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RESEARCH & INNOVATION MANAGEMENT LANDSCAPE IN TÜRKIYE

Summary of activities carried in affiliation with the EU Research Management Roadmap Project - RM ROADMAP between March 2023-June 2025

CONTENTS

1. INTRODUCTION

Research management includes a broad range of professionals supporting researchers to achieve excellence in research, from creation to commercial exploitation of outputs. In this context, Research & Innovation Managers (RIMs) have been considered as broad as possible including: research policy advisers, research managers, financial support staff, data stewards, research infrastructure operators, knowledge transfer officers, project development and management professionals, business developers, knowledge brokers, innovation managers, etc.

The European Commission (EC), recognising the growing need for the professionalization of science management at research performing and funding organisations, have initiated a pilot action across Europe, supported by the Horizon Europe Programme, entitled **"Research Management Roadmap Project -RM ROADMAP"** ***(https://www.rmroadmap.eu/).*** The aim is to better understand the current research management landscape and to create framework conditions for Research and Innovation Management, to further improve and strengthen the European Research & Innovation Ecosystem across the entire European Research Area (ERA), in alignment with ERA Action 17.

The Consortium Members of RM ROADMAP *(EARMA, ASTP, Una Europa, Crowdhelix, Hetfa Research Institute, Nova University Lisbon, Janssen (Johnson & Johnson), The Cyprus Institute)* strived to bring together all stakeholders involved in "Research and Innovation Management" across Europe—including institutions and organizations that support researchers throughout the entire research lifecycle (from funding and implementation to management and commercialization of research outputs, including technology transfer professionals)—to develop and implement a comprehensive *Research Management Roadmap* that will shape the future of the field.

An **Ambassadors' Network** has been established involving national or regional community builders and online moderators for wider participation of respective key players across different countries. The 40 country communities established within the RM Roadmap Ambassador Network have been complemented by 10 thematic communities, and approximately 150 national Ambassadors by 2024. This network brought together professionals and stakeholders from different communities and facilitated the coordination of activities fostering a co-creation platform for gathering a wide range of perspectives and practices. The responsibilities of the Ambassadors' Network were to:

- define the framework for research management at both professional and national levels,
- identify and disseminate best national practices,
- organize widespread activities that promote the recognition of RIM competencies,
- publicize EU-level initiatives and foster national participation,
- enhance national capacities through skills development and collaborative learning initiatives.

The co-creation exercises focused on learning insights from RIMs, seeking to establish a robust framework that can support professional growth and collaboration to shape the future of the profession and support the strengthening of an inclusive research management community across Europe.

The expected outcomes were:

- Skills Development - *advancing the training and professional skills of RIM personnel,*
- Recognition - *contributing to the professionalization and acknowledgment of RIM,*
- Networking - *facilitating the exchange of best practices among stakeholders,*
- Capacity Building - *strengthening the capabilities of regions and organizations.*

The outcomes from the co-creation exercises have been consolidated and published at ***https://www.rmroadmap.eu/co-creation-results***:

- 1st Co-Creation session "*Understanding The Landscape: National Networks And Associations*", 36 Country Reports
- 2nd Co-Creation session "*Who are Research Managers/ Skills and Competencies*", 28 Country Reports and 4 Thematic Group Reports.
- 3rd Co-Creation session "*Career Development Framework"* 28 Country Reports and 6 Thematic Group Reports.

These documents will provide the basis of a roadmap for the future of Research and Innovation Management in Europe and to build and exchange solid knowledge on career framework opportunities, upskilling and networking for research managers, ultimately building a value proposition for policy makers and institutional leaders who want to strengthen and modernise their research support departments.

This current report summarises the activities carried out in the **Country Community of Türkiye** throughout the the co-creation sessions during the two-year period between March 2023-June 2025.

2. METHODOLOGY OF THE CO-CREATION SESSIONS IN TÜRKIYE

The Turkish Research Management Ambassadors have adopted a holistic approach prioritising inclusivity for all stakeholders of the Research and Innovation Management ecosystem in Türkiye. Therefore, the coordination and facilitation were carried out by USIMP- University-Industry Collaboration Centres Platform of Türkiye, which is an internationally recognised NGO of the Turkish R&D&I ecosystem with over 140 institutional members, *(universities, tech-transfer offices, Chambers of Industry, Exporters Unions, NGOs etc.)* from different regions of Turkiye, focusing on University-Industry Collaboration for Knowledge Exchange and Technology Transfer.

a) As part of the the launching and first Country Report, an action plan was agreed upon with the involvement of over 60 professionals from various sectors, including universities, technoparks, and industrial R&D centers and a specially tailored questionnaire was carried out to further engage the community, resulting in the selection of 16 regional RIM representatives. These regional representatives attended the workshops organised at EU level as well as contributed to the dissemination of national activities. Two of these Regional Representatives (Dr. Dilek Betes and Prof. Dr. Gokmen Zararsız) have also been appointed as Thematic Ambassadors of the EU RM ROADMAP project by the Project Consortium.

Subsequently, a hybrid workshop held on October 12th 2023, gathered around 130 professionals to address key questions focusing on identifying organizations contributing to RM processes, the necessary skills for RM, institutions providing RM training programs, and evaluating the strengths and weaknesses of Türkiye's RM ecosystem. The workshop included input from the Scientific and Technological Research Council of Türkiye (TÜBİTAK). The resulting report was circulated widely within the national ecosystem for feedback and consensus as part of the first Co-Creation Country Report, ***"Understanding the landscape: National Networks and Associations".*** Additionally, insights were collected on the current RIM landscape in Türkiye, including existing support structures, competency needs, training providers, and systemic strengths and gaps.

b) As part of the second Country Report *"Who are research managers? / What are their skills and competencies?"* , one on-line meeting was held on January 30, 2024, with 60 + participants. It was agreed to classify RIMs based on their fields of activity, irrespective of their age or experience, as:

- **Bounded RIMs** working within well-defined parameters, performing operational, administrative, and organizational tasks. Their responsibilities are confined by job descriptions and departmental functions.
- **Cross-Boundary RIMs** operating across boundaries, supporting institutional leaders in strategy formation and facilitating collaboration between various departments or organizational units within higher education institutions. They focus on integrating diverse perspectives and expertise to achieve common objectives.
- **Unbounded RIMs** having open-ended tasks, enabling them to act with innovation and creativity in uncertain and risky environments. They have more flexibility and autonomy, working across multiple departments and disciplines to achieve organizational goals.

A survey was shared with those who attended the meeting, asking their choice of preferences for contributing to Focus Group studies based on their responsibilities and previous experiences. Additionally, a "TR RIM Core Group" of 10 key players was established consisting of the most senior leaders and the RIM Ambassadors to participate in all focus group studies to facilitate the discussions. The groups discussed and defined the required "Knowledge/Awareness, Skills and Competencies/Expertise" for their respective groups:

- FOCUS GROUP1: **Bounded RIMs** - *March 1, 2024*
- FOCUS GROUP 2: **Cross-Boundary RIMs** -*March 6, 2024,*
- FOCUS GROUP 3: **Unbounded RIMs** - *March 20, 2024,*

Consequently, the **knowledge**, **skills**, and **competencies/expertise** necessary for each group were identified highlighting overlaps among the groups. The draft Report was shared for further feedback and amendments with both the focus groups and the TR RIM Core Group and was finalised

c) As part of the third Country Report *"Career Development Framework"* one on-line (November 20, 2024) and two hybrid meetings *(December 9, 2024 and January 10, 2025)* were organised with participation of approximately 150 representatives from academia, industry, and research support organisations. These sessions aimed to strengthen collaboration among national research and innovation managers and address key questions on the role of RIMs in R&D, the need for structured career development frameworks and relevant policy considerations. The discussions also including integrating research and innovation management into institutional culture, promoting effective use of resources, and enhancing collaboration across departments,were consolidated into a draft report and shared with a wide range of participants from academia and industry for feedbacks and consensus.

d) In addition, 8 different single-question surveys which involved a total of 500+ respondent, have been disseminated across social media in 4 months, trying to keep interest alive as well as involve additional participation and create further awareness.

e) Furthermore, the Turkish Community participated in all the horizontal EU level activities such as:

- The First RM Ambassadors Meeting" Budapest - *May 9, 2023*
- The Second RM Ambassadors Meeting" Lisbon- *March 13-14, 2024*
- EARMA On-line Trainings – *September 18, 21, 25 2023*
- Policy Makers Workshop- *February 14, 2024*
- RM ROADMAP Surveys – *November 2023, July 2024*
- RM RoadMap Workshop "Research Management and its Roadmap Towards Professionalization", June 12, 2025 *(Invited Panelist)*
- "RM Ambassadors Final Event " Brussels – June 24-25, 2025

All meetings attracted strong engagement from stakeholders throughout the period and more than 300 professionals at different professionel levels participated physically or online in 20 different national and nine different international meetings. These interactions contributed to developing a unified vision for Research and Innovation Management in Türkiye.

3. THE TURKISH COMMUNITY PERSPECTIVE

3.1 A brief overview of the Turkish landscape

In response to complex global challenges—such as pandemics, climate change, geopolitical instability, and economic crises;Türkiye is adopting a sustainable, resilient, and inclusive approach to policy-making in research and innovation management. Recognizing that these issues are deeply interconnected, the country emphasizes interdisciplinary collaboration and long-term, impact-oriented strategies.

At the heart of Türkiye's innovation system lies the Quadruple Helix Model, integrating universities, industry, public institutions, and society. This collaborative model underpins a

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national shift toward co-creation and co-learning, moving away from siloed structures. Universities play a pivotal role in shaping the ecosystem, with the management of R&D processes now carrying greater significance than the processes themselves.

In the last decade, the Universities have also been gradually abandoning their practices of working in "silos" and adopting "co-creation / co-learning" approaches. Thus effective research management is increasingly viewed as essential to achieving high-quality research outcomes and translating scientific advances into societal benefits.

TUBITAK has a key role in facilitating this transformation by guiding research strategies and supporting institutional change, by emphasizing:

- Holistic and strategic governance of R&D&I activities aimed at societal impact.
- Stronger focus on impact-driven, cross-disciplinary, and high-risk/high-gain research.
- Development of collaborative platforms between academia, industry, and public institutions.
- Emphasis on digital skills, researcher mobility, and open science principles.
- Internationalization and integration into global research networks.

These principles are also the key elements of Türkiye's evolving research management ecosystem. TUBITAK's role is structured around a "Plan-Do-Evaluate-Take Action" cycle, involving:

- Strategic policy and program development.
- Encouraging smart specialization and pioneering research.
- Evidence-based evaluation through tools like the Field-Based Competency Analysis and Entrepreneurial University Index.
- Continual adaptation to evolving needs in research and innovation management.

On the hand the awareness of the concept of research and innovation management amongst the ecosystem stakeholders is relatively good. In the single-question social media surveys involving nearly 500+ respondents,. 81% of the respondants knew what Research Management isand 100% agreed that it affects the quality of research. 97% of the respondants declared that it is aservice need in their institution / company and 96% thought that research and innovation management is also a critical role in industrial companies and that it is important for the performance of industrial research centers. However, only 58% stated that research and innovation management processes are defined in their Universities and 78% thought that Research Managers should be included in decision makimüng processes. In addition, 82% stated that RM is a career option for an individiual with a scientific/technological background.

The Research and Innovation Management Roadmap studies need to emphasize alignment with national priorities, leveraging resources effectively, and fostering governance mechanisms that support innovation ecosystems.

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3.2 Major Key-Players in the Turkish landscape

The organizations / Institutions are supporting and/or contributing to the Research & Innovation Management processes in Türkiye can be catagorised under five main groups:

State Offices:

- TUBITAK: The Scientific and Technological Research Council of Türkiye
- YOK: Council of Higher Education
- Ministries: Ministry of Industry and Technology, Ministry of National Education, Ministry of Agriculture and Forestry, Under secretariat for Defence Industries, Ministry of Foreign Affairs Directorate for EU Affairs,
- KOSGEB: Small and Medium Enterprises Development Organisation
- Turkish National Agency (administering EU Structural Funds)
- TPE: Turkish Patent and Trademark Office
- State-Funded Research Institutes

Regional Authorities:

- Governorships
- Regional Development Agencies

Academia-affiliated Institutions:

- Technology Transfer Offices
- University Research Management Units,
- University Research And Application Centers,
- Research Infrastructures
- Technoparks, Technology Development Zones
- Incubation Centres

Industrial Units

- Chambers of Commerce and Industry
- Organised Industrial Zones
- Industrial R&D Centres
- Regional Technology Centers (TEKMER)

NGO's

- USIMP - University-Industry Cooperation Centres Platform of Turkey
- ARGEMİP – Association of Industrial R&D Centres

3.3Strengths and Weaknesses of the Turkish Research and Innovation Management Landscape

Within the context of this perspective the respective strengths and weaknesses of the Turkish Research and Innovation Management ecosystem is summarised below:

Strengths

- Competent and dedicated human resources within many institutions,
- Strong resilience and adaptability of institutions and individuals coupled with exceptional abilities to swiftly implement mitigation strategies in response to changing circumstances,
- Nodes of high-quality expertise in isolated centres of excellence throughout the country,
- Diversified R&D&I support funds and incentives,
- Intrinsic knowledge and expertise derived from the existing but limited proficiency in research and innovation Management,
- The existence and implementation of institutional performance measurement systems at the national level.

Weaknesses

- Insufficient coordination among ecosystem partners both at the national and institutional level,
- Ambiguity in defining research and innovation management parameters,
- Limited budgetary allocation for research and innovation management,
- High turnover of research and innovation management personnel,
- Insufficient availability of qualified experts in research and innovation management,
- Immature collaborative culture within the ecosystem,
- Limited experience in managing IPR,
- Discrepancies between requirements and corresponding legislation,
- Need for enhanced data quality and sustainable tracking system (e.g. alumni network tracking for collaboration development),
- Improvements in the assessment of institutional performance data at the national level,
- Lack of awareness and limited expertise in valuation of research outputs.

3.4 Definition of Research and Innovation Managers in Türkiye

Research management includes a broad range of professionals supporting researchers to achieve excellence in research, from creation to commercial exploitation of outputs. Although, for simplicity, the term research management is being used, the concept covers also other terms such as research support, research and innovation management and administration and

professionals at the interface of science. This approach is already gaining prominence in Türkiye and aligns well with EU frameworks like Horizon Europe, reflecting shared priorities in innovation and research excellence, leading to societal welfare.

The co-creation activities at national level resulted in a consensus that despite varied preferences, the term **"Research and Innovation Manager - RIM"** is the most suitable umbrella term. This title is seen as encompassing the full spectrum of research-related roles, from research strategy, project development, R&D funding, project implementation, knowledge-technology transfer to commercialization *(Fig. 1).*

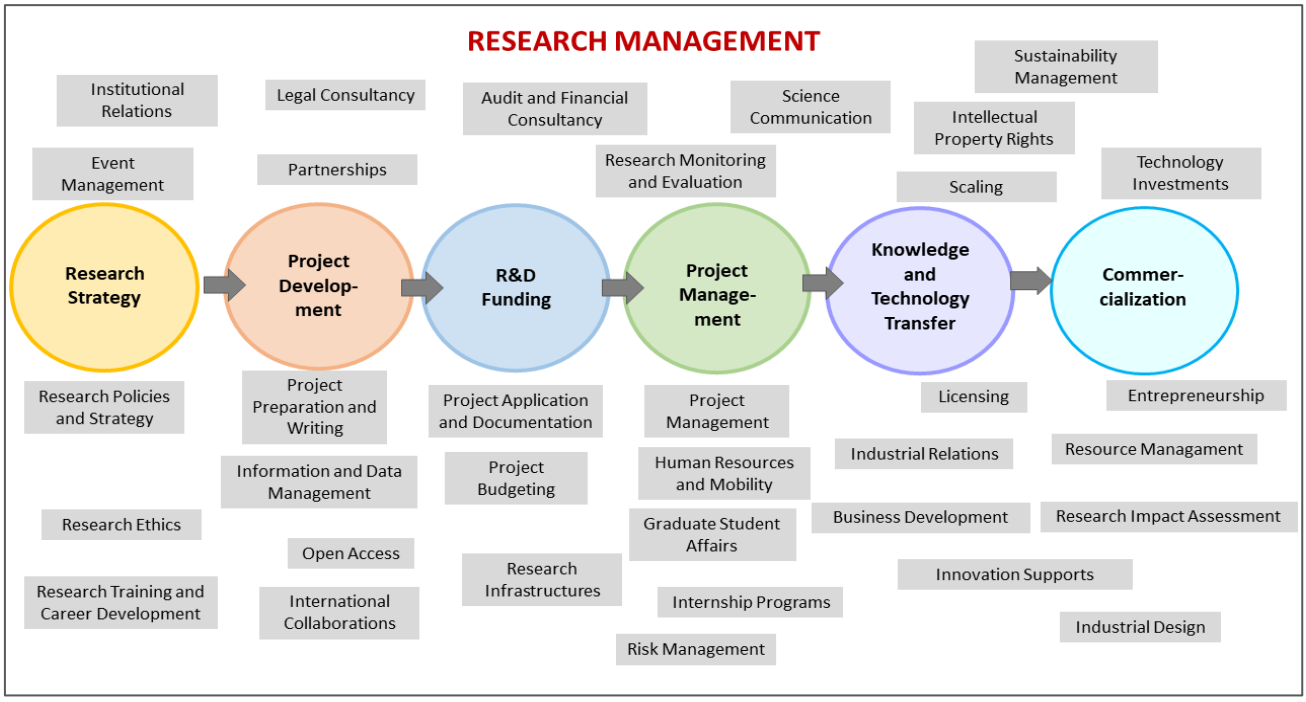

Figure 1: The domain of Research Management in the holistic approach

In this holistic approach, a synergistic collaboration of RIMs including sub-professional groups such as institutional relationships, research policy advisers, partnerships, legal consultancy, technology investments, licensing, resource management, business development, innovation support, project management, project budgeting, research ethics, open access, international relations, risk management, financial support staff, data stewards, research infrastructure operators, knowledge transfer officers, project development and management professionals, business developers, knowledge brokers, innovation managers, etc. are expected to create a multiplier effect throughout the ecosystems.

In Türkiye, the term "Research and Innovation Manager" is increasingly prevalent, especially within organizations, institutions, and companies prioritizing research and development (R&D)

and innovation-driven strategies. This reflects Türkiye's growing emphasis on fostering innovation to drive economic growth, enhance competitiveness, and tackle societal challenges. Consequently, various sectors acknowledge the importance of dedicated roles for overseeing research and innovation activities.

3.5 Required Skills and Capabilities for Research and Innovation Managers in Türkiye

National and Regional differences significantly influence research management practices. Economic and institutional variability shapes the competencies needed, emphasizing adaptability, problem-solving, and collaboration. Although the RIM ecosystem in Türkiye is well-established, without significant national specificities, Türkiye's dynamic environment particularly highlights the importance of resilience and innovation among RIMs.

RIM professionals are defined as hybrid experts positioned at the interface of science and professional practice, operating across disciplines and sectors, blending academic and administrative expertise. They serve as vital connectors within the research and innovation ecosystem and contribute to different phases throughout the entire research lifecycle. Thus, the hybridity in RIM roles demands a wide range of skills and competencies, particularly during transitions in roles and career pathways. To efficiently tackle with this diversity, RIMs were classified in three different categories based on their fields of activity, irrespective of their age or experience, as:

- **Bounded Managers** who are are focused on providing essential services such as support, management, organization, and administration within defined boundaries. They operate within specific functions or organizational locations, either created by themselves or imposed upon them, and typically adhere to established rules and resources. Their roles are often prescribed, and they work to maintain clearly defined boundaries.
- **Cross-Boundary Professionals** who are involved in strategic decision-making and advising institutional leaders. They use their understanding of multiple organizational domains to create strategic advantages and build institutional capacity. Their roles require negotiation and political skills, as they work across internal and external networks, influencing stakeholders and contributing to institutional decision-making. They tend to view their future within the sector.
- **Unbounded Professionals** who take more flexible, open-ended approach, embracing innovation, creativity, and risk. They contribute to institutional development by engaging in dynamic, broad-based projects that often involve external experience and networks. Their approach is adaptable, and they are likely to pursue long-term careers within the higher education sector.

This categorization provided a clearer understanding of the evolving roles in RM, emphasizing the need for adaptability, collaboration, and interdisciplinary approaches to address complex challenges and opportunities in the field. RIMs generally have experience in a variety of sectors and roles in careers; facilitating their sense of 'fitting in' any professional community. They work with and for science and have diverse positions without being specialised in one major area and they have mixed credentials, career choices, and backgrounds. RIMs leverage a

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variety of mixed credentials when performing their professional-oriented roles so to make their hybridity visible in their performance of the role. The hybridity is therefore in the self as it is in the role itself, requiring a wide range of skill sets.

Subsequently, a comprehensive analysis was conducted to identify the key knowledge, skills and competencies required for each group and three key domains were identified as shown in *Figure 2-4*:

- **Knowledge /Awareness** of global, legal, ethical, and sustainability issues,
- **Skills** like adaptability, leadership, communication, negotiation, and collaboration,
- **Competencies / Expertise** including legal knowledge, IP management, digital literacy project execution, commercialization, and risk mitigation.

The competencies and skills required currently at the institutional level as well as the potential future skills and competencies were discussed with an emphasis on sustainability, environment, equality, diversity, and participation awareness.

In Türkiye, where notable diversities exist in research landscapes, spanning disciplines, sectors, and institutional settings, RIM practices can vary widely across different institutions, including universities, research institutes, government agencies, and industry organizations. These institutional differences, encompassing organizational culture, governance structures, and research priorities, shape the required skills and competencies of research and innovation managers. Furthermore, these differences show how critical RIMs and their competencies are to facilitate collaborations between different organizations. Particularly under economic instabilities, different challenges and threats within the research and innovation environment compel RIMs to innovate and find novel solutions. These dynamic ecosystems foster the development of essential problem-solving skills, prompting individuals to think critically, assess situations, and devise effective strategies to surmount obstacles, nurturing adaptability and resilience, equipping RIMs with the capacity to navigate uncertainty, cope with stress, and persevere in adverse circumstances. Adapting to these contextual differences was identified as essential for RIMs to effectively navigate the complexities of the research landscape and drive meaningful outcomes in their respective regions.

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Figure 2. Knowledge / Awareness headings for Research & Innovation Managers in three categories

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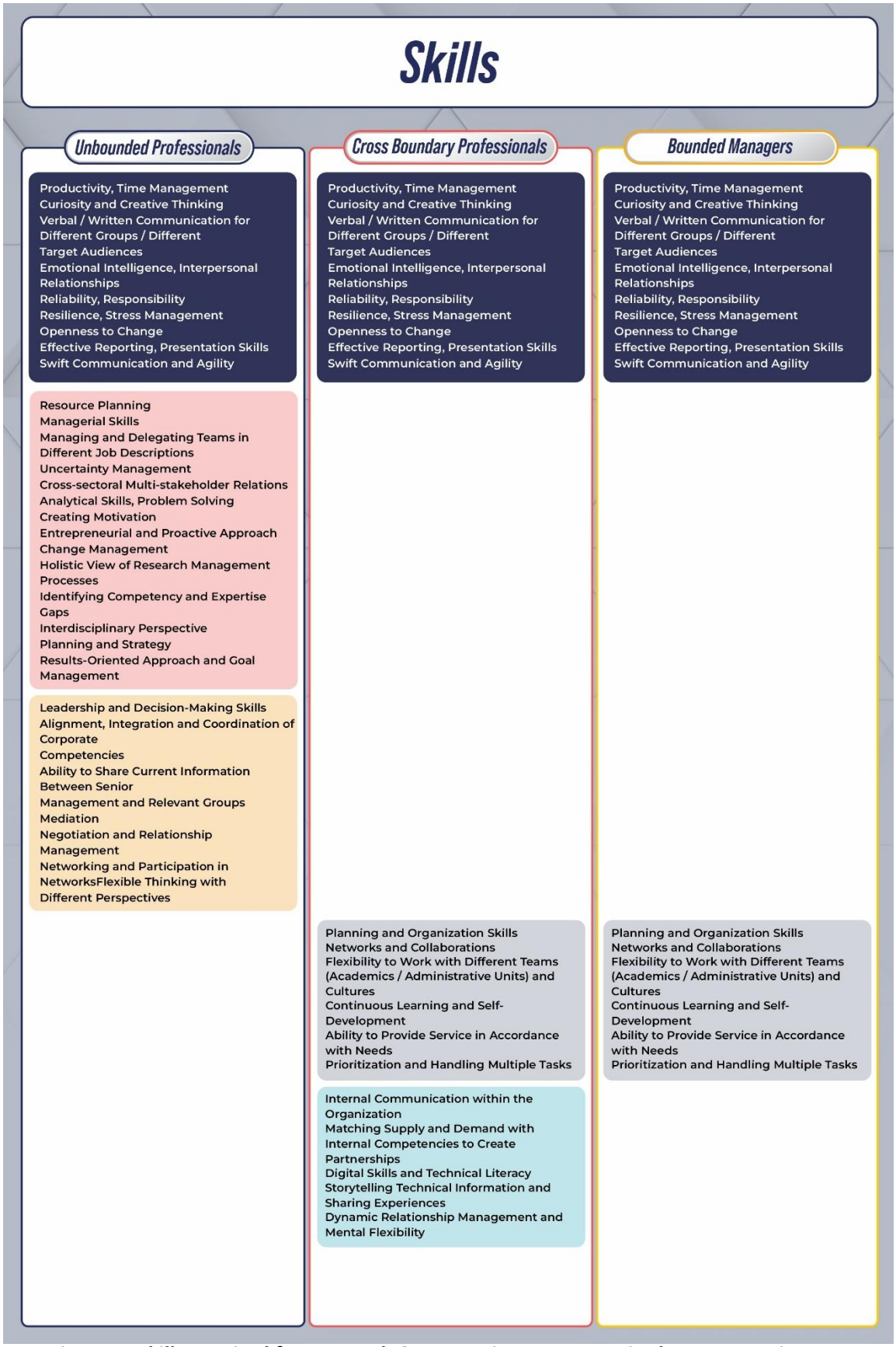

Figure 3. Skills required for Research & Innovation Managers in three categories

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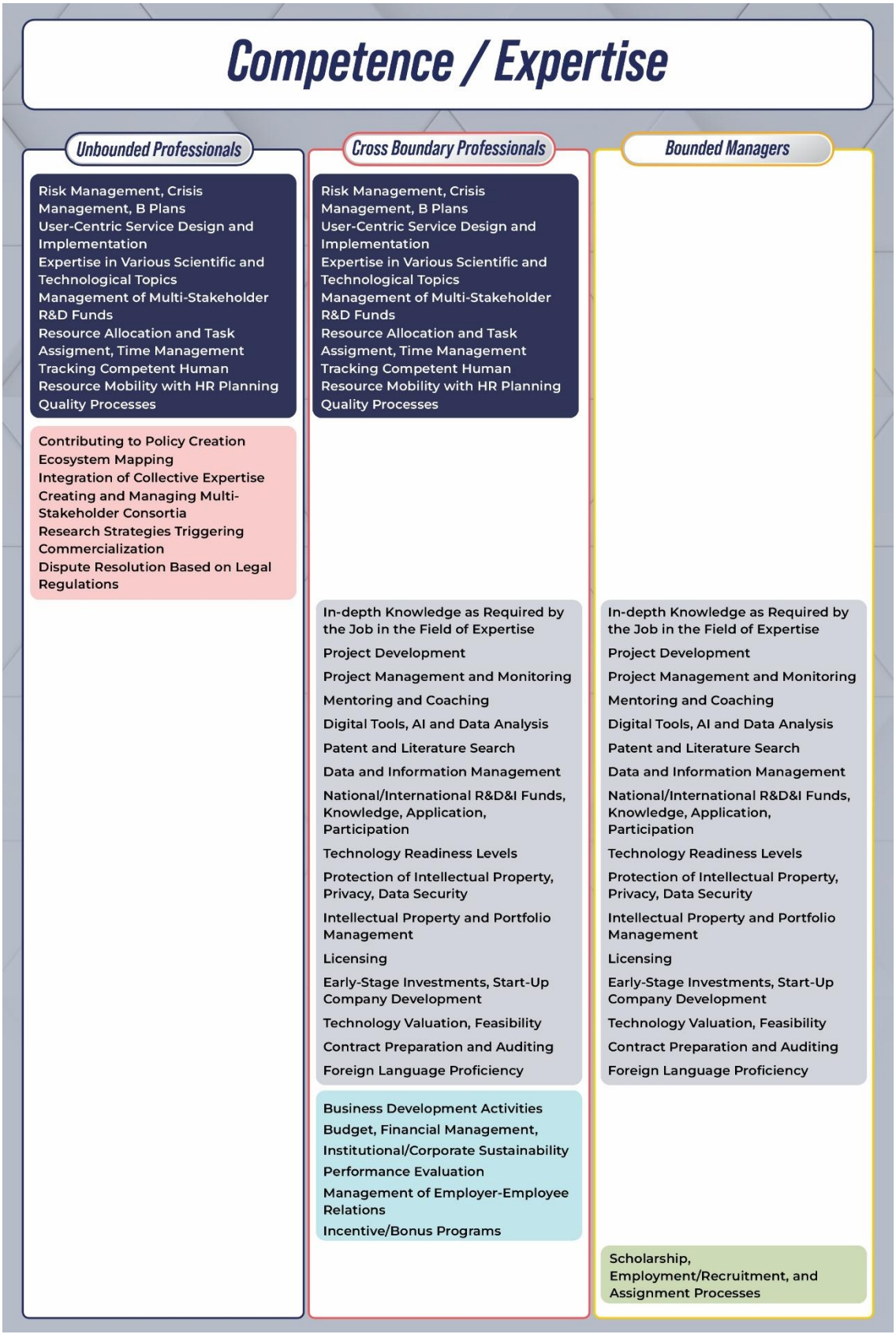

Figure 4. Competencies / Expertise headings for Research & Innovation Managers in three categories

3.6 Training Needs for Research and Innovation Managers

In co-creation activities targeting training schemes for RIMs, two EU-level training schemes; those offering individual grants for mobility and skills training without institutional obligations, and those supporting institutional-level collaboration for staff exchanges and training, requiring strong organizational commitment, were discussed for their pros and cons. The consensus was the simultaneous implementation of both initiatives; individual and institutional, in order to maximize the impact of professional development of RIMs.

Since **Individual Supports** will increase personal competencies and motivation while **Institutional Supports** will ensure operational sustainability and overall strategic alignment, the combination of the two approaches will create a win-win model. However there is a need demonstrate the advantages of respective Training Schemes so that institutional ecosystems are improved to support RIM and individuals are encouraged to develop their competencies within this framework.

Individual Schemes:

- The Programmes should be targeting all career stages from beginners to experienced RMs working at research institutions as well as at industrial research centers. A lot of emphasis was put on the need for directors with appropriate Research Management skill sets in industrial research centers.
- Different types of trainings will be necessary for different levels of experience. Therefore tailor-made training programmes and reverse shadowing were mentioned particularly for exchange programmes.
- The scope of international programs such as COST, Erasmus, Marie Curie, Widera, Twinning should be expanded to include the research managers to provide opportunities for expand their skills. Similar equivalent programmes should be developed at national level to enable the rotation of individuals and participation in these international networks. Individuals should be provided with a guarantee to return to their initial jobs in their institutions.
- Training and certification programmes for strengthening the technical knowledge and professional skills of research managers designed should be recognised both at national and international platforms such as RTTP (Registered Technology Transfer Professional) and PMP (Project Management Professional).
- The trainings should include local ecosystem experiences as well as global best practices and the contents should be supported by national and international best practices.
- The training programmes should be offered in modular packages leading to final certification through micro-credentials to facilitate the continuous education of existing personnel engaged in research and innovation management
- Trainings should also target the development of "Soft Skills" of competencies such as leadership, negotiation, empathy and problem solving will increase the effectiveness of research and innovation managers within the team.

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- Research and innovation manager certification programs can be offered through digital training platforms, with AI-supported tools to facilitate the processes. Chatbots and information sharing platforms that support the research and innovation management processes will contribute to both individual and institutional development.
- In-house reward and recognition mechanisms for research and innovation managers should be implemented. The individual schemes targeting RIMs should also include financial incentive mechanisms such as support for participation in international events, and short-term overseas assignments as well as recognition of successful professionals at national and international platforms in the form of Awards and honorary titles (such as "Research Manager of the Year" and "Research Ambassador")
- A performance-based competitive environment can be implemented to encourage the research and innovation management teams to improve their capacities based on the performance criteria to be determined. There should special incentives for currently-employed research and innovation managers who complete trainings.
- Modular monitoring tools can be designed to measure the development of individuals upon participation to capacity building programmes and individuals completing certified training programs can receive additional points in institutional evaluation processes, enabling individual achievements and efforts to be recognised through performance-oriented feedback mechanisms.
- There are a number of employees working in positions as research managers at industrial R&D centers, public research centers, advanced research infrastructures, Technoparks and research hospitals who can benefit from the programs that provide research manager employment. The roles dedicated to research management in these non-university positions should be defined and individual training programmes should also target research managers working at alternative institutions.

Institutional Schemes:

- Universities and industrial organizations should adopt formal policies governing research and innovation management processes An institutional system where the knowledge gained at the individual level can be transferred within the organization should be established with an "institutional vision" so as not to be affected by changes in managers.
- Inclusion of research and innovation management in the vision and mandates should not be based on individual institutional preferences. The institutional commitment should be verified by an official nstitutional document such as a "***Research and Innovation Management Policy***" and those institutions who possess these mechanisms should be encouraged through different incentives.
- Institutions who have adopted an organisational structuring where research and innovation management is officially included, should get extra points in project funding evaluations in national and international funding applications.

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- Institutions that employ personnel who have received specific training / microcredentials etc. to support the research and innovation management processes should be eligible for extra points in project evaluation processes.
- Budgets for research and innovation management should be defined as a direct cost item in the individual projects granted to institutions and renumeration should be provided to the institution as well as to the team responsible for research and innovation management through this budgetary item.
- Within the scope of many Horizon Europe programs (MSCA-Co-fund-Network-Doctoral; Widening-Teaming-Twinning-ERA Chair) equipping the students / personnel / researchers with "transferable skills" is a deliverable. Organization of joint modular trainings across projects to improve the research and innovation management skills of individuals and institutions will be a cost-benefit activity for both, the funding organisations as well as the beneficiary organisations and will also direct the attention to the signifance of research and innovation management skill sets.
- A wide-spread need for RIMs at industrial companies have been repeatedly expressed. Therefore in addition to universities, dedicated training programmes targeting high-level research and innovation professionals in industrial R&D centers, should also be considered.

3.7 A Career Path for Research and Innovation Managers

The title of Research Manager is a new concept and the specific definition of research and innovation professional is still not sufficiently clear and is mostly categorized as administrative staff in Turkiye. However, Türkiye has **globally pioneered** in the official definition of TTO professional and the concept of research and innovation management is implicitly emphasized in this. The "*Technology Transfer Specialist Occupational Standard Definition"* approved by National Vocational Qualifications Authority (VQA) in 2018 at the national level overlaps to some extent with the definition of research and innovation professional (*Fig. 1*).

According to this official definition, a "*Technology Transfer Specialist (Level 6) is a qualified person who develops technology and innovation-oriented collaborations between institutions / organizations and / or disciplines / sectors; enables researchers and entrepreneurs to benefit from support mechanisms; conducts commercialization activities of the technology portfolio and provides support to entrepreneurs regarding incorporation and entrepreneurship. He/she carries out his/her work within the framework of occupational health and safety, environmental protection, organizational procedures, legal legislation and quality requirements; provides the establishment and update management of information systems related to technology transfer processes; carries out studies for the promotion and awareness of technology transfer services and professional development."*

Currently there are a number of organisations / institutions providing various training programmes to support RIMs in Türkiye:

State-Funded Structures

- TUBITAK - Scientific and Technological Research Council of Türkiye
- TUBITAK TÜSSİDE- Turkish Management Sciences Institute

NGO's:

- USIMP: University-Industry Collaboration Centres Platform of Türkiye (including international recegnition through RTTP Courses)
- TTGV - Technology Development Foundation of Türkiye
- ARGEMİP: R&D Centres Communication and Cooperation Platform
- PMI: Project Management Institute

Universities:

- Continuing Education Centres,
- Technology Transfer Offices,
- Specialised Centres within Universities (ie.: METU TEKPOL- Science and Technology Policy Studies R&D Center; Hacettepe University Institution of Population Studies)
- Technoparks

Thus the existing 'Training Curricula' can be extended and diversified with new modules in accordance with the needs of research and innovation managers at different levels to standardize and activate research and innovation management processes throughout Turkiye. Later these can be aligned with an internationally recognized competency /certification system to increase the professional visibility of research and innovation managers and to define them as an integral part of research teams rather than routine administrative staff.

3.8 Recommendations for a Favourable Environment Fostering Research and Innovation Management

There are a number of actions that need to be taken, regulations and incentives that need to be established to define a clear career path to research performing organisations and facilitate the employment of RIMs. These can only be realised by improving the perception through increased awareness of the impact and scope of RIMs to the quality of science & technology nationwide

- A defined and publicly shared "***Institutional Research and Innovation Management Policy***" should be made mandatory for access to research funding, similar to "Gender Policy" or "IPR Policy" documents and institutional strategic plans should include strategic goals that emphasize and promote the importance of research and innovation management.

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- The perceptions, the needs and expectations of internal and external stakeholders receiving services from RIMs should be identified and the contributions should be clarified within institutions and presented to senior management. Involvement of senior management and support of policy makers should be secured through wide-spread awareness campaigns to promote the role and contributions of RIMs to a wider audience.
- The framework for research and innovation management and the value of its professionals should be well communicated to external stakeholders and supporting legislation should be structured accordingly.
- Higher Education Council (YÖK) and Higher Education Quality Board (YÖKAK) evaluation criteria should include clauses for the existence of research and innovation management procedures in universities to raise awareness at university management level.
- Elective courses based on research and innovation management can be included at undergraduate/graduate levels in universities, to create an early awareness for future research and innovation professionals.
- Tax exemptions provided for R&D personnel under Laws 5746 and 4691 can be extended to include RIMs to incentivize the employment of skilled research and innovation professionals and contribute to the recognition of their value proposition
- The relevant administrative units of universities (eg.: Research Deanship, Research Coordination Office, and Research Directorship) should be gathered under an umbrella of a central coordinating body reporting directly to the Rector. This **"Research and Innovation Management Office"** should be recognized by the Council of Higher Education to internalize and standardise research and innovation management in academia, to transform it from a routine administrative position into a function that academia will respect and include in the project team. This office should also initiate "digitalization in research and innovation management processes".
- A separate set of support programmes targeting research and innovation professionals can be designed and implemented similar to existing programmes for capacity building of human resources (eg. TÜBİTAK 1601 program for institutional capacity building in innovation and entrepreneurship, TÜBİTAK Researcher Support Programmes- BIDEB) or for the preparation of a "Research and Innovation Management Policy" (similar to TÜBİTAK 1000 University R&D Strategy Preparation Support Programme-).
- The perspective and need of corporate companies for research and innovation management should be taken into consideration and a special support programme "Research and Innovation Manager in Private Sector" should be designed. Additionally, legislation should be shaped to enable the employment of certified research and innovation professionals in Industrial R&D Centers subject to Law No. 5746.
- Research and innovation management" should be added as a separate work package (not as an overhead) to high-budget, platform-based multidisciplinary projects with a large number of partners (eg. Programmes like TÜBİTAK -1004 Programme and R&D and SAYEM Programme -Innovation Networks for Industry) in order to conduct the RIM processes in a more holistic and coordinated manner.

All meetings attracted strong engagement from stakeholders throughout the period and the interactions contributed to developing a unified vision for Research and Innovation Management in Türkiye.

4. CONCLUSIONS

The Turkish Research Management Ambassadors have adopted a holistic approach prioritising inclusivity for all stakeholders of the Research and Innovation Management ecosystem in Türkiye. The coordination and facilitation of activities were carried out by USIMP- University-Industry Collaboration Centres Platform of Türkiye, which is an internationally recognised NGO of the Turkish R&D&I ecosystem. It has over 140 institutional members from different regions of Turkiye. Therefore we were able to mobilise and ensure active participation of over 300 professionals at different levels for our co-creation activities.

Twenty meetings were organised nationally, and we hve participated in nine meetings internationally. In addition, we have disseminated 8 different single-question surveys across social media in 4 months, trying to keep interest alive as well as involve additional participation and create further awareness. The social surveys involved nearly 500+ respondents, where all respondents stated that RM affects the quality of research. Over 95% expressed that Is RM is a service needed in their organisations and RM a critical role in industrial companies as well as research institutions but only 58% stated that RM processes are defined in their organisations. Over 80% believed that RM a career option for an individiual with a scientific/technological background.

A more holistic approach has been adopted, since the term "Research and Innovation Manager" is more prevalent, especially within organizations, prioritizing innovation-driven strategies, reflecting the country's growing emphasis on fostering innovation to drive economic growth, enhance competitiveness, and tackle societal challenges.

Throughout the nation-wide activities ten policy recommendations have been identified for improving the Research and Innovation Management ecosystem, in the form of actions that need to be taken, regulations and incentives that need to be established.

One of these is the compulsory requirement for a defined and publicly shared "*Institutional Research and Innovation Management Policy*", for access to research funding, similar to "Gender Policy" or "IPR Policy" documents.

With respect to training schemes, an agreement was reached on Individual Supports increasing personal competencies and motivation while Institutional Supports ensuring operational sustainability and overall strategic alignment, and that the combination of the two approaches will create a win-win model. So, the consensus was the simultaneous implementation of both initiatives; individual and institutional, in order to maximize impact. Overall, there were twenty recommendation headings.

In short, research and innovation management is recognized as a strategic function; there is a will to improve its professionalization through existing and additional frameworks. So, the project already has had an impact in Türkiye's Research and innovation management

ecosystem and we believe that the impetus crated will continue with a snowball effect by initiating a systemic change and enhancing coordination and collaboration supporting individuals and organisations. To accomplish this, the Turkish community will be leveraging EU-level guidance, utilising the tools and frameworks emerging from related initiatives, at the levels of research performing organisations as well as funders and policy makers.

5. REFERENCES

- EU RM ROADMAP Co-Creation Reports (***https://www.rmroadmap.eu/co-creation-results***)
- 12th National Development Plan, Presidency of The Republic of Turkiye *(https://www.sbb.gov.tr/kalkinma-planlari/)*
- Presentation of TUBITAK President , Prof. Hasan Mandal *(Oct 12, 2023, RM RoadMAp Workshop, METU, ANKARA)*
- Meeting Notes of all meetings listed in the methodology as well as subsequent individual communications:

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- Representatives of TUBITAK, The Scientific and Technological Research Council of Türkiye
- Executive Board and Experts of USIMP, University-Industry Collaboration Centres Platform of Turkey
- Representatives of Industry

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Ambassadors

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