actions carried out	Milestones/Means of Verification	Responsible (person/department)
Participation in EARMA	12/24 +	<p><b>Cont.</b> STU will continue membership in EARMA, STU is increasing its importance and visibility in EARMA - active participation at conferences, proposing topics for discussion, involvement in working groups</p>	<p>Active presentation at EARMA's annual conference</p> <p>Active workshops/work groups participation</p> <p>Participation in development of position documents (e.g. changes in the EC methodology for personnel cost calculations)</p>	CEPSIT
Strategic development of the CEPSIT	01/25 - 03/25	<p>Enhance CEPSIT service transparency:</p> <p><b>01/25 - 03/25</b> Preparation of a detailed report outlining the specific services CEPSIT provides in return for indirect cost allocations (e.g. support for project management, training, and legal assistance)</p> <p><b>03/25</b> Report published</p>	Service report published	CEP - Peter Cuninka, Viltare Platzner
	Ongoing (long term - beyond project duration)	<p><b>Ongoing</b> Expand the expertise of the technology transfer office within CEPSIT to include business development personnel (position already open)</p> <p><b>H</b> - month when new employee is hired</p> <p><b>H + 6months</b> Creating framework for engaging with industry stakeholders including strategies for identifying opportunities, building partnerships, and commercialising research outputs</p>	<p>Personnel hired - employment contract signed</p> <p>Published business development framework</p>	CEPSIT - Peter Cuninka

Area of improvement	Implementation date	Actions carried out	Milestones/Means of Verification	Responsible (person/department)
Strategic development of the CEPSIT	1/2025 + (long term - beyond project duration)	<p>Creation of Investment fund with STU representation financing startups and spinoffs:</p> <ol style="list-style-type: none"> <li>Advocate for the new legislation allowing to benefit from equity in startups</li> <li>Identify key players in the investment ecosystem, including venture capitalists and industry-specific fund</li> <li>Outline the scope, goals, and target areas for the proposed STU investment fund, including potential sectors and funding mechanisms</li> <li>Negotiate partnerships or co-investment opportunities with established funds</li> <li>Initiate pilot funding rounds for selected startups or spin-offs</li> <li>Testing and validation</li> <li>Full operation</li> </ol>	<p>Completion of a database listing venture capitalists, investment funds, and industry-specific players</p> <p>Finalisation of the investment fund's strategy</p> <p>Completion of pilot evaluation</p>	CEPSIT - Peter Cuninka, Maximilian Stremy
	01/25 - 04/27	<p>Collaborate with FreeTwinEV partners - LCM and UTWENTE (best practise exchange):</p> <ol style="list-style-type: none"> <li>Identify key topics for best practice exchange in PMA</li> <li>Conduct virtual and on-site meetings</li> <li>Implement pilot initiatives based on learnings from LCM and UTWENTE in areas such as proposal preparation, technology transfer, or financial management</li> <li>Host review sessions to assess the effectiveness of implemented best practices</li> </ol>	<p>Knowledge-sharing sessions conducted with UTWENTE and LCM</p> <p>Pilots tested</p> <p>Review sessions conducted</p>	CEPSIT

Area of improvement	Implementation date	Actions carried out	Milestones/Means of Verification	Responsible (person/department)
Strategic development of the CEPSIT	10/25-12/25	Proposal for co- and pre-financing system at faculties - design a standardised framework for managing co- and pre-financing at STU faculties.	Unified financing model developed and piloted.	CEPSIT - Peter Cuninka
	05/25-06/25	Sustainability of project centres - development of the CEPSIT funding model: 1. contribution from indirect costs 2. own projects 3 revenues from future investment fund (startups and spinoffs)	CEPSIT funding model finalised and integrated with strategic objectives.	CEPSIT - Peter Cuninka
	01/25 + (long term - beyond project duration)	Leverage the Brussels Liaison Office: 1. Develop promotional materials showcasing STU's expertise - research teams in international projects 2. Provide dedicated support to researchers in identifying and applying for EU funding opportunities 3. Organise networking events, such as roundtables or seminars, at the liaison office to connect stakeholders and showcase STU's contributions 4. Track the outcomes of stakeholder engagements and funding applications facilitated by the Brussels Liaison Office	Increased stakeholder connections and funding applications.	CEPSIT - Brussels representative, Brussels Backoffice



## 9 Risks hindering successful sustainability efforts

Risk Name	Probability	Severity	Mitigation Measures
<b>Frequent staff turnover</b>	Medium	High	Emphasise non-financial benefits such as high-quality training, international collaboration opportunities, and career development. Development of retention strategies. Introduction of new financial benefits based on overall performance.
<b>Low researcher engagement</b>	Medium	High	Provide high-quality training in project proposal preparation. Shift administrative tasks to project managers, allowing researchers to focus on research activities.
<b>Inconsistent implementation of directives</b>	Low	High	Conduct periodic reviews of directives. Ensure regular training for administrative staff and project managers to align practices with new policies and guidelines.
<b>Insufficient digitalisation</b>	High	Medium	Develop and implement a comprehensive digitalisation strategy, including document management systems and role-based access in project management.
<b>Funding model dependency on projects</b>	High	High	Diversify CEPSIT's funding sources by leveraging indirect costs, securing dedicated funds, and seeking additional revenues through technology transfer initiatives.
<b>Legislative barriers</b>	Medium	High	Advocate for legislative reforms to improve equity participation and revenue distribution. Collaborate with national bodies like VAIA to push for systemic changes.
<b>Low capacity for technology transfer</b>	High	Medium - High	Expand the technology transfer office to include business development professionals. Provide regular training for legal and PMA staff in intellectual property.
<b>Communication gaps between faculties and CEP</b>	Medium	Medium	Develop a contact/competency map and FAQ system. Establish clearer communication protocols and regular updates via intranet and meetings.
<b>Resistance to change in administrative practices</b>	Medium	Medium	Engage stakeholders in the design of new processes. Provide training to ease the transition to new digital and procedural frameworks.