

RE-EURECA-PRO The Research and Innovation Dimension of the European University on Responsible

Consumption and Production

Participants: Montanuniversität Leoben, Mittweida University of Applied

Sciences, Technische Universität Bergakademie Freiberg, University of León, University of Petrosani, Silesian University of

Technology, Technical University of Crete

WP3: New European Research Area – Interdisciplinary European

Research Collaboration

D3.2: Report Extension 1 including (a) appraisal of the origin of

interdisciplinary mindsets and collaboration modes, (b)

collaboration models (practical and cognitive)

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Introduction

The purpose of this report extension (D3.2) is to offer a) a detailed account and appraisal of the origin of interdisciplinary mindsets and collaboration modes and b) an insight into collaboration models (practical and multi-dimensionally cognitive) that are currently employed in the (RE-)EURECA-PRO consortium. One of the central aims of the consortium is to strengthen inter- and transdisciplinary expertise and collaboration across the partner institutions and thus to contribute to the development of the EU's New European Research Area. In order for smooth and successful research cooperations to flourish, it is important to harmonise joint interdisciplinary research approaches that are based on effective cognitive and practical methodologies. D3.1 ("Report on current models of cognitive and practical interdisciplinary collaboration") offered an overview of existing crossdisciplinary approaches, terminology, models, frameworks and competencies. The purpose of D3.2 is now to look more closely at the multi-dimensional collaboration mindset compositions that are prevalent in the partner institutions of the alliance; in other words, to consider the individual 'software' of institutions, which is influenced by cultural, historical, political, economic and individual (personal mindset) factors.

For the purpose of this report, information on *context* has been collected from the following sources: the European Innovation Score Board 2022 (which provides information about EU member states' national innovation systems), the individual universities' strategic development plans, and from the qualitative analysis of responses provided in a survey about current attitudes to (and experiences of) interdisciplinary collaboration, which was completed by researchers and staff involved in the work of EURECA-PRO. In combination, these sources of contextual information about national innovation systems, university philosophies and development plans as well as interdisciplinary collaboration mindsets provide a general overview of the current set-up of approaches to interdisciplinary collaboration within the alliance. A SWOT analysis of the current mindsets and approaches with regards to interdisciplinarity in (RE-)EURECA-PRO concludes this report.



1. European Innovation Scoreboard 2022

The annual *European Innovation Scoreboard* (EIS) offers useful insight into the differing economic, cultural, business, industry and educational set-up of each EU member state, including the partner institutions of the RE-EURECA-PRO network (higher education institutions from Austria, Germany, Greece, Poland, Romania, and Spain). The aim of the EIS is to provide "a comparative analysis of innovation performance in EU countries, other European countries, and regional neighbours. It helps countries assess the relative strengths and weaknesses of their national innovation systems and identify challenges that they need to address". In the latest *European Innovation Scoreboard 2022* the following lists of "relative strengths" and "relative weaknesses" of each partner country were identified:

AUSTRIA

Strengths

Public-private co-publications
Foreign doctorate students
Design applications
International scientific co-publications
Government support for business R&D

Weaknesses

Knowledge-intensive services exports Non-R&D Innovation expenditures Broadband penetration Venture capital expenditures Resource productivity

¹ "What is the EIS", https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard en#what-is-the-eis

² https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard en



GERMANY

Strengths

Public-private co-publications Doctorate graduates Employment in innovative enterprises Business process innovators Job-to-job mobility of HRST (Human Resources in Science & Technology)

Weaknesses

Government support for business R&D Lifelong learning Population with tertiary education People with above basic digital skills Venture capital expenditures

GREECE

Strengths

Product innovators Innovative SMEs collaborating with others Employment in innovative enterprises Sales of innovative products Business process innovators

Weaknesses

Foreign doctorate students
Lifelong learning
Employed ICT specialists
Government support for business R&D
Medium and high-tech goods exports

POLAND

Strengths

Design applications
Job-to-job mobility of HRST
Population with tertiary education
Broadband penetration
Trademark applications

Weaknesses

Doctorate graduates Environment-related technologies Innovation expenditures per employee PCT patent applications Business process innovators



ROMANIA

Strengths

Broadband penetration
Medium and high-tech goods exports
Knowledge-intensive services exports
Air emissions by fine particulate matter
Venture capital expenditures

Weaknesses

Population with tertiary education Business process innovators Innovative SMEs collaborating with others Job-to-job mobility of HRST Employment in innovative enterprises

SPAIN

Strengths

Sales of innovative products
People with above basic overall digital skills
Broadband penetration
Population with tertiary education
Lifelong learning

Weaknesses

Government support for business R&D Employment in innovative enterprises Business process innovators R&D expenditure in the business sector Innovative SMEs collaborating with others

The European Innovation Scoreboard (EIS) distinguishes between four performance groups (see Fig. 1): *Innovation Leaders, Strong Innovators, Moderate Innovators* and *Emerging Innovators*. Applied to RE-EURECA-PRO, the following countries are Strong Innovators: Austria and Germany; Moderate Innovators are Greece and Spain; while Poland and Romania are considered as Emerging Innovators. Recently (in the autumn of 2022), two more universities joined the EURECA-PRO alliance: Hasselt University (Belgium) and Université de Lorraine (France). According to the Innovation Scoreboard, Belgium is an Innovation Leader with strengths in public-private co-publications, SMEs collaborating with others, foreign doctorate students, enterprises providing ICT training, and international scientific co-publications. As a Strong Innovator, France provides government support for business R&D, has a large population with tertiary education, strong resource productivity, and innovative SMEs



collaborating with others. Having only recently joined the alliance, both universities are not yet part of the RE-EURECA-PRO project work and therefore are not included in the current report. However, it is worth mentioning that the inclusion of an Innovation Leader and another Strong Innovator in the fields of business, industry, education and culture will no doubt be beneficial for the future research and innovation efforts of the alliance.

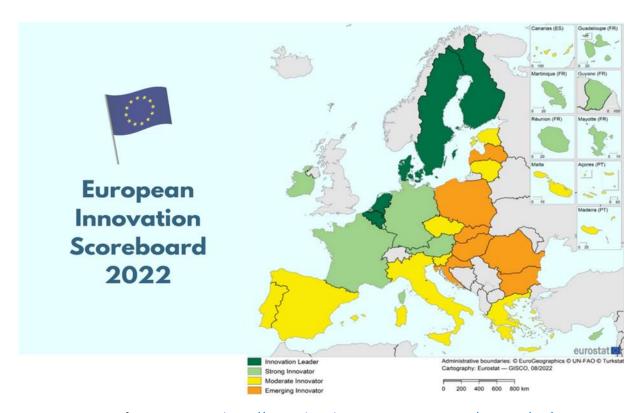


Fig. 1: EIS 2022, performance groups. https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard en

Overall, the current alliance members' performances in the economic, industry and educational areas as identified by the EIS are not markedly or problematically different; after all, each member shows strengths in areas another member might be lacking focus and all listed countries are considered to be 'innovators' in their own right. For example, broadband penetration is more developed in Romania, Poland and Spain; Greece and Spain are considered as product innovators; and in Austria and Germany the numbers of public-private co-publications and doctoral graduates is higher than in the other partner countries.

From a historical perspective, the political, cultural, economic and ideological transformations in countries like Poland and Romania after the collapse of communism in 1989 should also be



borne in mind because they had an impact on the countries' education systems. As mentioned in a study about reforms of the higher education system in Poland after 1989, the implementation of 'principles of democracy, market economy and pluralism' affected all areas of social and cultural life, including the educational system. Educational reforms responded to the widespread socio-cultural changes by claiming to implement the principles of decentralization, democratization, and utilitarianism.³ However, as the authors of the report maintain, the academic community has criticised some of the reforms for granting too much power to university councils and rectors, thus limiting academic autonomy, and for encouraging inequalities between small regional and large city-based universities. Compared to other EU countries, the lack of adequate public and private funds allocated to higher education is also an ongoing concern and presents a limitation to the success of the proposed reforms.⁴

Widening participation in education and the simultaneous improvement and maintenance of quality in higher education are core priorities in the European Union's education policy. Countries like Poland and Romania, despite their challenges of ideological transition since 1989, are very much concerned with modernising their educational systems in alignment with the Bologna process (reform of higher education) and the Lisbon Treaty (2007). Similarly, the political transformation in Romania has led to a modernization of the university system and a shift in the policy of higher education, including attempts to widen participation in education and to move away from elitist structures. This resulted in an increase in numbers of students and new offerings of academic programmes, which was initially welcomed but later criticised for a lack of quality and performance control. In recent years the number of graduates has been declining and the implementation of the Bologna process, while ensuring a structured approach to higher education qualifications, also had some negative effects, as the authors of 'A radiography of higher education in Romania after 1989' argue. It led to 'high rates of passing the baccalaureate without acquiring the basic skills necessary to complete a higher education

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³ See: Justyna Wojniak and Marta Majorek (2019): "Reforms of the higher education system in Poland since 1989. Between tradition and challenges of the 21st century", SHS Web of Conferences 66, 01025. https://doi.org/10.1051/shsconf/20196601025

⁴ Ibid., 5.



cycle; [and] the persistence of a mentality according to which the diploma is a guarantee of obtaining a better-paid job'.⁵

The European Higher Education Area (EHEA) recognises the importance of universities in the knowledge-based economies of the Western world. What has become noticeable in the past few decades (since the Bologna Declaration of 1999) is an increase of external influences and pressures on universities due to tight models of financing, rigid legal structures and often untransparent management processes. Consequently, a large part of the work of the (RE-)EURECA-PRO alliance is also concerned with managing these external influences effectively and in a spirit of cooperation and mutual support. However, despite efforts to harmonise research and teaching methodologies so that the overall aims of the project can be realised, for this European University initiative *diversity* (of research expertise, pedagogical approaches, cultural backgrounds and histories) matters a lot. Diversity is an indispensable ingredient for the international success of this European University alliance because it stimulates new dimensions of research, adds value to the portfolio of academic programmes, and is a driver for the success of student and staff mobility. The alliance partners' attitudes to internationalisation, diversity, cooperation and research innovation offer a sense of their shared but also distinctive emphases in these areas.

2. Collaboration Mindset #1: Strategic Development Plans

"Internationalisation", "collaboration", "mobility" and "interdisciplinarity" are some of the key words that are repeatedly mentioned in the various development plans and related strategy documents of the RE-EURECA-PRO partner universities. Yet there are differences in emphasis and awareness of the challenges and potential benefits of increased internationalisation efforts. The following section contains summaries of the key development aims in the areas of research and innovation as articulated by each institution. The consulted

⁵ Nela Șteliac and Dumitru Șteliac (2020): "A radiography of higher education in Romania after 1989", *Annals of the Constantin Brâncuşi*, University of Târgu Jiu, Economy Series, Issue 5, 95-105.

⁶ The reports on legal issues and research management systems employed within RE-EURECA-PRO provide detailed information on these issues. See: D7.3 of WP7 ('Action 3 – New Shared Potential – Joint Research Structures Utilization Strategy').



documents range from Quality Assurance Strategies, Mission Statements and Interdisciplinary Profiles, to Strategic Development Plans, Internationalisation Strategies and Research Policies.

Montanuniversität Leoben (MUL) - Austria

MUL's Quality Assurance Strategy places a strong emphasis on internationalisation, mobility, cooperation and networking. MUL's work in the context of EURECA-PRO provides evidence for an already flourishing international visibility in terms of collaborative research in the areas of Responsible Production, Raw Material & Climate, and Sustainability. Active scientific partnerships in these research areas have contributed to thriving crossdisciplinary collaborations which are, however, far from exhausted. The strategic document shows evidence of critical reflection, for example when pointing out the need to develop and strengthen interdisciplinary collaboration by investing work and resources in the establishment of more efficient and transparent organisational structures in support of international networks of cooperation. Central development goals for 2030 are to build new international scientific and strategic partnerships, enhance interdisciplinary cooperations, and develop and strengthen European University alliances. For MUL it is important to ensure the visibility of qualitative and socially relevant, impactful research. Third Mission (collaboration with industry, business and society), effective scientific and technical knowledge-transfer strategies, and the internationalisation of research and education (joint study BA programmes, international MA and PhD progammes, crossdisciplinary curricula and student mobility) are also foregrounded in MUL's strategy document.⁷

Hochschule Mittweida (HSM) - Germany

At Mittweida the internationalisation of research, teaching and learning is also a priority, as is mentioned in their Internationalisation Strategy. This includes an emphasis on mobility and networking activities which contribute to the fostering of crossdisciplinary knowledge and the development of intercultural competencies. The use of English in teaching and research is actively encouraged. Intercultural exchange and mobility of students, staff and researchers is encouraged through exchange programmes, integrated study programmes, and

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⁷ For further information, see: https://www.unileoben.ac.at/en

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interdisciplinary research cooperations. In this context, virtual mobility is also recognised as a tool for internationalisation and Third Mission engagements. It is the university's social responsibility to communicate, share knowledge and develop new research fields with non-academic institutions and stakeholders. The university aims to create an environment in which cultural diversity ('internationalisation at home') is acknowledged and promoted.⁸

Technische Universität Bergakademie Freiberg (TUBAF) - Germany

TUBAF's mission statement lists the core values of the university, which include sustainability (responsible use of resources), motivation, esteem, transparency, and dialogue across scientific boundaries. A strong crossdisciplinary ethos is embedded in all pedagogical and research activities as well as a willingness to cooperate. A specific aim is to strengthen social and intercultural competencies amongst students, researchers and staff. In the university's Transfer Document, the importance of knowledge transfer between academia, industry, economy and society is highlighted, and transfer is considered as an important 'third mission' next to research and teaching.⁹

Universidad de León (ULE) - Spain

ULE's Strategy Development Plan is very detailed and mentions the importance of public-private cooperation and international collaboration as well as the participation of civil society in processes of research and innovation. Strategic objectives (aligned with the objectives of Horizon Europe and the 17 SDGs) are:

- to strengthen internationalization through programming instruments and actions that encourage the participation and leadership of Spain in the European Research Area and collaboration with other countries in the field of R+D+I.
- to facilitate the transfer of knowledge through actions that eliminate the existing barriers between the different actors in the public and private spheres and increase the dissemination and communication capacities of R+D+I to society.

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⁸ For further information, see: https://www.hs-mittweida.de/en

⁹ For further information, see: https://tu-freiberg.de/en



- to strengthen the institutions dedicated to R+D+I with measures that allow them to achieve international leadership positions, carrying out excellent science, open and inclusive.
- to develop, maintain and invest in equipment and infrastructure necessary to lead cutting-edge scientific and technological advances.
- to promote scientific and innovative vocations, attitudes and aptitudes, training and promoting the talent of internationally competitive R+D+I personnel.
- to facilitate international and intersectoral mobility as an integral part of the professional career of R+D+I personnel.
- to emphasize joint programming instruments and actions that encourage the participation and leadership of Spain in the European research area.

International collaboration projects, of which EURECA-PRO is a prime example, are valued as they promote the transfer between scientific research, technological development and business innovation.

The objectives of individual research projects are:

- to contribute to the development of the national and international leadership capacity of research teams in public and private non-profit entities linked to R+D+I, facilitating their mobility and promoting their participation and success in European and international programs and projects.
- to strengthen international competitiveness.
- to incorporate an inter and multidisciplinary approach with the participation of research groups with a critical mass capable of generating synergies between different scientific approaches and promote significant advances in scientific knowledge.¹⁰

Universitatea din Petroșani (UP) - Romania

UP's Internationalisation Strategy (2020-2027) contains a strategic vision for internationalisation and the structural, qualitative and economic integration of the university in the European system of higher education. The University of Petroşani promotes cultural diversity, multicultural exchange and aims for building strong relationships with other

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¹⁰ For further information, see: https://www.unileon.es



European or non-European countries. UP's goal is to make the best of its students' and teachers' international experiences in order to develop an academic community able to adapt to global changes and to deliver skilled persons able to integrate in the international labour market.

International cooperation must become a catalyst for revision and planning international activities, as it is essential for institutional development by enhancing human and technical resources and infrastructure.

International cooperation is one of the important aspects pointed out in the institution's strategy for development. The analysis of academic cooperation protocols shows a multi-level approach of the institutional partnerships. However, UP admit that the internationalisation process is also challenging. For example, there is a lack of programmes in the English language and only a small number of international grants and international research contracts (see: SWOT analysis in the Internationalisation Strategy document).¹¹ The university also respects and promotes the principles of social inclusion, sustainable development, friendly environment and equal opportunities.¹²

Silesian University of Technology (SUT) - Poland

SUT invests in the development of internationalisation under the programme "Excellence Initiative - Research University" (IDUB) and by participating in the European University initiative EURECA-PRO. Internationalisation-related activities plus financial support are the key agendas. SUT promotes research excellence by encouraging researchers to publish in prestigious international magazines, create multidisciplinary teams, participate in ambitious projects, and engage in technology transfer.¹³

Technical University of Crete (TUC) - Greece

The Technical University of Crete is one of the most successful technical universities in Greece in terms of research. Its future development strategy is focused around three strategic centres: research development, international cooperation, and sustainable growth. TUC's

¹¹ UP Internationalisation Strategy, https://www.upet.ro/en/

¹² For further information, see: https://www.upet.ro/en

¹³ For further information, see: https://www.polsl.pl/en



Research Policy respects academic ethics and supports cooperation with international organisations and institutions. Future Goals are an emphasis on providing top quality education, conducting innovative research, creating a Regional Innovation Pole and Technological Park, supporting innovation and the cooperation with local authorities in solving environmental and organisational problems.

The university has a large number of partnerships with scholarly institutions worldwide. Exchange programmes for students have played an important role from the very beginning in the internationalisation of the university. TUC participates actively in the European Tempus, Erasmus Mundus and Lifelong Learning Programmess and also maintains agreements with a large number of universities for direct exchange.

The Technical University of Crete currently focuses mainly on internationalisation and close cooperation with academic and research organisations all over the world as well as on achieving viable development through a university-oriented green policy. Considerable efforts are being made to minimise energy emissions and to promote recycling of liquid and solid waste, so that TUC may become a 'green' (environmentally friendly) institution.¹⁴

Conclusion:

As we can see, some of the strategic documents provided by the partner universities are more detailed than others. But all members of the alliance are committed to the ethos of international cooperation and the European Universities initiative (RE-)EURECA-PRO. It is also evident that some participating institutions are more articulate and critically reflective about their positions with regards to inter-university collaboration, Third Mission, research excellence and diversity than others. As work within the alliance progresses and collaborations deepen, further differences will no doubt become obvious. However, there is strong evidence that the necessary *collaboration mindsets* that are required for inter-university co-operations and joint research activities to be effective are in place, as will be further presented and analysed in the sections below.

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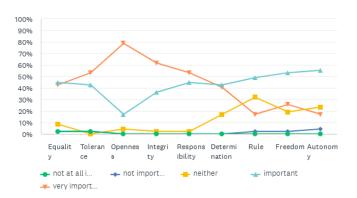
¹⁴ For further information, see: https://www.tuc.gr/index.php?id=5397



3. Collaboration Mindset #2: Survey on Interdisciplinary Collaboration

As Clause and Wiese (2021) note, "interdisciplinarity is an approach of collaboration, which sets high standards for the integration of disciplinary perspectives". ¹⁵ For knowledge integration and exchange to function, a positive collaboration mindset is required as well as an understanding and appreciation of the diversity of experiences, expectations and outlooks. Given the size of the consortium, it can be assumed that the participating members have different expectations and experiences regarding interdisciplinarity and collaboration. In a survey¹⁶ that was conducted amongst people involved in EURECA-PRO, it became apparent that many of the values conducive for interdisciplinary collaboration are considered "important" or "very important", such as equality, tolerance, openness, integrity, responsibility, determination, freedom, and autonomy.

F13 How important for you are the following values/norms in interdisciplinary collaboration? (in the EURECA-PRO project, LH mission groups, task forces, etc.)



When asked about the dominant cultural differences within the consortium ("What cultural differences do you personally see in the EURECA-PRO project/the respective Lighthouse mission?" Think also about your own person/team!"), the majority of the respondents (28-39%) ranked the following as 'medium': cultural openness in the team, equality, working

¹⁶ Online survey on Interdisciplinary Collaboration, prepared by MUL in April 2022. Total number of questionnaire participants: 59.

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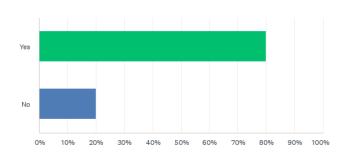
¹⁵ Anna M. Claus and Bettina S. Wiese, "Interdisziplinäre Kompetenzen: Modellentwicklung und diagnostische Zugänge" ("Interdisciplinary competencies: model development and assessment approaches") in: *Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie (GIO)*, Volume 52 (2021), 279–288: 280.



methods, language, power (dealing with hierarchical levels and the distribution of power), human orientation, determination/assertiveness.

Interestingly, there is a strong awareness among the group that different mentalities can lead to conflict:

F14 Do you think that different mentalities and individualistic points of view can lead to conflicts within the team? Please give reasons!



Here are some excerpts from the reasons given:



Some individuals are team players and can suppress their personal ego for the good of the project and team, while others tend to be more inflexible and this would lead to conflict. Conflict is good as long as its solved diplomatic and leads to positive results.

Different mentality is not a problem if there is a wish for understanding through discussions and reasoning. Individualistic attitude is a problem, as it cannot be handled by reasoning

In any team there is conflict because there are human relationships.

People from different nationalities may have different temper, sometimes also language is a serious barrier.

In my experience, setting a 'common ground' at the beginning is extremely important (before starting talking about research/projects etc). Conflicts can appear in many ways and normally they are hidden until the project is quite advanced. In my experience, we had a 'coach' that was external to one international/interdisc. project, and it was an asset! People were much more open to new ideas, to listen to each other, to build knowledge.



Because of the various approaches sometimes people cannot find an area of agreement. However, those conflicts can also be very impactful for creativity.

If the team forming stage is not complete, there will be issues because there is a lack of connection.

Different mentalities have different kinds of work-behaviour and different emphasises in their work-styles (for example the importance of personal meetings differs in each country or even company, depending where you have worked before). Also, the professional behaviour towards colleagues differs in each country or even company, so that it might lead to inconveniences at first. But especially that makes different mentalities in a team very important: to gain intercultural competence, to have more understanding and to expand your own point of view, and even to earn new working-styles, which might work better/more efficient.

Different mentalities and individualistic points of view are beneficial if they are viewed through a perspective of openness and inquiry, in order to understand a broader picture. If people are holding to these beliefs, putting everybody as an 'opposite', then there will be conflicts.

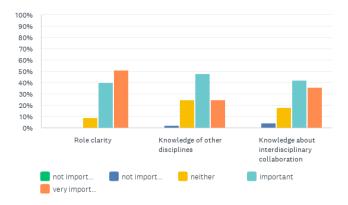
As can be seen, some of the responses are appreciative of the diversity of mentalities and approaches in a team. Diversity and differences can, for example, enhance creativity and be beneficial for the development of a project if values such as *openness*, *understanding*, *diplomacy*, *knowledge integration*, *high motivation and reasoning* remain predominant. The suggestion of involving external viewpoints (such as coaches or mentors) in the process of project development and communication seems a very good one and is already part of the collaboration practice in some areas of the consortium. In order to address the *challenge of language difference*, the consortium has resorted to English as the main language of communication for collaboration. Another aspect that was addressed in the questionnaire



responses was the importance of *effective communication*, *team organisation*, *team leadership and clear definitions of roles and expectations* during collaboration.

In addition, the respondents deemed *role clarity, knowledge of other disciplines,* and *knowledge about interdisciplinary collaboration* as 'important' or 'very important':

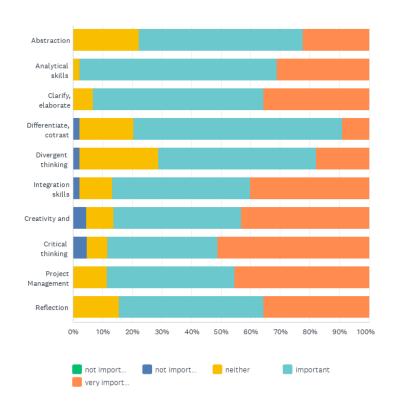
F20 How important are the following listed points for you for interdisciplinary collaboration?



The following *cognitive skills* were considered important / very important:



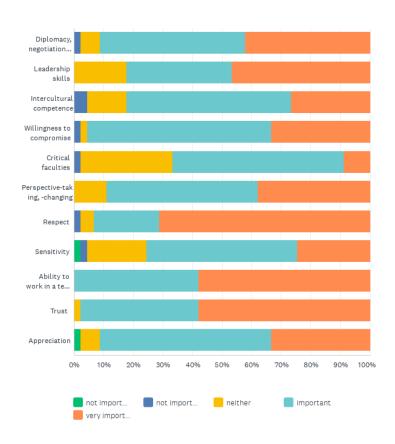
F21 How important are the cognitive skills listed below to you for interdisciplinary collaboration?



Equally important to people involved in interdisciplinary collaboration in EURECA-PRO are effective *cooperative skills*:



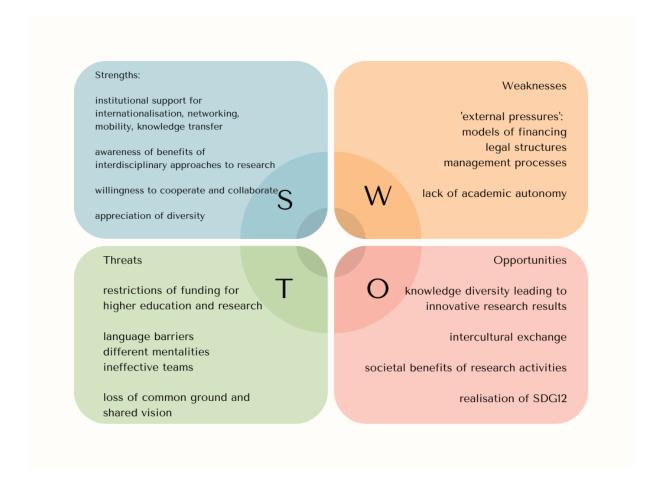
F22 How important are the cooperative skills listed below to you for interdisciplinary collaboration?



3.1. Conclusion and SWOT analysis:

The results and responses to this survey demonstrate that there is a high level of awareness regarding the challenges, benefits and potentials of interdisciplinary collaboration within the consortium. Based on the responses of the survey and the information retained from the institutions' strategic development plans a *SWOT analysis of the current mindset and approaches with regards to interdisciplinary collaboration* has been made:





4. Current set-up of collaboration models – Open Science

Interuniversity research collaborations within EURECA-PRO are structured into Lighthouse Research Missions overseen by a Research Task Force (RTF) which was set up by selected scientists from all partner institutions. The focus of this interdisciplinary research is on green technologies and processes, circular economy and responsible consumption and production. MUL has put together a Scientific Framework Charter (SFC) - the scientific manifesto of EURECA-PRO – which aims to create a New Open European Research Area. The EURECA-PRO's Open Access Policy strongly encourages all researchers to publish their research in Open Access journals (non-commercial publishing is explicitly welcomed).

17 For further information about the Scientific Framework Charter and the Research Task Force, see D3.1 of WP3 of EURECA-PRO.

Relevant open content will be harvested from existing institutional repositories of EURECA-

¹⁸ This policy was submitted to EURECA-PRO Governance during the Review Week in Crete (26.-30.09.2022).



PRO members by means of <u>OAI-PMH</u>.¹⁹ There is a EURECA-PRO Open Access Team which offers members support with:

- legal issues concerning publishing (e.g. clarification of copyright questions)
- choice of appropriate journals
- publication process (Green Open Access) in the EURECA-PRO repository

Each partner institution also regularly organises **Open Science awareness events** which involve civic society, cultural representatives, business and industry partners. In this way, EURECA-PRO contributes to the EU's open science policy, which focuses on spreading scientific knowledge using digital and collaborative technology.

The European University initiative recognises that it is necessary to involve citizens and industry to derive society-related scientific challenges for research and also for application in education via a problem-based learning (PBL) approach. In order to ensure a regular knowledge transfer from society into the European University and vice versa, an **Open Science Societal and Industrial Dialogue Platform (SInDiPlat)** has been developed. As is explained in a report by WP3 of EURECA-PRO, SInDiPlat is a digital communication platform that serves to connect citizens, industry representatives and the alliance.²⁰ The platform contains an **Open Science Society Forum** which is used to announce and discuss future Open Science Events and to draw conclusions from previous events. Another section of the platform is a shared **Workspace for Scientists**, where research topics are announced, current project calls are available and researchers can set up their own workspace, including the possibility to use Zoom Meetings and in future also a collaborative document.

Overall, EURECA-PRO is committed to an open access policy and involved in the production of FAIR (findable, accessible, interoperable and re-usable) data. Following the European Open Science Agenda, the alliance aims to raise awareness among its research community through training on the importance of Open Science. For this purpose, the **European Open Science**

²⁰ EURECA-PRO WP3, D3.7, Report: "Implementation of Open Science Societal and Industrial Dialogue Platform SInDiPlat". Access to the platform: https://sindiplat.eurecapro.tuc.gr

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¹⁹ The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) is a low-barrier mechanism for repository interoperability. https://www.openarchives.org/pmh/



Cloud (EOSC)²¹ platform will be implemented in EURECA-PRO and used as both producer and consumer. A relevant task force to realize this process is already operative. In addition, RE-EURECA-PRO follows <u>OpenAIRE</u> (an open scholarly communication infrastructure)²², which endorses the EOSC.

In all its research activities and management processes, (RE-)EURECA-PRO aims to create a common European framework for innovation, research and education. Thus, its work supports the objectives of the European Research Area (ERA). A strong mindset of collaboration and appreciation for interdisciplinary approaches to research is evident amongst the members of the alliance, which is a good basis for joint work towards realising SDG12 and for contributing to the transformation of the European Higher Education Area. In a next step (D3.3) best-practice examples of collaboration between alliance members will be analysed and mapped against environmental indicators. This will help in producing and implementing a strong roadmap for cognitive and practical interdisciplinary collaboration in the long-term vision of EURECA-PRO.

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²¹ https://eosc-portal.eu/about/eosc: 'The best instrument to provide a framework for collaboration and the pooling of resources at European, national, regional and institutional levels'.

²² OpenAIRE is a Non-Profit Partnership, established in 2018 as a legal entity, OpenAIRE A.M.K.E, to ensure a permanent open scholarly communication infrastructure to support European research. https://www.openaire.eu/about



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European Innovation Score - "What is the EIS"

https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard en#what-is-the-eis

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