

DCitizens Fostering Digital Civics Research and Innovation in Lisbon

DELIVERABLE 5.1: Research Management Unit Action Plan

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D5.1: Research Management Unit Action Plan

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Executive Summary

In the Research Management Unit Action Plan deliverable (D5.1), we provide a strategic analysis and clear roadmap to support the Interactive Technologies Institute (ITI) research mission and vision.

The plan outlines priority areas, goals, and strategies for achieving them. It also includes a timeline for implementation, and metrics for evaluating progress towards goals. The strategic plan ensures that the research management unit is focused on specific areas that need improvement and is working towards achieving realistic and achievable goals. It also helps the unit to track progress and adjust its actions accordingly within the scope of DCitizens.

The document is organised in five main sections: (1) Institutional Context, (2) Strategic Analysis and Priority Areas, (3) Goals, (4) Action Plan and Monitoring, and (5) Conclusion.

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1 Institutional Context

This section briefly overviews the Interactive Technologies Institute (ITI) and its institutional context within the Portuguese scientific and educational ecosystem. This overall picture is important to understand the following sections' strategical analysis and action plan.

1.1 The ITI within the Portuguese Scientific Ecosystem

The ITI operates within the Portuguese educational and research ecosystems. Historically, these two ecosystems are related but work “autonomously”. **Higher Education (HE) institutions** are primarily responsible for training and graduating students (i.e., offer MSc and PhD courses and classes), while **Research institutions** attract research funds to conduct research activities, and support PhD students and Postdoctoral researchers. Thus, HE institutions formalise such collaborations through 3rd-party agreements that allow faculty, hired by the HE institution, to conduct their research activities within a research institution.

The ITI is a research institution associated with Instituto Superior Técnico (IST), a public HE institution focussed on engineering and architecture. This relationship is celebrated through a **host institution**, *Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento* (IST-ID), which is private non-profit institution that provides higher level financial support to multiple research units associated with IST. Figure 1 illustrates this relationship.

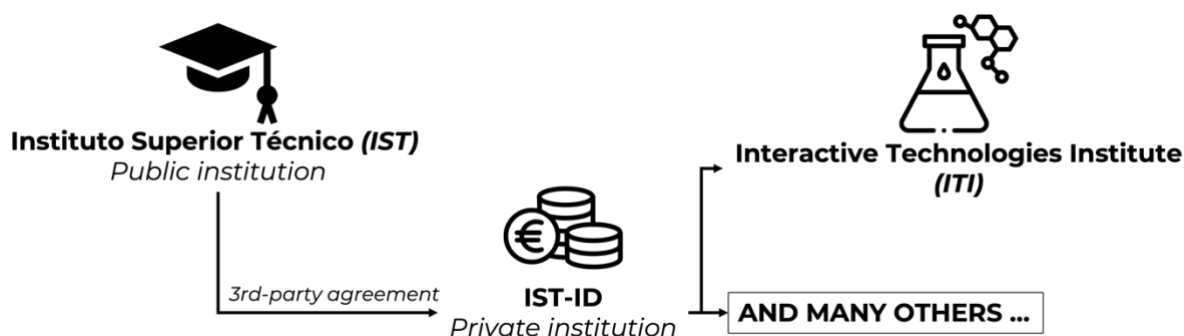


Figure 1. Illustration of the relationship between IST (HE institution), ITI (research institution), and IST-ID (host institution).

1.2 The Uniqueness of the ITI

At ITI, we explore the entanglements between people and digital technologies. As an **interdisciplinary institute**, we welcome researchers from engineering, design, social sciences, arts, and humanities interested in creating bridges through digital technologies. Thus, ITI operates inside a **unique and complex institutional context**. Faculty originates from multiple HE institutions (beyond IST), departments, backgrounds, disciplines, and nationalities. This is simultaneously one of the main strengths and challenges of ITI.

ITI hosts researchers from three main HE institutions: Instituto Superior Técnico (University of Lisbon), Faculty of Fine Arts (University of Lisbon), and University of Madeira (Madeira Island). While most people is based in Lisbon, it is crucial to consider that about 20% of researchers are based in the Madeira Island (circa 20 PhDs). Overall, ITI **operates within a multi-pole, decentralised, and multidisciplinary environment.**

1.3 The Need for a Professional Research Management Unit at ITI

As of 2022, the ITI employed a single administrative professional that was the interface between researchers and host institution. Most project management activities (pre and post award) and interface with funding institutions were performed by researchers.

In the past year, the ITI attracted a record level of funding and project coordination of both European and National entities. As an anecdotal measure of growth, ITI tripled the number of postdoctoral researchers in the past year, from 6 to 18. This rapid influx of funding and highly motivated researchers introduces the need for a professional research management unit that can foster and support multiple projects.

DCitizens provides the opportunity to build such a unit in a timely moment. The team comprises four members: one coordinator, two project managers and one communication manager. It is noteworthy that ITI's management team works in close collaboration with IST-ID, which provides the tools and people to conduct high-level financial monitoring/reporting, hiring, and purchases.

2 Strategic Analysis and Priority Areas

We start this section by outlining the strengths, weaknesses, opportunities, and threats (SWOT analysis) of the RMU. We then identify priority areas, including capacity building, pre-award support, post-award support, interface with researchers and interface with host institution.

2.1 SWOT Analysis

In this section, we conducted a SWOT analysis to our current research management team. We explicitly use the term "research management team" rather than "research management unit" since there is still room to enhance the coordination between team members and other staff at ITI and IST-ID. Thus, the need for this strategic analysis and action plan. Table 1 summarises the identified *Weaknesses* (W) and *Threats* (T), coupled with its *Strengths* (S) and *Opportunities* (O).

Table 1. Weaknesses, Threats, Strengths, and Opportunities of research management team.

	Strengths S	Weaknesses W
I n t e r n a l	<ul style="list-style-type: none"> S1. Highly motivated professionals. S2. Proactive team members. S3. Prior experience in other research institutions and/or projects. S4. Support from ITI governance bodies. S5. Healthy relationships with ITI researchers. 	<ul style="list-style-type: none"> W1. Newly created team. W2. Lack of experience in managing EU projects. W3. No prior experience with IST-ID procedures. W4. Team is split between two geographically distant locations. W5. Funding is secured by a small number of key Faculty.
	Opportunities O	Threats T
E x t e r n a l	<ul style="list-style-type: none"> O1. Momentum created by recent management hirings. O2. Current level of funding opportunities. O3. External relationships of ITI with other excellent research institutions. O4. Training events provided by the EC and partners. 	<ul style="list-style-type: none"> T1. Economic sustainability of maintaining a professional management team. T2. Complex operational institutional context. T3. High workload due to the increasing number of research projects.
	Positive	Negative

2.2 Priority Areas

In this section, we identify the main priority areas for the new research management unit (RMU). The RMU will be responsible for overseeing and managing research-related activities within ITI. The unit will play a vital role in ensuring that research projects are conducted effectively and efficiently. We identify and discuss priority areas (PA) that require special attention to achieve this. Moreover, we relate PAs to the SWOT analysis of Section 2, particularly the identified Weaknesses (W), and Threats (T).

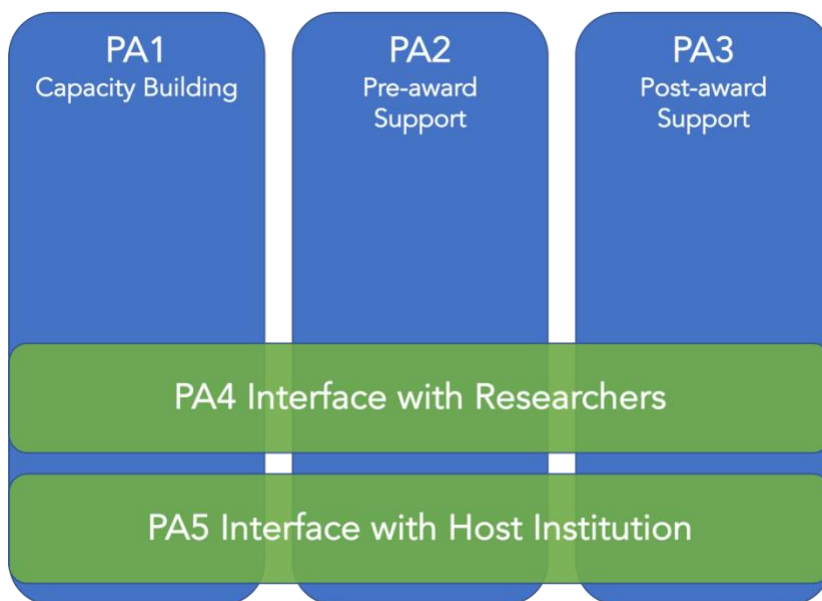


Figure 2. Illustration of vertical PAs (PA1-3) and crosscutting PAs (PA4-5).

PA1 Capacity Building (W1, W2, W5). The RMU needs to prioritise capacity building among researchers and management staff. This includes access to training events, promoting collaboration, and implementing documentation practices. It is critical to foster a continuous learning and improvement culture in ITI. Such culture should be fostered for researchers as well as within the RMU. Finally, as the research management team was newly formed, it is crucial to clearly define roles and responsibilities, and communicate them to the ITI community.

PA2 Pre-award Support (W1, W2, W5, T1). A significant priority for the RMU is supporting researchers in the pre-award stages. This is particularly important for younger Faculty, which may be unaware of funding opportunities and how to successfully prepare a grant application. The RMU should be able to identify and help secure funding opportunities in close cooperation with researchers. Thus, it is key to clearly understand the available funding sources, the eligibility criteria, and application procedures (e.g., digital platforms, budgeting, and required documentation). The RMU should also be familiar with funding agencies' priorities and how the research conducted at ITI aligns with their goals.

PA3 Post-award Support (W1, W2). Effective project management is critical to the success of research projects. The RMU should be able to aid researchers in this task by supporting the preparation of Grant/Consortium Agreements, ensure that projects are completed within the allotted timeframe and budget, and that the project outcomes meet the desired goals and key performance measures. This includes developing project plans, setting timelines, identifying risks, helping in producing management-related deliverables, and monitoring progress. The RMU should be able

to effectively interface with researchers, the host institution’s services, and funding agencies. Choosing and using appropriate management tools and systems is key.

PA4 Interface with Researchers (W1, W4, T3). Interfacing with researchers is a cross-cutting priority area. An effective and efficient communication and collaboration should result in successful projects. The RMU should identify researchers’ needs and priorities and provide the necessary management support. This can be achieved by regularly attending research team meetings and fieldwork, providing training, and establishing and documenting standard practices (e.g., guidebook).

PA5 Interface with Host Institution (W3, T2). Interfacing with the host institution is a cross-cutting priority area. As the RMU is newly formed with little prior experience interfacing with IST-ID, it is critical to understand the host institutions practices, procedures, and information systems. Many administrative tasks related to financial (e.g., budget approval), procurement (e.g., services and equipment acquisitions), and human resources (e.g., hiring) are supported by the host institution. The RMU should develop the necessary skills to leverage such services efficiently.

3 Goals

In this section, we describe specific, measurable, achievable, relevant, and time-bound (SMART) goals. The SMART goals are related to the SWOT analysis and will provide a clear roadmap for the RMU to achieve its mission. Moreover, they will aid the unit to focus on the priority areas that need improvement and ensure the goals are realistic and achievable. The RMU will also be able to track its progress and adjust its strategies if needed.

3.1 PA1 Capacity Building

G1.1 Establish roles and responsibilities within the RMU	
Specific	Defines roles and responsibilities for each member of the RMU.
Measurable	All members of the RMU have a well-defined list of responsibilities.
Achievable	The unit alongside the governance bodies of ITI can establish roles (S1, S2, S4).
Relevant	Well-defined responsibilities are key to effective coordination, particularly in complex institutional context and with a newly formed team (W1, T2).
Time-bound	Within next six months.
Actions to achieve goal: <ul style="list-style-type: none"> - Clearly define the scope and goals of the RMU, including its functions. - Develop an organizational chart that outlines the roles and responsibilities of each member of the RMU. - Establish a documented procedure for decision-making and delegation within the RMU and governance bodies, including the identification of key decision-makers and escalation processes. - Conduct regular meetings with all RMU members to ensure alignment on priorities, progress, and challenges. 	

- Foster a culture of proactivity and accountability, where each member takes responsibility for their actions and deliverables.
- Implement a system for monitoring and reporting on progress against goals.

G1.2 Develop and implement a training program for the RMU

Specific	Define and implement training program for the RMU (including dates and topics).
Measurable	Access to training opportunities.
Achievable	The RMU will use the training program deliverable (D5.2) and leverage ongoing EC training about project management and funding schemes. Moreover, we will leverage existing training programs offered by the host institution and academic partners from other EU projects (S1, S2, O3, O4).
Relevant	Upskilling the RMU's members is crucial due to their lack of expertise in coordinating EU projects (W1, W2, W3).
Time-bound	Within next six months.

Actions to achieve goal:

- Identify training needs by identifying the knowledge, skills, and abilities that are most essential for the team.
- Leverage training program of D5.2 and offers from the Italian Institute of Technology.
- Define and implement a training program based on offerings from the host institution.
- Define and implement a training program based on offerings from strategic academic partners.
- Follow-up and reinforce to ensure team members are implementing strategies learned.

G1.3 Provide training and development opportunities for all researchers

Specific	Provide training and development opportunities.
Measurable	All researchers have access to training and development opportunities.
Achievable	The RMU can identify training needs and provide appropriate resources, leveraging training programs offered by the host institution and academic partners (O3, O4).
Relevant	Training and development promote continuous learning and enhance research quality, particularly for new early-stage researchers (S5, O3).
Time-bound	Within next year

Actions to achieve goal:

- Identify the learning needs of researchers through surveys, interviews, or focus groups.
- Define a yearly training plan based on needs and available resources within the host institution.
- Leverage training program of D3.1 and offers from DCitizens partners and activities (e.g., summer schools, lab retreats).
- Obtain buy-in from senior researchers to conduct short training session.
- Establish a yearly call for summer internships supervised by senior researchers.
- Provide guidance to researchers on project management and grant preparation.

3.2 PA2 Pre-award Support

G2.1 Develop a funding diversification plan	
Specific	Develop and implement a funding diversification plan.
Measurable	A funding diversification plan is in place.
Achievable	The unit can identify new funding sources, write down a plan, and develop partnerships with funding agencies (S1-3, S5, O2, O4).
Relevant	Diversifying funding sources reduces the risk of funding cuts, increases resilience to unsuccessful grant applications, reduces reliance on a single funding scheme, and increases ITI's financial stability (T1).
Time-bound	Within next two years.
Actions to achieve goal: <ul style="list-style-type: none"> - Identify potential funding sources from national and international entities as well as public and private agencies. - Gain a better understanding of research interests and expertise at ITI and match them with funding opportunities. - Develop partnerships with funding agencies by attending networking events, meet program officers and national contact points, and collaborate with other researchers who have been successful in securing funds. 	

G2.2 Develop and implement pre-award procedures	
Specific	Develop and implement a pre-award procedure.
Measurable	All grant applications follow the pre-award procedure.
Achievable	The RMU can identify the necessary steps in the pre-award procedure, assign roles and responsibilities, and help researchers (S1-S3, O1).
Relevant	A pre-award procedure ensures that all grant applications are complete and compliant with the funding call and can guide researchers, particularly younger researchers, throughout the process (W2, W4, W5, T2, T3).
Time-bound	Within the next year
Actions to achieve goal: <ul style="list-style-type: none"> - Identify the steps in the pre-award procedure; different procedures may be needed depending on the funding scheme. - Assign roles for the RMU and research alongside a timeline to ensure all tasks are completed on time. This will help streamline the grant application process and chances of success. - Provide training and support to researchers to help them understand the procedure and requirements of each funding agency. - Develop a checklist of required documents and steps for the RMU and researchers. - Create (if necessary) and use centralised repositories and tools to ensure that all grant applications are tracked, reviewed, submitted, and stored. 	

G2.3 Provide pre-award training	
Specific	Provide pre-award training to all researchers and staff.
Measurable	All researchers and staff have received pre-award training.
Achievable	The RMU can develop and implement pre-award training materials and provide online/in-person training sessions on a yearly basis (S1-S3, S5).
Relevant	Pre-award training promotes effective and efficient grant writing (W5, T2).

Time-bound	Within the next year.
<p>Actions to achieve goal:</p> <ul style="list-style-type: none"> - Develop pre-award training materials that cover the pre-award procedure (G2.2) including documentation requirements, tasks, and timelines. These materials should be designed to be easily understood by researchers and staff with varying levels of experience. - Provide online/in-person training sessions with hands-on activities of preparing a grant application. - Assign mentors to junior researchers to provide guidance and support throughout the pre-award process. The mentors can be senior researchers or staff members who have experience with grant applications and can provide feedback on proposals. - Provide ongoing support to researchers throughout the pre-award process, including answering questions, providing feedback, and reviewing proposals before submission. 	

G2.4 Increase ratio of grant applicants to 90%

Specific	Increase number of grant applicants.
Measurable	Increase ratio of grant applicants to 90% per year, i.e., number of PhD holders who submit grant proposals within ITI
Achievable	The unit can identify potential funding sources and encourage researchers to apply for grants, particularly junior researchers without funded projects (S5, O1, O2).
Relevant	Increased grant applications will increase the chances of securing funding (W5, T1).
Time-bound	Within the next three years
<p>Actions to achieve goal:</p> <ul style="list-style-type: none"> - Identify potential funding sources. - Develop a grant application strategy, including suggesting specific schemes depending on the researcher CV and assigning a dedicated project manager to oversee the application process. - Develop a checklist to guide researchers through the pre-award process. - Offer pre-award training sessions. 	

G2.5 Maintain success of rate of grant applications on 20%

Specific	Maintain the success rate of grant applications.
Measurable	Keep the same success rate on 20%
Achievable	The unit can support young researchers in securing funding, improve writing skills, and streamline the grant application process (S5, O1, O2).
Relevant	Considering the new influx of young PhD holders at ITI, maintaining the same success rate of grant applications will increase overall funding to the institution (W5, T1).
Time-bound	Within the next three years
<p>Actions to achieve goal:</p> <ul style="list-style-type: none"> - Develop a list of potential funding sources. - Identify funding priorities according to ITI vision and bespoke to the researchers' experience. - Develop a pre-award process to streamline grant applications. - Provide training and support to researchers. - Establish a mentorship program that connect young PhD holders with senior researchers. 	

- Assign a dedicated project manager.

3.3 PA3 Post-award Support

G3.1 Establish project management procedures	
Specific	Establish project management procedures.
Measurable	Project management procedures are in place.
Achievable	The unit can identify best practices in project management and develop procedures that are tailored to ITI context (S3, O3, O4).
Relevant	Effective project management is critical to the success of research projects (W2, W3, W4, T1).
Time-bound	Within next year
Actions to achieve goal: <ul style="list-style-type: none"> - Develop standardised processes and procedures for key project management activities such as GAP & CA elaboration, planning, budgeting, data management, communication and dissemination, and monitoring and evaluation. - Develop procedures for each component of project management. - Make procedures clear, concise, and easy to follow. - Define and create (if needed) tools to be used by the RMU to manage research projects. - Establish regular meetings between the RMU to share experiences and evaluate the effectiveness of the procedures and adjust as necessary. - Provide train and clear communication channels with researchers. 	

G3.2 Monitor performance of ongoing EU projects	
Specific	Develop and implement a performance monitoring plan for ongoing EU projects.
Measurable	A performance monitoring plan is in place for all ongoing EU projects.
Achievable	The unit can identify key performance indicators for each project, develop a monitoring plan, and assign a staff member to oversee monitoring (S1, S2, S4)
Relevant	Monitoring project performance ensures that projects are completed effectively and efficiently and enables the unit to identify areas for improvement (T2, T3).
Time-bound	Within next six months
Actions to achieve goal: <ul style="list-style-type: none"> - Assign a project manager to oversee monitoring. - Create procedures and identify KPIs for ongoing EU projects, including budget adherence, timeline adherence, and quality of deliverables. - Regularly review KPI data. - Define (and create, if needed) monitoring tools. 	

3.4 PA4 Interface with Researchers

G4.1 Establish communication channels with researchers	
Specific	Establish communication channels with researchers.
Measurable	RMU presents new management tools, procedures, and reflections in a yearly presentation, and attends in-person monthly social events (ITI Talks).

Achievable	The RMU can develop content for a yearly presentation and schedule the monthly social event (S4, S5).
Relevant	Effective communication with researchers promotes collaboration (T2, T3).
Time-bound	Within the next two years.
<p>Actions to achieve goal:</p> <ul style="list-style-type: none"> - Develop content for the yearly presentation to the ITI community. - Schedule the ITI monthly social event. - Collect feedback from researchers through digital and in-person communication channels. - Adjust content and format as necessary based on feedback received from researchers. - Promote documentation to procedures, tools, and training to make sure researchers are aware of these resources. 	

3.5 PA5 Interface with Host Institution

G5.1 Document admin procedures of host institution	
Specific	Document administrative procedures.
Measurable	Administrative procedures are documented.
Achievable	The unit can identify the administrative procedures of the host institution and document them in a clear and concise manner (S1, S2, O1).
Relevant	Documenting administrative procedures promotes transparency and consistency in ITI's operations. Moreover, it can greatly benefit onboarding new members (W1-4, T2).
Time-bound	Within the 18 months
<p>Actions to achieve goal:</p> <ul style="list-style-type: none"> - Identify administrative procedures. - Outline the procedures to be documented, who will be responsible for documenting them, and how the documentation will be organised and stored. - Create documentation templates. - Review and revise documentation yearly. - Store documentation in a centralised repository. 	

G5.2 Reduce admin workload of Project Managers by 20%	
Specific	Reduce administrative workload of project managers.
Measurable	20% reduction in workload.
Achievable	The RMU can identify ways to streamline administrative tasks and delegate tasks to others (S4).
Relevant	Reducing administrative workload will allow project managers to focus on project management and grant application tasks, improve the effectiveness of research projects, and help secure funds (T3).
Time-bound	Within the next three years
<p>Actions to achieve goal:</p> <ul style="list-style-type: none"> - Identify administrative tasks that are currently being performed by project managers. - Streamline administrative processes by developing templates for common tasks, automating where possible, and eliminating unnecessary steps. 	

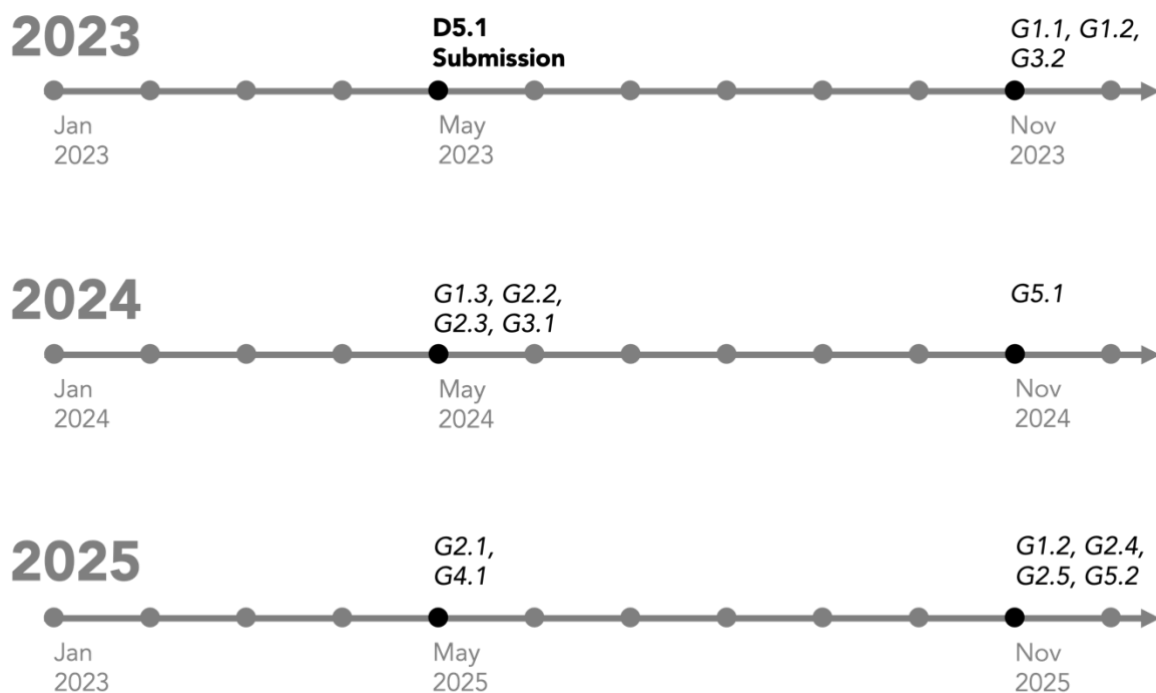
- Hire new administrative staff.
- Delegate tasks to other staff members who have the necessary skills and expertise.
- Provide training and support to staff who are taking administrative tasks. This can be done through access to documentation, workshops, and one-on-one meetings.
- Review and adjust workload regularly to ensure a balanced workload between all project managers.
- Use project management tools to streamline tasks and processes such as project planning and budget monitoring.

4 Action Plan and Monitoring

In this section, we outline the timeline to achieve the SMART goals and describe how we will monitor its progress.

4.1 Action Plan

The figure below illustrates the timeline for all proposed SMART goals.



4.2 Monitoring

Monitoring is a critical component of the RMU Action Plan. Regular assessment of progress towards goals and objectives will allow the RMU to make necessary adjustments to its strategies and ensure that it remains on track to achieve its goals. Below, we present the Key Performance Indicators (KPIs) for evaluating progress for each SMART goal.

Priority Area	SMART Goal	KPIs	Targets			
			Base	Y1	Y2	Y3
PA1	G1.1	Report describing roles and responsibilities of RMU members	-	1	-	-
	G1.2	Training program for RMU	-	1	-	-
	G1.3	Training sessions offered by the RMU	-	1	1	1
PA2	G2.1	Funding diversification plan	-	-	1	-
	G2.2	Documentation of pre-award procedures	-	1	-	-
	G2.3	Pre-award training sessions offered by the RMU	-	1	1	1
	G2.4	Ratio of grant applicants in ITI	60%	60%	75%	90%
	G2.5	Success rate of grant applications	20%	20%	20%	20%
PA3	G3.1	Documentation of project management procedures	-	1	-	-
	G3.2	Tools and procedures in place to monitor EU projects	-	1	-	-
PA4	G4.1	Yearly presentations by the RMU	-	1	1	1
PA5	G5.1	Number of admin procedures documented	-	5	10	-
	G5.2	Administrative workload	80%	70%	60%	50%

The frequency of evaluation and monitoring will depend on the specific goals and the timeline for achieving them. Goals that are short-term and time-sensitive require more frequent evaluation and monitoring than longer-term goals. Thus, we propose two monitoring frequencies: every 3-months for goals within 1 year, and 6-months otherwise.

Monitoring will be conducted by the RMU coordinator, which will be responsible for taking actions for each of the goals and collaborate with the remaining RMU members. The coordinator will report directly to ITI's board in their monthly meeting.

5 Conclusion

In this deliverable, we describe the action plan for the ITI's Research Management Unit. The plan considers the unique institutional context of ITI within the Portuguese education and scientific ecosystem. We conducted a SWOT analysis of the RMU, highlighting the professionalism and expertise of its members while acknowledging the threat of financial sustainability. We propose five priority areas that focus on increasing the management capacity of ITI and secure new research funds, particularly by younger researchers. Finally, we devise 13 SMART goals that should drive our action in the following three years. The RMU coordinator will be responsible for leading this effort, monitoring progress, and report to ITI's governance bodies.

The action plan has been previously discussed with ITI board members. Next steps will focus on integrating this deliverable as part of ITI's strategic plan for the next three years, and ensure that the efforts in DCitizens extend to other research projects in Lisbon.