ERA LEARN

COUNTRY REPORT UPDATE

Austria Report Update

ERA-LEARN:

enabling systematic interaction with the P2P community

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Introduction

ERA-LEARN Country Reports

ERA-LEARN has been producing country reports since 2019. Nine reports have been produced until now (Oct 2014) while 10 more reports are planned in the current phase of ERA-LEARN. The selection of the countries is based on a combination of variables: number of network participations, network coordination, national commitments to partnerships, etc., based on the data included in the ERA-LEARN database and their combination with relevant R&I indicators from EUROSTAT and OECD.

Among the 10 additional reports there will be some updates of the first reports that were done back in 2019-2020. This is the first update and concerns Austria.

The main features of the Austrian update compared to the first version of the report are

- The first version focused on P2P (public-public partnerships) participation – the update covers all types of partnerships, i.e. those that were created under H2020 as well as the new partnerships under Horizon Europe.
- The R&I context in the first report was an overview of the main R&I strategies, policies, and actors – the update focuses on the evolutions and changes in the past 5 years given that the first report was published in 2019.

In line with the first report, Austria is compared to Denmark, Finland, the Netherlands and Sweden.

The report draws upon available literature and data, i.e. R&I strategy/policy documents and sites, EU Semester national reports, European Innovation Scoreboard statistics, OECD and EUROSTAT statistics, country reviews and special reports by the Policy Support facility, relevant MLE (mutual learning exercise) reports, etc.

The partnership-related data comes from the ERA-LEARN database (cut-off date June 2024, the data for calls[1] are until Oct 2024), eCORDA and the BMR 2024. The ERA-LEARN data (especially actual investment in projects and project numbers) is 75% complete, as not all required information has been fully updated by the H2020 partnerships. Yet, the number of calls is accurate and the committed budget figures are available for most calls. It is also important to note that the data collected in terms of pre-call budget committed or the actual investments in selected projects do not take into account the differences across countries in the eligibility of certain expenses; for example, in some countries only additional costs of a research project are eligible and not personnel costs. In addition, the in-kind contributions made by funding organisations when participating in P2Ps are not usually considered as national investments in P2Ps.

[1] The data for calls include all calls that have been announced, launched, or completed from 2014 until Oct 2024.

The data on Horizon Europe partnerships and their projects is still largely incomplete. The partnership-funded project-related data in the ERA-LEARN database refers to P2P networks that were launched and supported under Horizon 2020. On the other hand, the project-related data in eCORDA covers mainly projects from the co-programmed and institutionalised partnerships in Horizon Europe. Data on projects coming from co-funded partnerships and EIT-KICs are far from complete at the time of writing.

The country reports provide an analysis of a country's participation in partnerships and try to explain its 'performance' within the overall national R&I policy context and system. Comparing the specific country with a set of other countries of interest as well as the EU14, EU13 and EU27 overall averages provides additional insights. The country reports may be useful for individual organisations in the specific country as they might only have a fragmented picture of the situation, or they might lack explanations for certain features that may be found in the wider R&I context of the country. The reports may also be useful for organisations in other countries that wish to learn the reasons behind the 'position' of a country and/or learn from other countries' exemplary performances.

Acknowledgements

We owe special thanks to FFG and in particular Ingrid Putz, Ursula Bodisch and Roland Brandenburg for providing the eCORDA data cleaned and elaborated for the purposes of the BMR 2024 and the purposes of the present report, and also for the background material and helping to organise the interviews with key stakeholders. We are also grateful for the permission to use the data that was elaborated for the purposes of the BMR2024 by the expert group on support for the strategic coordinating process for partnerships. Special thanks are also due to Optimat for its support with the data collection and elaboration.

We would also like to thank all the interviewees that shared with us valuable insights, data and information about their experience and knowledge of Austria's position in international collaboration and overall performance in research and innovation. In particular, people from the following organisations were interviewed[2]:

- Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK),
- Federal Ministry of Education, Science and Research (BMBWF),
- Federal Ministry of Labour and Economy (BMAW),
- Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML)
- Austrian Research Promotion Agency (FFG),
- Austrian Science Fund (FWF),
- Beneficiaries (research institutes, universities and SMEs) of the partnerships ENSmartGridPlus, DUT, JPI Urban Europe, CHANSE, Biodiversa 3)

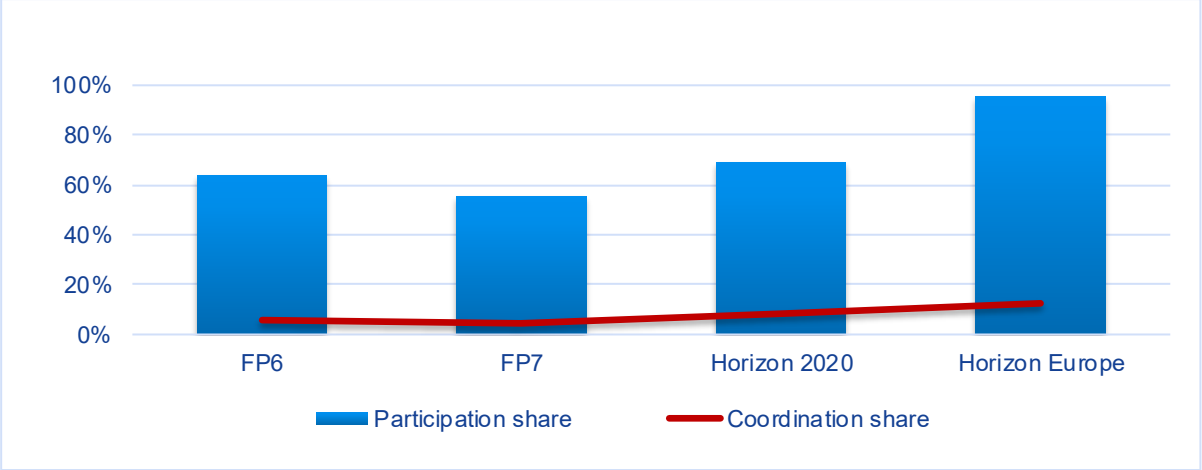
[2] Due to GCPR rules the names oft the individuals are not disclosed.

Key Highlights

Austria shows a steady increase in the number of partnerships and former P2P networks that it has taken part in since FP7 (as a share of total number of partnerships in the specific framework programme – cf. Figure 1). The coordination share also reaches the highest level in Horizon Europe partnerships. This means that, of the 16 partnerships that can be coordinated by countries, Austria coordinates 2, i.e. (12.5%).

Although an explicit strategy for ERA and international cooperation does not exist, there is strong commitment to increase participation of Austria in European Partnerships and the EU Missions. This is explicitly stated in the new RTI Strategy 2030 that was published in 2020.

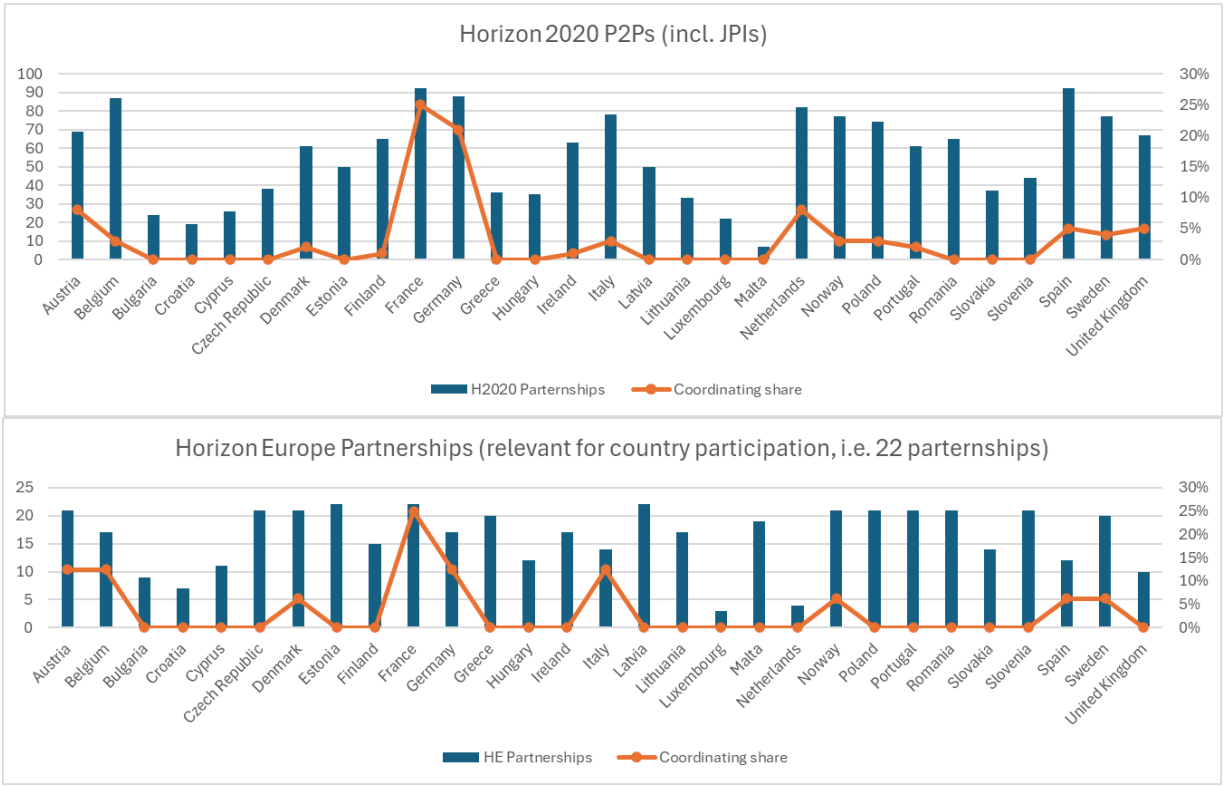
Figure 1: Participation and coordination shares for Austria in European Partnerships across the Framework Programmes



Source: ERA-LEARN database (cut-off date June 2024) and BMR2024 data.
(*) Participation share: the number of partnerships a country participates in with any role (i.e. coordinator, participant, observer, other) divided by the total number of partnerships. Coordinating shares: the number of the partnerships a country coordinates divided by the total number of partnerships.

Out of the 90 H2020 funded P2P networks (ERA-NETs Cofunds, etc.) and the 10 JPIs in H2020, Austria participated in 69 of them, while in Horizon Europe the country is present in 21 of the 22 partnerships that are relevant for country participation reaching a share of 95%. This share is equal to that of Sweden, Denmark and the Netherlands, and leaves Finland behind. (cf. Tables 1a and 1b)

Figure 2: No of partnerships and coordination shares for EU27 and selected Associated countries in H2020 and Horizon Europe



Source: ERA-LEARN database (cut-off date June 2024) and BMR2024 data.
(*) No of partnerships: the number of partnerships a country participates in with any role (i.e. coordinator, participant, ob server, other). Coordinating shares: the number of partnerships a country coordinates divided by the total number of partnerships.

Out of the 335 calls that have been launched by P2Ps in Horizon 2020, Austria has participated in 161, i.e. 48%, leaving behind Denmark (37%) and Finland (40%) but coming third after the Netherlands (56%) and Sweden (50%), which have larger research communities. The current share in call participation in Horizon Europe Partnerships is 29% (34 out of the 117 calls), which is similar to the comparative countries' figures – any further conclusions would be premature as there is still a long way to go in Horizon Europe partnerships. In relation to the supported projects, Austria benefited from 631, which is comparable to the performance of Denmark, but coming again third after the Netherlands and Sweden.[3]

Table 1: Participation in H2020 P2Ps (including JPIs)

	AT	DK	FI	NL	SE	EU13 av.	EU14 av.	EU27 av.
No of H2020 partnerships	69	61	65	82	77	38	69	54
P2P coordinations	8	2	1	8	4	3	6	6
No of calls	161	126	136	187	169	111	187	151
No of projects	631	633	403	1305	951	166	847	519

Source: ERA-LEARN database[4] (cut-off date June 2024).

[3] Data on Horizon Europe partnership projects are not available nor complete yet.

[4] These figures are actually higher considering that around 20% of the financial data of the H2020 P2Ps have still to be updated by the P2P networks in the ERA-LEARN database.

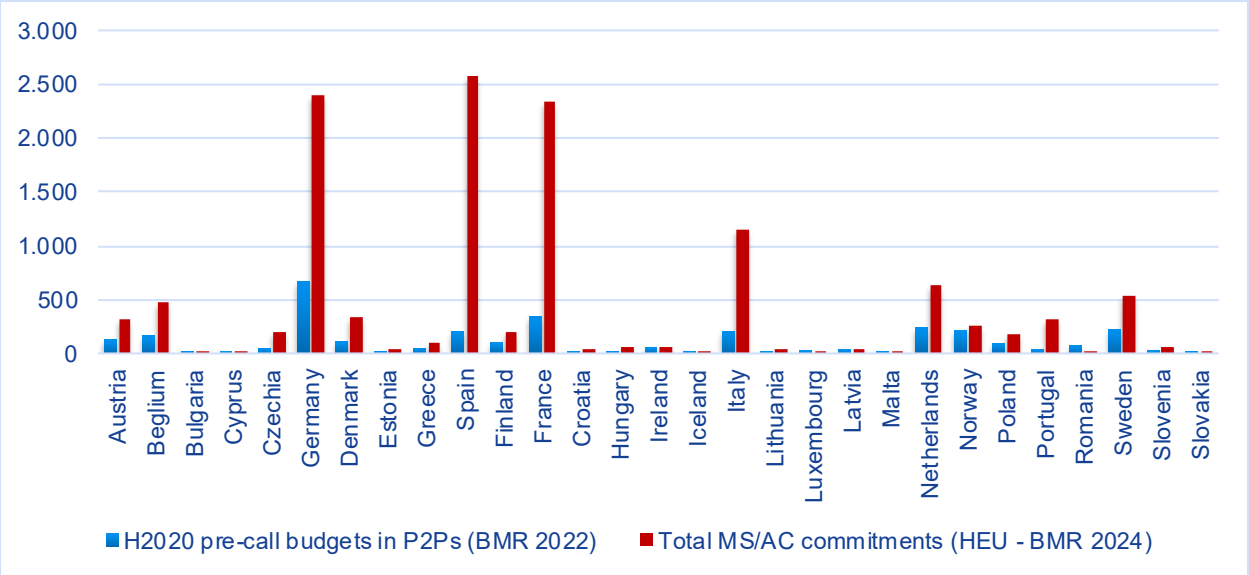
Table 2: Participation in Horizon Europe Partnerships

	AT	DK	FI	NL	SE	EU13 av.	EU14 av.	EU27 av.
No of HEU partnerships	21	21	17	21	21	14	18	16
Co-funded Ps coordinations	2	1			1	0	1	1
No of calls	34	36	30	37	32	25	34	28
No of projects(*)								

Source: BMR 2024 data (partnerships and coordinations); ERA-LEARN database for calls (cut-off date June 2024).
(*) Data on Horizon Europe projects funded by partnerships are not available yet.

In terms of national funds made available to support partnerships, Austria made available some 130 € million in H2020 Partnerships and this was raised to 311 € million in national commitments in HEU partnerships. The percentage change (+139%) is comparable to that marked for Sweden and leaves behind that of Finland (91%) although at the third place but without that marked differences (Denmark; 199% and the Netherlands, 169%). Overall, it is the national commitments of Germany, Spain, France and Italy that stand out in Horizon Europe partnerships.

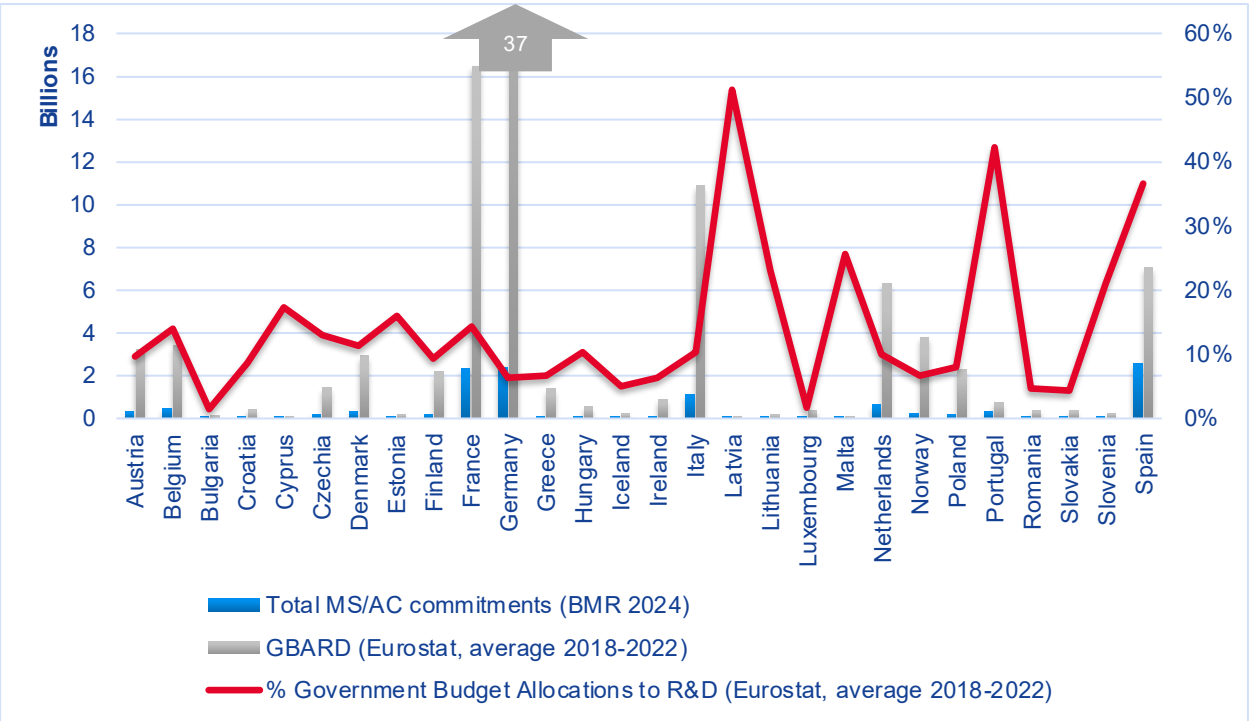
Figure 3: Comparison of countries' pre-call budgets (H2020 Partnerships) and national commitments (HEU Partnerships) across countries (€ million)



Source: ERA-LEARN for H2020 Partnerships (cut-off date June 2024). BMR 2024 data for HEU Partnerships.

When the national contributions are normalised by the government allocation in R&D, Austria's performance (9%) is very similar to that of the comparator countries (Denmark, 11%; Finland, 9%; Netherlands, 10%) but is left behind by Sweden with 14%. Interestingly, besides Spain where the level of the national commitments reaches around 36% of the GBARD (government budget allocations for R&D), it is Portugal that gets to the fore (42%) together with much smaller countries like Latvia (51%), and Lithuania, Malta or Slovenia with shares around 20%.

Figure 4: Share of MS/AC commitments to European Partnerships in HEU compared to the country GBARD



Source: BMR 2024 data; Eurostat.

There is usually oversubscription in the partnerships' calls, although the rate changes from partnership to partnership. However, there is consensus among the interviewees that should there be more funds, this would allow additional high-quality proposals to get funded.

The cooperation among ministries and funding agencies is good. Besides the close collaboration between BMK and BMBWF, there is also collaboration with other ministries like the BMK and the BMSGPK (Ministry for Social Affairs, Health, Care and Consumer Protection) for the THCS partnership. There are interministerial informal working groups that discuss regularly on how to deal with issues that emerge. Yet, there is still room for improvement. Research in biodiversity for instance also affects the agricultural scene.

The Austrian approach to partnership participation has become even more strategic compared to the past with the launch of the new partnerships in Horizon Europe. The approach has also become more inclusive, with more ministries now being actively involved, and more transparent as it is now easier to follow the discussions among ministries and funders. There is more coordination nationally and the consultation with the EC is more effective as discussions about new partnerships start 2-3 years in advance.

The participation in partnerships is in most of the cases decided if their priorities are aligned and support the national goals and priorities. The decision of which partnerships to take part in is initially taken by the responsible ministries, i.e. mostly the Ministry of Education, Science and Research (BMBWF) and the Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), who then communicate their decision to the Council of Ministers that takes the final decision.

The BMBWF is the ministry that coordinates the process of justifying the decision with a special template that each ministry must fill in asking questions like 'How does the partnership contribute to the RTI strategy?', or 'where will the funding come from (in cash, in kind, etc.)?'. The ministry

then collects the filled-in templates and prepares the background document for the final decision of the Council of Ministers.

The current set-up of the partnerships offers significant potential also in terms of creating critical mass. They last for seven or eight years, which is long enough to allow building structures that do not just target technological developments but can cause transformation of systems and cities.

The potential of the partnerships depends on the level of the partners' ambitions. Some partners have high ambitions to shape the eco-systems and push the trans-national strategies to leave their footprints at the national level.

> *"However, the potential of the partnerships as they are set up today is not fully utilised.", (FFG official).*

Notwithstanding, the European dimension in networking and collaboration is valuable as is the continuation of the collaboration and scaling up of activities into bigger projects. Partnerships are still seen at the national level in Austria as an easier way to prepare for larger Horizon projects, and the partnership calls are less competitive than the Horizon calls. They remain an arena where new approaches, measures and initiatives can be developed and tested at the EU level, offering also the possibility to companies that produce exploitable results to access bigger markets.

> *"Defining the topics with other Member States is also very important – the process of sharing own interests and bringing all this together has big advantages." (BMBWF official)*

Commitment is a strong precondition for partnerships to be successful. The collaboration between the ministries responsible for research and the sectorial ministries also plays a key role in their success. The Austrian interviewees also noted the importance of generating impacts and the direct link to integrating the activities and results within national initiatives or missions for the impact to be possible. There are various events, matchmaking efforts, valorisation activities, etc. organised at the national level in this regard. Achieving impacts may also necessitate deploying other instruments beyond R&D and translating the results into a language that is understandable to society and useful to policy makers is also paramount.

Interviewees highlight that the impact is also affected by how active a country is in a partnership. If a country takes part only in calls to fund projects, the impact is limited. If a country engages in a strategic role such as driving the thematic agendas, aligning better with the national priorities, steering the orientation of partnerships towards national interests, exchanging with other countries, benefiting from high financial returns when mobilising the community, and connecting your actors to develop other projects, then the impact can be quite high.

Regarding challenges and areas of improvement, the interviewees agree that the administrative burden especially for the new co-funded partnerships is a huge and unnecessary challenge that is still unsolved. Even the calculation of the top-up funding requires significant efforts. If there is no significant improvement in the next framework programme, this will be particularly discouraging for Austrian actors to take up the role of the coordinator in a partnership.

> *"Partnerships have quite a dynamic, but it is overshadowed by the huge efforts needed to run them." (BMK official)*

There is also the discussion about the governance as each partnership has a different system, different eligibility criteria, monitoring requirements, etc. This is an additional challenge. On top of that, there is the issue of the silos existing in the EU landscape between partnerships and missions, for instance, and the absence of a thematic overview of the partnerships focus areas and upcoming calls. The landscape is still quite complex, and this is intensified with the lack of an

overview of the total of the funding opportunities and the different partnerships and other instruments providing support for the same or similar topics. The proliferation of instruments (partnerships, missions, EIT-KICs, etc.) is putting big pressure on smaller countries, as well as on larger countries alike that are struggling in the coordination of their roles, competencies and decision mandate.

At the same time, partnerships may reduce the capabilities of the open calls in Horizon Europe, i.e. if a topic is addressed only by a partnership, then only researchers from the participating countries can collaborate. It is now increasingly the case that topics that are addressed by partnerships are not included in the Horizon open calls. This makes the added value of the partnerships clearer, but also bears the limitations and challenges that the partnerships face in their implementation.

There is a need for an overarching evaluation of the partnerships and the individual partnerships. Here the data availability is an issue and the fact that there may be different interpretations of what success means for partnerships. Austrian delegates also echoed the need for member states to be more involved in the co-programmed and the institutionalised partnerships to bring more added value for the research communities and industrial associations.

Amidst the discussions on partnerships in view of the next framework programme, Austrian interviewees note the need for an instrument like the old ERA-NET type that can help preparatory actions with glue money. It may prove useful for ERA to relaunch ERA-NET actions as vectors of alignment that facilitate transnational calls, but within a lean governance structure unlike the current co-funded partnerships.

The interviewees also noted the possibility for a change in the focus of partnerships. This may be caused at the national level due to change in government that may redefine the national R&I priorities. At the European level, the Draghi and Letta reports, suggesting a European competitiveness fund, may also impact the focus put on technology development and competitiveness, although it is important to keep in mind that technology should not be considered an aim in its own right.

Austria is one of the leading countries in the partnership landscape with strong performance, high national coordination and integration of the partnership instrument to exploit its potential to the full. The pass from Horizon 2020 to Horizon Europe was marked by the almost three-fold increase of the national contributions, and a more strategic and inclusive approach to partnerships also involving sectorial ministries. Austrian interviewees agree on the great value of the partnerships and the even greater potential as a strategic instrument, that is difficult to materialise due to the several challenges that need to be addressed. However, Austria's commitment is strong and on the rise.

1. Austrian Research and Innovation in an International Context

Austria has the fifth highest GDP per capita in the EU, i.e. 123% of the EU average, with an average growth rate in line with the EU and expected to reach 0.3% growth in 2024 and up to 1.6% in 2025 (European Commission, 2024).[5] Based on the European Innovation Scoreboard 2023, Austria remains a Strong Innovator with performance at 116.3% of the EU average, although the performance is above the average of the Strong Innovators (111.3%). Austria follows the comparator countries which are Innovation Leaders. The objective that was endorsed by six ministries back in 2009 to join the group of "Innovation Leaders" by 2020 has not yet been achieved.[6]

Austria is among the most active countries in relation to transnational collaboration. The overarching strategy that guides the participation of Austria in collaborative R&I activities is the RTI Strategy 2030[7] that has replaced the one that was prepared in 2011 and expired in 2020. However, this is a strategic document without referencing specific sectors.

Notwithstanding, Austria has a number of sectoral strategies guiding the national programmes which are well aligned with the EU strategies and initiatives. Austria launched four transformative national research and innovation missions that directly correspond to European Partnerships (Climate Neutral Cites, Clean Energy Transition, Mobility Transition and Circular Economy). All aim at pursuing Austrian and European policy goals such as Fit for 55, the Net Zero Industry Act, the Critical Raw Materials Act, the European Green Deal and more. When the EU was preparing the Cities Mission, Austria used the experience gained to mirror this at the national level and thus shaped a fitting environment to also drive the development of the DUT partnership, which is now coordinated by FFG. The implementation of the Cities Missions is daily monitored by BMK and FFG. The interest of the research communities in the topics (to be) addressed by the partnerships is also considered through special stakeholder groups, fora or other groups that operate at the national or the sectorial level.

The RTI Strategy 2030 explicitly emphasises the importance of "using more intensely" programmes in the ERA, which should be further supplemented by the international orientation of Austrian RTI activities. The increase of participation in EU missions, EU partnerships and IPCEIs[8] is among the fields of activity to achieve the first objective of the strategy, i.e. "Become an international innovation leader and strengthen Austria as an RTI location.

Besides the mobilisation of the stakeholders and the funding of the participation in EU missions and partnerships, specific national areas of strength and future-oriented themes (e.g. digitalisation, Tech4Green, production, energy, health and transport) are targeted in the strategy.

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[5] European Commission (2024) 2024 Country Report - Austria. Available at: https://economyfinance.ec.europa.eu/document/download/dfd1e288-8903-4c97-b814-caa16760a326_en?filename=SWD_2024_620_1_EN_Austria.pdf.

[6] https://projects.research-and-innovation.ec.europa.eu/en/statistics/performance-indicators/european-innovation-scoreboard/eis-2024#/eis

7 https://era.gv.at/policies/austrian-rti-strategy-2030/

8 Important Projects of Common European Interest.

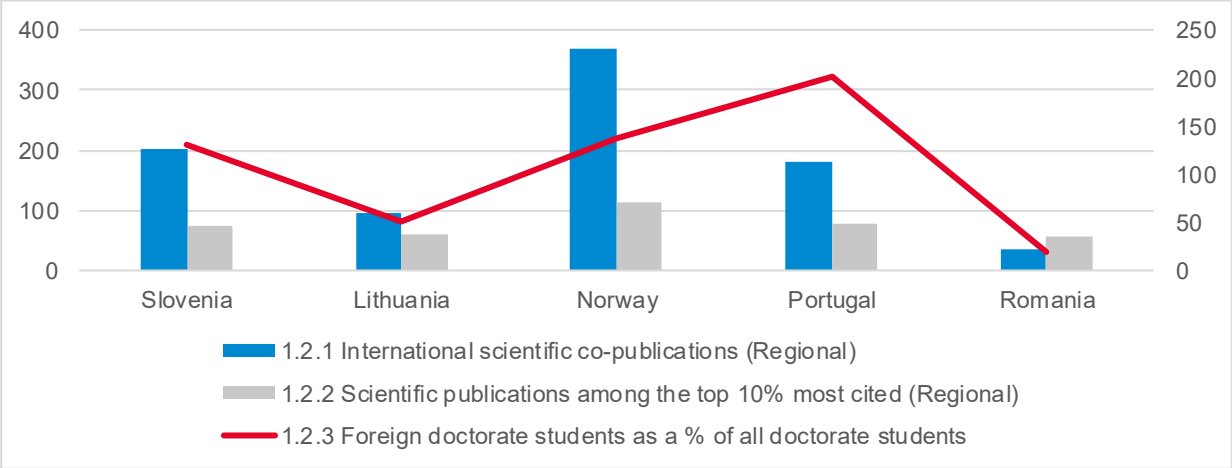
The expansion of bilateral and multilateral research cooperation is also mentioned under the activity “Promotion and strategic targeting of internationalisation”, where the increased visibility for Austria as a location for research and innovation and the selection of international priority countries are also sought.

In the Austrian Action Plan for the European Research Area (ERA-NAP) 2022-2025[9] specific milestones are set to tap the potential of the EU partnerships as well as the EU Missions for solving societal challenges and strengthening the competitiveness of the economy. These include the regular participation in the Partnerships Knowledge Hub as well as the organisation and participation at least twice per year of the "Forum Partnerships Austria".

The Forum brings together representatives of all involved ministries and funding agencies and other important stakeholders and is jointly coordinated by the BMBWF and the BMK. It serves as a national mirror group has also been created to coordinate the national discussions for the PKH, to inform all relevant ministries and agencies on the developments and to evaluate how things are progressing; there is also a platform to exchange experiences on partnerships. A special monitoring group is also mandated with the task to produce monitoring reports biennially in line with the Biennial Monitoring Report for Partnerships at the European level.

In relation to the attractiveness of the research system, which reflects the international profile of the country, it presents a strong performance (168% of the EU average). Specifically, in the international scientific co-publications it holds the eight-position superseded by the comparator countries as well as Luxembourg, Cyprus and Ireland, although this indicator presented a strong increase since 2017. When the top 10% of the most cited publications are considered, it falls in the 11th place just above the EU average, but climbs up to the fourth place, after Luxembourg, Netherlands and France, in relation to the share of foreign doctoral students. This indicator also presented a strong increase since 2017 along with the public-private co-publications. Indeed, the public-private co-publications along with the international co-publications and the foreign doctorate students are considered the relative strengths for Austria. The relative weaknesses are the exports in knowledge-intensive services, the non-R&D innovation expenditures and the broadband penetration. (EIS 2024 Country Profile Austria).

Figure 5: EIS 2022 indicators for ‘Attractive research systems’ for Austria and the comparator countries

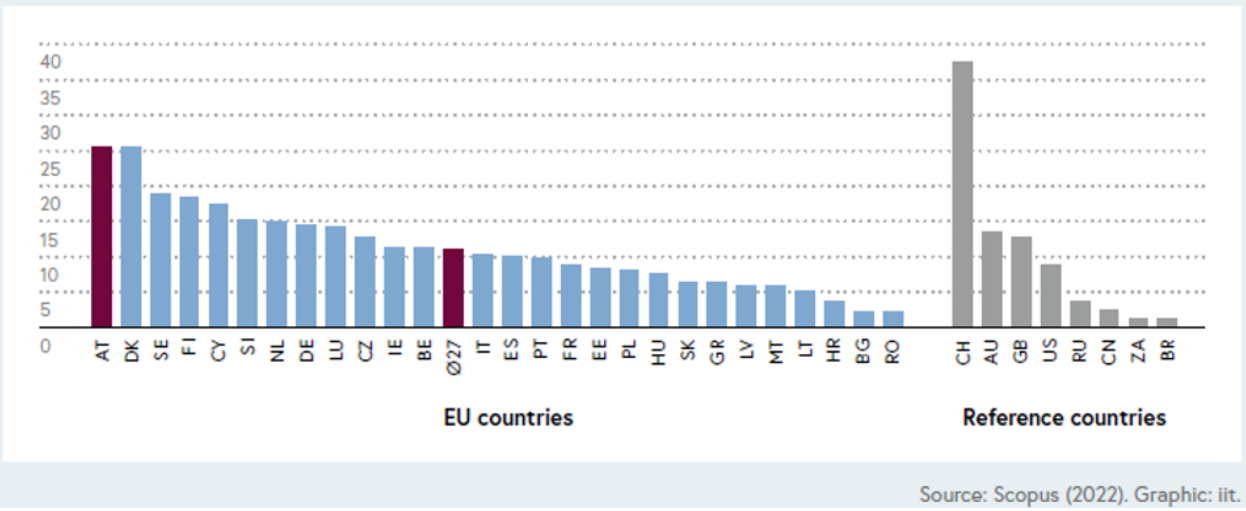


Source: European Innovation Scoreboard 2023. Elaborated using the data provided at https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis

9 https://era.gv.at/public/documents/4824/ERA-NAP_2022-2025_EN_final.pdf

Based on Scopus data on scientific publications 2021, the Austrian Research and Technology Report 2023 marks the loss of one rank, from the 8th to the 9th place. Yet, it also highlights Austrian's leading position in the number of scientific publications in quantum research in 2021, after having taken the third place in 2020.

Figure 6: Number of scientific publications in quantum research per 1 million inhabitants, 2021



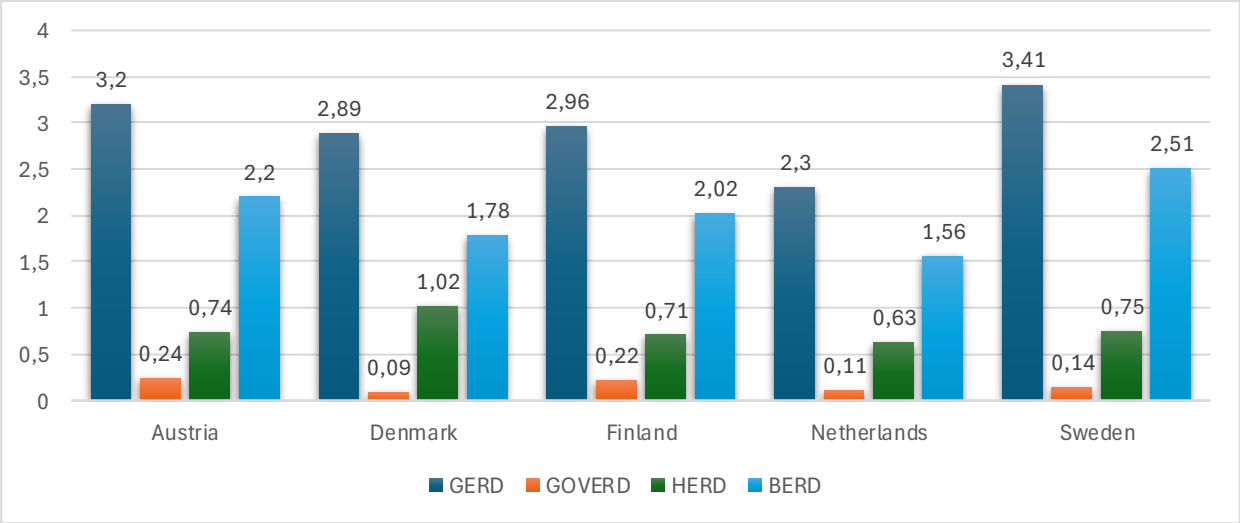
Source: Austrian Research and Technology Report 2023, p. 71

Austria has a high level of gross domestic spending on R&D (GERD), standing at 3.34% of GDP in 2024 (Statistics Austria, 2024).[10] The country has been fulfilling the EU's objective of 3% since 2014, and a continuous increase in research intensity has been recorded up to 2021. (Austrian Research and Technology Report 2023).

Based on the 2022 values for the OECD STI indicators that can be compared across all EU member states, Austria (3.20%) came third after Belgium and Sweden with 3.41%. This places Austria in the second place after Sweden in the comparator group, which also stands for the business expenditures in R&D (second after Sweden). Austria is third after Denmark and Sweden in relation to R&D expenditures in the higher education sector and leads the group in relation to the government allocations in R&D although these shares are quite small in all countries.

[10] https://www.statistik.at/en/statistics/research-innovation-digitalisation/research-and-experimental-development-rd/research-intensity

Figure 7: Basic R&D indicators for Austria and the comparator countries (2022 values)

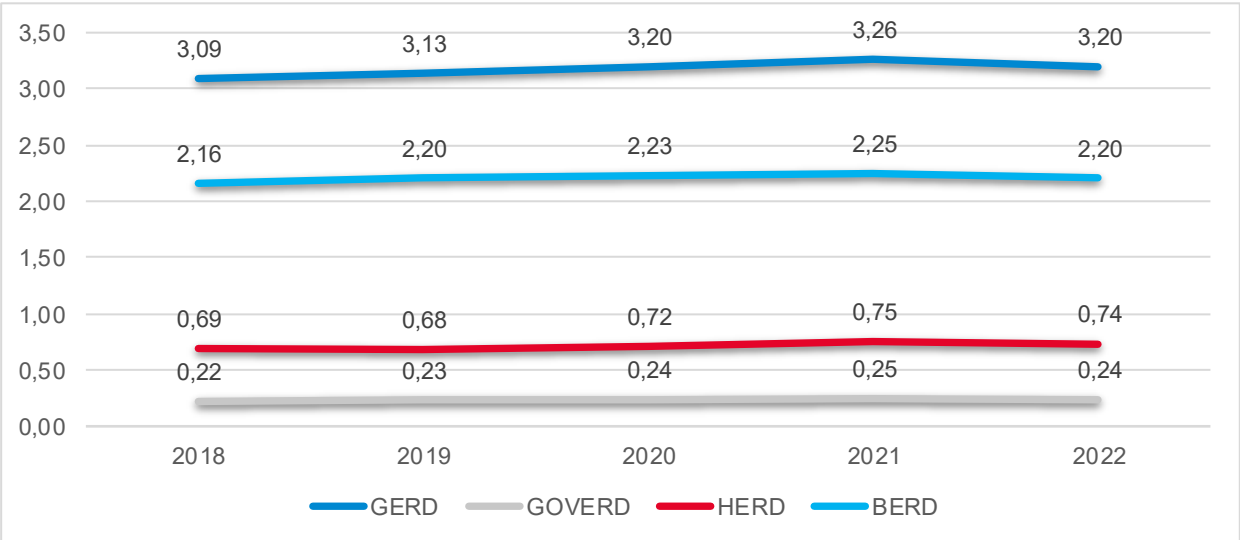


Source: OECD STI Indicators (2024)

The majority of GERD (68.9%) is performed by businesses with HEIs and public research organisations performing around 23% and 7.5% of GERD respectively. The business expenditure in R&D (BERD as %GDP) is again the third highest following Belgium and Sweden (2.20% vs. 2.51%) (OECD STI Indicators, 2024).

The Austrian BERD is at 150.0% of the EU average in 2024, although state and firm investments in R&D have decreased since 2023 due to high interest rates and high inflation. The country outperforms the EU on top enterprises investing in R&D, drawing on strong business R&D expenditures overall (EIS 2024 Country Profile Austria). However, the high level of R&D investments does not fully translate into innovation outcomes especially when it comes to business creation, early-stage innovation and growth in the high-tech sector.[11]

Figure 8: R&D expenditure in Austria (% of GDP) (2022 values)



[11] Commission Staff Working Document, 2024 Country Report – Austria, SWD (2024) 620 final, Brussels, 19.6.2024.

Source: OECD STI Indicators (2024)

Although the target of becoming an Innovation Leader has not yet been fulfilled, Austria remains a Strong Innovator with performance at 116.3% of the EU average, and the third highest R&D intensity (GERD/GDP) in the EU. Austria places special emphasis in transnational collaboration, with the main strategic and policy documents explicitly targeting the increased performance in European Partnerships and EU Missions. The strong performance in relation to the attractiveness of the research system (168% of the EU average) is a helping factor in this regard, although it stands behind the comparator countries in the indicators that relate to international and most cited publications. Yet Austria holds a leading position in terms of publications in certain areas like quantum research.

2. Who are the key R&I funders in Austria?

Austrian Ministries have increasingly been taking responsibilities at the EU level in relation to the participation and support of Austria in European and international partnerships for research and innovation. The three ministries that are most involved in partnerships are the BMBWF (Ministry of Education, Science and Research), BMK (Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology), and BMAW (Ministry of Labour and Economy). There are also sectorial ministries like the Ministry of Agriculture, Forestry, Regions and Water Management (BML) that take part in partnerships although with much more limited funds compared to the three main research funding ministries.

Federal Ministry
Republic of Austria
Education, Science
and Research

BMBWF

The Federal Ministry of Education, Science and Research (BMBWF) has always given particular attention in enhancing international collaboration for research and innovation and together with the BMK they are now in the coordination seat of the participation of Austria in European Partnerships under Horizon Europe. The BMBWF is mostly involved in the health-related partnerships (Cluster 1) and in the Cluster 6 partnerships (Food, Bioeconomy, Natural Resources, Agriculture and Environment). It will also be involved in the future Cluster 2 partnerships related to social sciences and humanities. As noted by an interviewee, national funds have increased for partnerships in comparison to the preceding ERA-NETs. Partnerships are working areas that address the real common need to work together at EU level in certain fields. They are a strategic instrument for priority setting and aligning joint forces besides a funding instrument.

> *"Some fields are not covered any more in Horizon Europe calls and this makes partnerships very important. Partnerships in Horizon Europe have made real progress in creating critical mass." (BMBWF official)*

There has been a shift in the decision-making regarding partnerships. In the past FWF had the autonomy to decide which partnerships to take part in. Now it has become more strategic reflecting the changed nature of the partnerships from Horizon 2020 to Horizon Europe. Based on the FWF's experience with the previous ERA-NETs, BMBWF determines the budget that the FWF can then use for the partnership calls. The decisions are made in a working group in which the FWF, the coordination departments and the relevant thematic departments are involved.

Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

BMK

The Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) was created in January 2020. This created a powerful instrument for climate policy. BMK has an unusually broad portfolio covering large parts of climate related policies as well as innovation policy, the latter area shared with the Ministry for Labour and Economy (BMAW).

BMK takes part in several partnerships in various areas that relate to the ministry's strategies and priorities like energy transition, environmental technologies, cities, digitalisation, etc. BMK is very much oriented towards the eco-system approach, i.e. to engage all stakeholders along the value chain and also attract new researchers to establish multi-disciplinary approach in research. Within BMK in the last 2 years there has been a definite shift to a more strategic approach regarding the participation in partnerships, although Austria has always had a broad coverage of partnerships.

BMK officials agree that the European Partnerships are not merely another funding instrument. They are a strategic instrument that allows you to participate and shape national and EU R&I agendas.

> *"Partnerships are generally an additional funding source but they are also an instrument through which the topics addressed gain better visibility and opportunities are given to the community to participate in collaborative international/European projects."…*
> *"Partnerships are much more about enabling Austrian actors to be part of the European eco-system and global value chains in the given thematic areas." (BMK officials)*

Based on the BMK officials interviewed, the involvement pays off by gaining deeper insights and opportunities to forge certain topics also at national level at a quite early stage, e. g. when SRIAs are elaborated within sectorial communities (like technology platforms or partnerships), and Member States co-influence the orientation of (technological) research. This gives a valuable advance especially when it comes to co-programmed partnerships with the participation in the States Representative Groups providing a chance to better prepare national stakeholders.

The institutionalised partnerships have been instrumental in "condensing" previously disperse national stakeholders across Europe in some areas (aeronautics, rail). Yet, they may need some governance adjustments when it comes to crucial inter-sectorial collaboration and more openness. While, the openness of JUs has been criticised in the past, efforts are being taken to improve the situation. At the same time, Institutional Partnerships need to build interfaces with other sectors, which is crucial in some cases like the mobility sector, beyond covering the whole value chain in a vertical manner.

Federal Ministry
Republic of Austria
Labour and Economy

BMAW

BMAW is involved in EUROSTARS, being also the ministry responsible for EUREKA in Austria, and in the Metrology partnership. EUROSTARs is compatible with the approach to research and innovation funding by BMAW which is primarily bottom-up, i.e. not limited or prioritised to any specific research field. This is in contrast for example to BMK which is primarily guided by particular thematic and sectoral priorities. In terms of budget BMAW spends around € 4 million a year, having raised it from € 3.5 due to the high interest by the research and business communities.

EUROSTARS has been running well. It is one of the biggest partnerships and has proven to be a practical instrument to also integrate partners beyond Europe. The Metrology partnership is also important as metrological issues have increasingly become important for industry. Metrology is a

field that clearly needs coordination in Europe. Overall, Austria is well positioned in the partnership system. As an advanced, open, but quite small economy, it is necessary to have R&I collaboration high in the agenda.

The BMAW official echoed the concern that when a specific area is to be addressed by a partnership, there is less money for the normal calls in the field under Horizon Europe. This makes the synergies among existing partnerships and other Horizon initiatives important (such as Missions, EIT-KICs, etc.). In fact, it should be the case that around 50-60% of the Mission's programme is realised by partnerships but this has never been addressed. Missions and partnerships are developed in silos.

Furthermore, the launch of so many partnerships in the first wave was a surprise.

> *"I would have expected only half to be accepted. Instead, they ended up to 49 new partnerships. The selection about the areas to address by Partnerships should be based on which themes are better addressed through normal Horizon calls and where there is need for more political coordination that goes beyond the programme financing. But these questions are not really central to the discussion." (BMAW official)*

The budgetary constraints of some Eastern European countries that do now allow them to take part in all partnership calls is also relevant here and needs consideration.

Austrian researchers and businesses are also interested in the collaboration with non-European counterparts. The GlobalStars (under EUREKA/EUROSTARS), where Austria frequently participates, is an important channel for boosting collaboration with third countries. In addition, the Austrian R&I funding system is open - it is possible in many projects funded by FFG depending on the particular programme - to include a foreign partner to receive up to 20% of the total project funding if necessary. These two facts were the main reasons why the Beyond Europe initiative is now inactive.

The need was also stressed in the interview to revisit the open method of coordination as in many fields it would be possible to coordinate national policies without national money (through joint action plans for instance or CSA actions). Only certain themes and conditions with strong added value should be addressed by partnerships in addition to Horizon Europe calls, but there are different views in the Members States in relation to the role of partnerships in the wider landscape. In the current discussions about the next framework programmes, some consider that the bigger the framework programme budget, the more we should have for partnerships. This is not reflecting a clear division of labour.

Federal Ministry
Republic of Austria
Agriculture, Forestry, Regions
and Water Management

BML

Although not among the main research funding ministries, BML is also an actor in European partnerships. The overarching guiding framework is the RTI Strategy 2030, but the areas are defined very broadly leaving the ministry's priorities insufficiently addressed. During the next year, BML will develop a new research strategy for 2026-2030 which is expected to enable the examination of alignment with other priorities to facilitate decision-making.

BML funds certain research organisations as part of the ministry to do research on topics that are relevant to the ministry thematic areas i.e. agriculture, water management, and forestry. In this sense BML takes part in calls of partnerships, but the available funds are limited in comparison

to those available to the three main research funding ministries (BMK, BMBWF and BMAW). BML is still involved in some ERA-NETs, but back in 2019 the decision was taken not to be involved in any more partnerships due to the limited budget available. Yet, BML is active in EJP Soil and is a member of the Governing Board and will be a minor partner in the next call of the Partnership on Agroecology.

However, the situation will change for the next wave of the partnerships and specifically for the upcoming partnership on wood and forestry research. BML has committed to take part with around €4 million for the period 2025-2031. This was made possible due to the creation of a special fund in Austria for wood and forestry ('Waldfond', including research).

For BML addressing the research questions of sectorial ministries that do not have large funds to support research themselves is important.

> *"There is a long-lasting, clear argument to take part as you will be involved in a €20 million call with only € 0.5-1 million of national money. The reason to take part is still strong but we have to do our homework in the sense that there are sectoral ministries dealing with topics e.g. agriculture, health, culture, defence, food etc., that have their own research questions but not the funds. So how can we tackle that? Silos have been developed during the years – there is an ongoing discussion in the national partnership forum ('Forum Partnerschaften') to deal with that." (BML official)*

The benefits of getting involved in partnerships are appreciated. Certain policy areas become increasingly visible at the national level, as the relevant ministries come forward with their own research questions to seek support from the main research funding ministries.

Yet, there are also negative implications as the funds to engage with the partnerships come from a uniform budget to fund research. Thus, if more funds are earmarked for partnerships, this means there are less for the national calls. In addition, the coordination efforts in partnerships are enormous. BML also considers that the partnerships need to have a much clearer focus on solving specific challenges, like the water supply issues, or the electric mobility, and that it is worth specifying how the partnerships contribute to the ERA policy agenda.

2.1. Austrian Research Promotion Agency (FFG)

The Austrian Research Promotion Agency (FFG) is the largest Austrian organisation for the promotion of applied research and innovation. FFG is wholly owned by the Republic of Austria, represented by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) and the Federal Ministry for Labour and Economy (BMAW). FFG offers advice, support and funding for research and innovation projects through a variety of public funding programmes.

FFG has always been active in partnerships since the very beginning (2004). FFG supports the research and business communities in their participation in partnerships through a variety of activities, i.e. information and matchmaking activities, mirror groups to mobilise the community, strategic dialogues with university rector to raise awareness of funding opportunities, etc. Attention is also paid to coordinate internally and share experiences across all the people involved

in partnerships. A working group is formed that meets every six weeks or so. Another group that FFG created involves the coordinators of the co-funded partnerships (like the JPI Chairs) that addresses more strategic and administrative issues that the co-funded partnerships face.

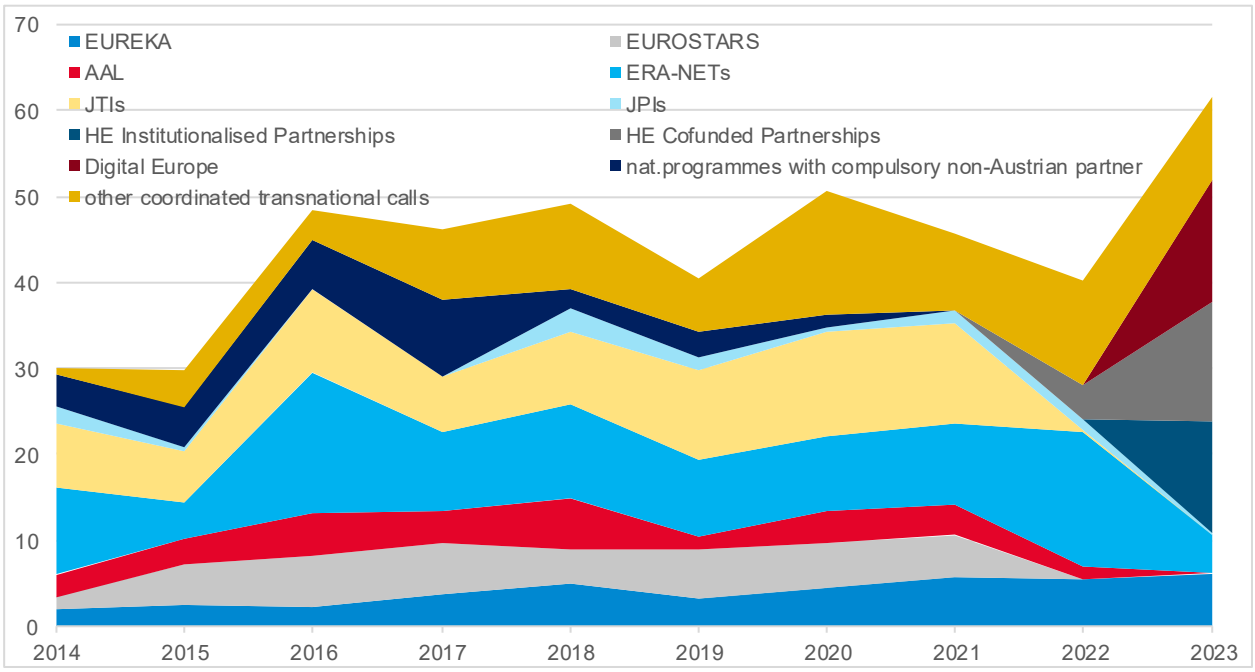
FFG is mandated to manage some of the partnerships and implement the respective co-funding. The annual budget for trans-national projects has increased from around € 40 million per year in 2019, or € 30 million in 2014 to over € 60 million a year in 2023. The rise of the funds allocated to the new Horizon Europe partnerships is evident from 2022 onwards along with the consequent decrease in ERA-NETs and JPIs but also the national programmes with required non-Austrian partners.

The approach to partnerships has become more strategic with the relevant ministries having a more decisive role. The higher level, strategic approach now associated to the partnerships has been helpful to raise commitment. Another change in the recent years is the multi-annual budget planning that has not existed in the past. It is now possible to have agreement with the ministries over the budget allocation that covers a period of more than 1year (2-3 yrs). This helps FFG plan budgets ahead and possibly adjust from one year to the next.

FFG officials note that whether partnerships are raising critical mass differs from one partnership to another. Some partnerships manage to leverage quite a lot compared to the national budgets. In addition, there is the lobbying behind certain areas, like micro-electronics, which results in higher budgets. The level of the national funds that are to be allocated depends on the general interest (not only national) in the field addressed.

> *For instance, there is a partnership coming up on raw materials. Austria has not participated in such a partnership before so it is difficult to assess the level of the budget that will be needed. Yet, the ministry is assigning a large budget to this as the topic is very important." (FFG official)*

Figure 9: Annual FFG investments in trans-national projects (m €)

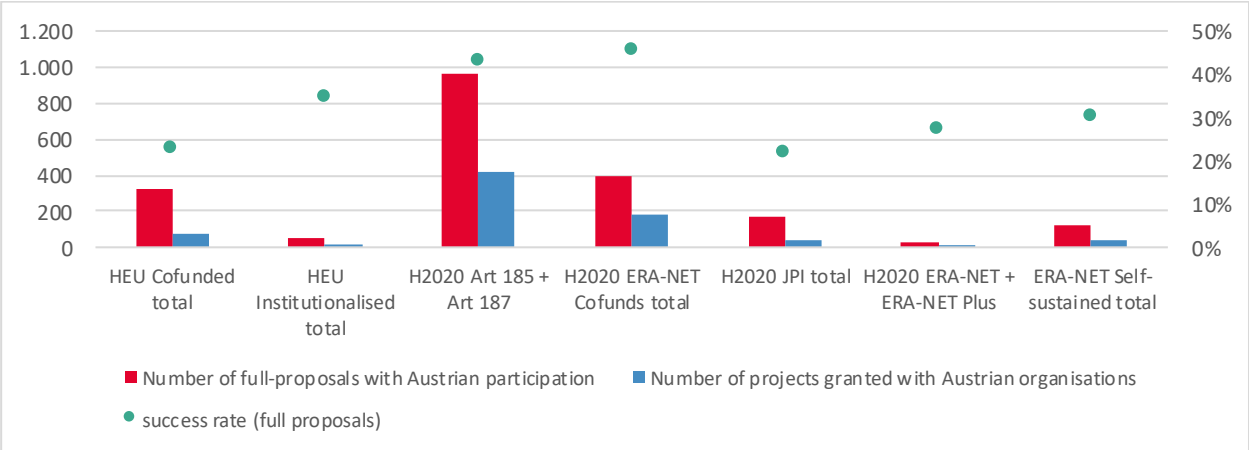


Source: FFG

During H2020 FFG funded a total of 644 projects accounting for around € 175 million with varying success rates[12] across the different partnership types (cf. Figure 10 and Table 3). The highest success rate was marked for the ERA-NET Cofunds (46%) which ranged from 80% (ERA-NET SES) to 25% (EN-SUF). The second average success rate was presented by the Art 185 and Art 187 initiatives (43%) that presented success rates as high as 78% (EuroHPC) or as low as 35% (ECSEL). The JPIs presented an average success rate of 22% ranging from 8-38%.

In Horizon Europe, albeit the still early days with calls only from four Co-funded Partnerships and one Institutionalised Partnership, the success rate was 23% and 35% respectively. Overall, the success rates marked by partnerships are higher than the average rate of Austrian organisations in either H2020 (17%) or Horizon Europe (20%).

Figure 10: Proposals, submitted and approved and success rates in H2020 and Horizon Europe Partnership calls



Source: FFG

While EUROSTARS-2 and AAL received the largest number of full proposals, they have success rates of 37% and 59%. Similarly, ECSEL with 144 proposals was in the range of 35% success rate. Notably INNOVATIVE SMEs, the successor partnership including also EUROSTARS, with a high number of proposals presented one of the lowest success rates (12%). M-ERA.NET received the largest number of full proposals among the ERA-NET Cofunds and had a relatively better success rate of 40%. It is also worth noting the self-sustained IraSME that received a high number of proposals (98) and presents a relatively good rate of 31%.

[12] The success rate is calculated as the result of the number of eligible proposals or the number of full-proposals divided by the total proposals submitted under a specific call.

Table 3: Full proposals submitted and granted, budget committed and spent and success rates for European Partnerships managed by FFG

Partnership/call	Full proposals with COUNTRY participation	Projects granted with COUNTRY organisations	National budget committed by national agency	Actual agency budget spent (after selection of proposals)	success rate (full proposal)
DUT	50	35	11.600.000	9.364.610	70%
Innovative SMEs	245	30	9.187.309	5.140.376	12%
CETP	5	4	3.800.000	2.890.532	80%
THCS Call 2023/01	19	4		1.762.990	21%
KDT	57	20	21.632.596	21.631.596	35%
EUROSTARS-2	527	194	52.432.195	28.404.380	37%
AAL	280	166	14.972.128	14.792.727	59%
ECSEL	144	50	63.552.717	63.552.717	35%
EuroHPC	9	7	915.195	915.195	78%
M.ERA-NET	92	37	21.724.816	12.929.251	40%
SG_RegSys	46	25	51.942.577	13.092.114	54%
SOLAR-ERA.NET	47	24	5.118.410	5.741.831	51%
EN-SCC	20	13	3.699.997	3.670.203	65%
EnerDigit	26	11	2.280.000	2.467.825	42%
EN-UAC	27	11	4.700.000	3.413.306	41%
Quant ERA	27	10	3.565.697	2.903.139	37%
EN-UTC	14	8	2.045.651	1.881.946	57%
ERA-NET SES	10	8	3.995.458	2.688.150	80%
HDHL-INTIMIC	25	8	1.681.163	1.679.244	32%
AXIS	14	5	530.000	529.719	36%
EN-SUGI	13	5	2.000.000	2.072.284	38%
PhotonicSensing	7	4	1.001.476	1.001.476	57%
EN-SUF	12	3	693.639	680.461	25%
ERA4CS	11	6	400.000	399.933	55%
CHIST-ERA	3	2	1.012.257	223.894	67%
JPI Urban Europe	97	29	8.435.802	8.552.124	30%
JPI Climate/Cultural Heritage	8	3	800.000	787.662	38%
JPI MYBL	33	3	1.331.832	523.737	9%
JPND	12	2	1.627.273	617.663	17%
SOLSTICE	25	2	400.000	399.983	8%
ERA-Net RUS+	20	5	714.786	717.900	25%
ERA-NET Transport	9	3	852.759	911.771	33%
IraSME – self-sustained	98	30	9.029.492	9.336.291	31%
NANO-EHS – self-sustained	20	6	2.506.806	1.782.156	30%
HEU Co-funded total	*319*	*73*	*24.587.309*	*19.158.508*	*23%*
HEU Institutionalised total	*57*	*20*	*21.632.596*	*21.631.596*	*35%*
H2020 Art 185 + Art 187	*960*	*417*	*131.872.235*	*107.665.019*	*43%*
H2020 ERA-NET Cofunds total	*394*	*180*	*106.391.141*	*55.374.776*	*46%*
H2020 JPI total	*175*	*39*	*12.594.907*	*10.881.169*	*22%*
H2020 ERA-NET + ERA-NET Plus	*29*	*8*	*1.567.545*	*1.629.671*	*28%*
ERA-NET Self-sustained total	*118*	*36*	*11.536.298*	*11.118.447*	*31%*
Total H2020	*1558*	*644*	*252.425.828*	*175.550.635*	*41%*
Total Horizon Europe	*376*	*93*	*46.219.905*	*40.790.104*	*25%*

Source: FFG

2.2. *Austrian Science Fund (FWF)*

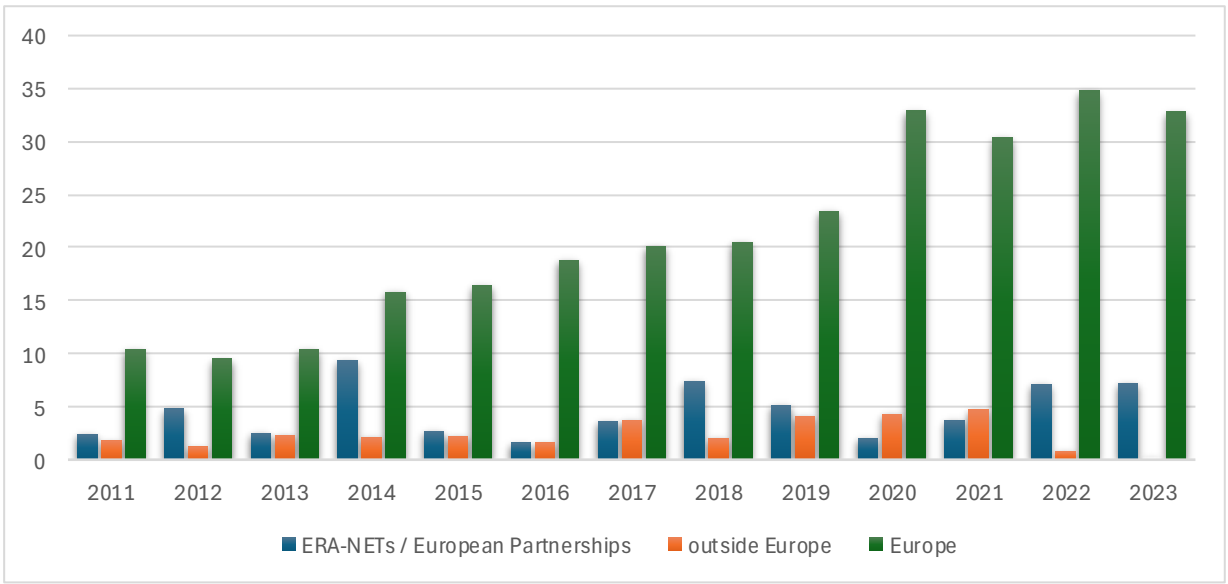
The Austrian Science Fund (FWF) is the central body for the promotion of basic research. FWF provides support for stand-alone projects, scientific stand-alone publications, Priority Research Programmes, international mobility, and career development of female scientists. FWF participates in partnerships that have some component of basic research and priorities that are relevant for Austrian science and is supervised by the Ministry of Education, Science and Research (BMBWF).

The FWF strategy has shifted from trying to participate in all ERA-NETs with relevance to basic research to a more selective approach for the new Horizon Europe partnerships. Now commitments are made at the national level and not at the agency level. It is the ministry (BMBWF) that recommends to FWF to take part in certain partnerships and calls with a specific amount of budget, after consultation with FWF.

The FWF overall approach to trans-national collaboration is broad to enable participation in any programme facilitating collaboration in basic research. About ¾ of the projects funded by FWF have some sort of international collaboration.

FWF has increased its international budget from around € 32 million to € 40 million in 2024 with the target to further increase it to € 60 million in the next years. The budget has been steadily increasing since 2011 with only slight fluctuations in 2021 and 2023. Most of the budget for international collaboration goes to bilateral agreements with EU but also non-EU countries. For the partnerships particularly, around € 7.2 million were invested in 2023 – the aim being to increase this to €10 million in 2024 and 14 up to 2026.

Figure 11: FWF annual international budget (€ million)



Source: FWF

There has been a decrease of participation in ERA-NETs. This is natural as they are at the ending phase with the new partnerships launched under Horizon Europe. The FWF budget that is allocated to partnership calls has remained similar, i.e. € 800,000 - € 2 million per call. There has hardly been a case of not being able to fund a successful proposal due to shortage of funds.

FWF officials remark that the interest from researchers is to partnership calls is high. Although the bulk of the international budget goes to bilateral agreements, the national or bilateral / trilateral programmes are not competing against the partnerships. They rather complement bilateral and multi-lateral programmes. Still, researchers go for multilateral programmes only in specific cases where such international collaboration is really needed.

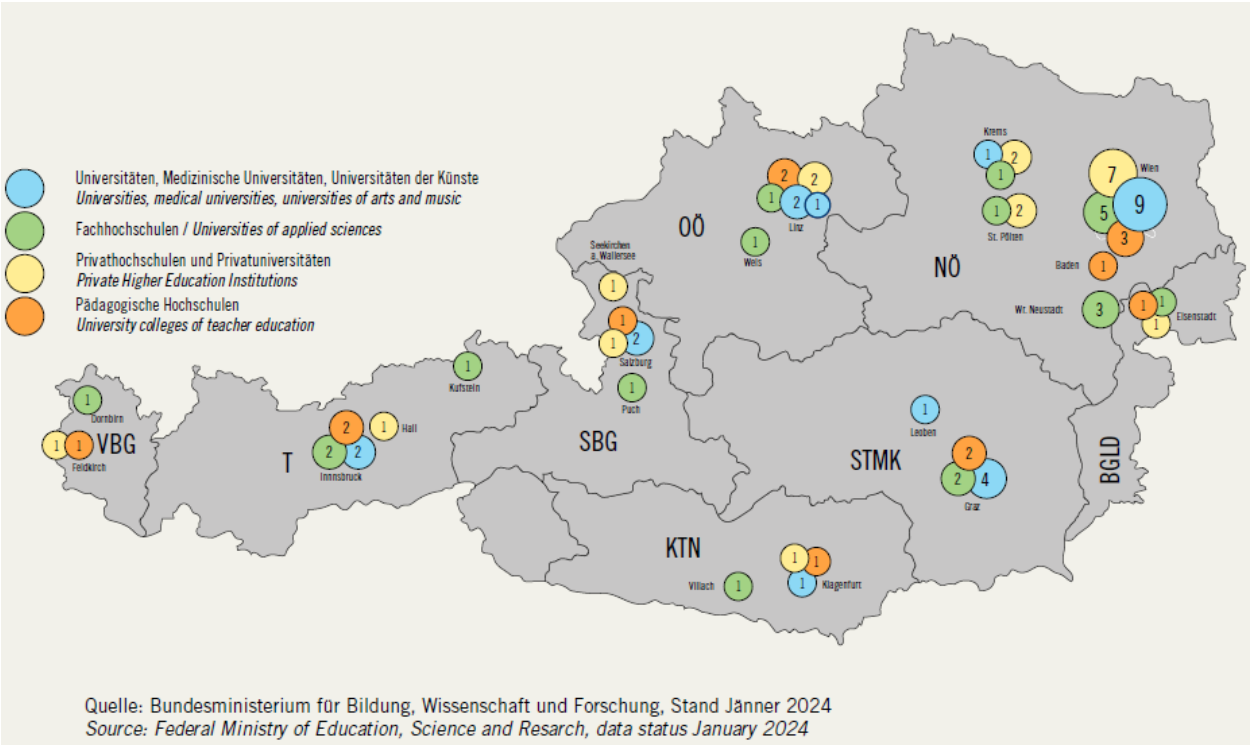
FWF officials also stress that the coordination that is needed before a partnership is launched is not optimal in the sense that the same area (e.g. health) is addressed by many different partnerships. They also appreciate the two new partnerships coming up in the third wave that are addressing topics from the social sciences and humanities.

Austria presents a strong commitment to international collaboration in research and innovation and is a firm believer of the potential of European Partnerships as strategic policy instruments. Backed up by a well-functioning coordination mechanism and increasing public budgets for trans-national projects, Austria's performance is well-placed in the partnership landscape. While driving evolutions in certain areas like urban transitions, it also sets an example of embedding partnerships at the national context and synergising with other instruments like the EU Missions. Concerns exist about the high administrative burden as well as the increasing number of the 'new' partnerships in Horizon Europe. While a clearer positioning of the partnerships is pertinent in the European and national contexts, Austria continuous its efforts in realising their full potential pooling together European and national resources towards common challenges.

3. Who are the key R&I performers in Austria?

There are four higher education sectors in Austria which include public universities (22), universities of applied sciences (21), universities of teacher education (14), two private colleges and 17 private universities. Besides their differences in their legal status and ways of financial support, they may also vary in their profiles and content focus. The higher education sector is the second larger research performer after businesses.

Figure 12: Higher education locations in Austria



Quelle: Bundesministerium für Bildung, Wissenschaft und Forschung, Stand Jänner 2024
Source: Federal Ministry of Education, Science and Resarch, data status January 2024

There are also the research institutions that include the following:

1. Austrian Institute of Technology GmbH (AIT)
2. Institute of Science and Technology Austria (ISTA)
3. Austrian Academy of Sciences (ÖAW)
4. Silicon Austria Labs GmbH (SAL)
5. Ludwig Boltzmann Society – Austrian Association for the Promotion of Scientific Research (LBG)
6. GeoSphere Austria – Federal Agency for Geology, Geophysics, Climatology and Meteorology (GSA)

The Austrian Institute of Technology (AIT) is the largest research organisation in applied research. In addition, there is a group of regional institutes that mostly focus on applied research and

technology development. An example is Joanneum Research, jointly owned by the federal provinces of Styria, Carinthia and Burgenland, that is a non-university research company and carries out research at six locations, developing solutions and technologies for society, the economy and industry. Some regional institutes belong to Austrian Cooperative Research, a network of non-university applied research institutes organised mostly as limited companies which perform industry-oriented R&D and provide R&D services for industry.

Based on the data in the Horizon Dashboard, the performance of Austria in Horizon 2020 and Horizon Europe (until July 2024) is usually the third best in the comparator group of countries. It follows the Netherlands and Sweden in most of the presented indicators in H2020 except the success rate which is the highest in the comparator group as well as among the highest in the EU. In Horizon Europe, Austria follows the Netherlands in relation to the number of the unique participations and the success rate is fourth in rank among the peer countries, while it holds the third place in the rest of the indicators.

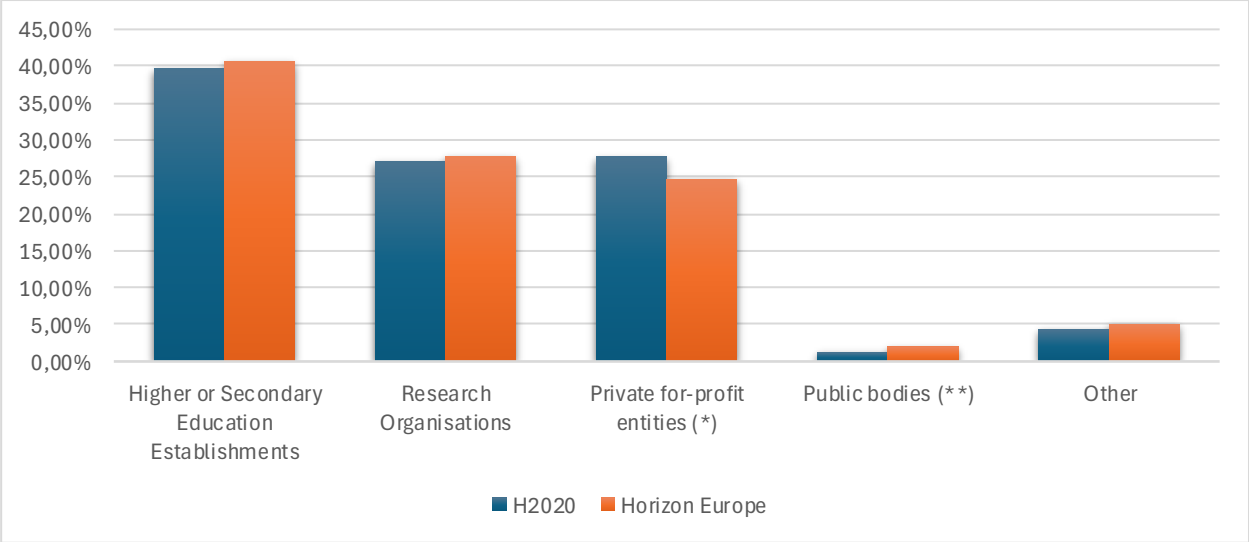
Table 4: Selected indicators of countries' performance in H2020 and Horizon Europe

Horizon 2020	**Austria**	**Denmark**	**Finland**	**Netherlands**	**Sweden**
Net EU contribution (billion)	1.96 (2.87%)	1.76 (2.57%)	1.54 (2.25%)	5.37 (7.86%)	2.32 (3.40%)
Unique participations (no.)	1,128 (2.69%)	891 (2.13%)	854 (2.04%)	2,478 (5.92%)	1,192 (2.85%)
Success rate (%) H2020 success rate 15.32%	17.32	15.13	14,2	17.30	15.40
Budget share rank out of 28	9	10	12	6	8
Participation rank out of 28	10	11	13	6	9
ERC principal investigators (no.)	238 (3.05%)	176 (2.25%)	149 (1.91%)	706 (9.04%)	263 (3.37%)
ERC net EU contribution (million)	365.3 (3.04%)	301.6 (2.81%)	228.5 (1.90%)	1,090 (9.98%)	428.4 (3.56%)
Horizon Europe	**Austria**	**Denmark**	**Finland**	**Netherlands**	**Sweden**
Net EU contribution (billion)	1.08 (3.21%)	1 (2.98%)	0.95 (2.83%)	3.04 (9.94%)	1.12 (3.33%)
Unique participations (no.)	654 (281%)	470 (2.02%)	500 (2.15%)	1.357 (5.83%)	555 (2.38%)
Success rate (%) HEU success rate 21.24%	21.27	22.66	22.73	24.20	20.37
Budget share rank out of 27	9	10	11	4	8
Participation rank out of 27	8	11	12	5	10
ERC principal investigators (no.)	134 (4.07%)	111 (3.37%)	70 (2.12%)	366 (11.11%)	145 (4.40%)
ERC net EU contribution (million)	206.9 (4.04%)	177.2 (3.48%)	112.2 (2.19%)	592.1 (11.55%)	236.8 (4.62%)

Source: Horizon dashboard – 24/7/2024, R&I Country Profile - Key Figures | Sheet - Qlik Sense (europa.eu)

Regarding the types of beneficiaries, there are no significant changes across Horizon 2020 and Horizon Europe, with the higher or secondary education establishments getting the largest share of participation, based on the EC contribution that each type receives, and the next place shared between research organisations and private for-profit enterprises.

Figure 13: Type of Austrian beneficiaries in projects across Horizon 2020 and Horizon Europe based on the EC contributions



Source FFG based on eCORDA data (cut-off date July 2023)

(*) Excluding Higher or Secondary Education Establishments
(**) Excluding Research Organisations and Secondary or Higher Education Establishments

Table 5: Top 20 Austrian participants in Horizon Europe projects based on the EU net contribution (€)

Nr.	Organisation (ENG)	EU Net contribution (€)
1	UNIVERSITAT WIEN	333,971,122
2	TECHNISCHE UNIVERSITAET WIEN	297,698,411
3	AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH	234,036,518
4	MEDIZINISCHE UNIVERSITAET WIEN	175,756,771
5	TECHNISCHE UNIVERSITAET GRAZ	168,033,077
6	INSTITUTE OF SCIENCE AND TECHNOLOGY AUSTRIA	155,126,718
7	UNIVERSITAET INNSBRUCK	147,211,567
8	UNIVERSITAET FUER BODENKULTUR WIEN	126,073,432
9	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH	109,411,348
10	OESTERREICHISCHE AKADEMIE DER WISSENSCHAFTEN	107,313,788
11	AVL LIST GMBH	104,617,562
12	INTERNATIONALES INSTITUT FUER ANGEWANDTE SYSTEMANALYSE	84,941,875
13	UNIVERSITAET GRAZ	72,176,783
14	INFINEON TECHNOLOGIES AUSTRIA AG	70,888,377
15	MEDIZINISCHE UNIVERSITAT GRAZ	64,643,076
16	UNIVERSITAT LINZ	56,353,992

17	FORSCHUNGSINSTITUT FUR MOLEKULARE PATHOLOGIE GESELLSCHAFT MBH	55,298,945
18	OSTERREICHISCHE FORSCHUNGSFORDERUNGSGESELLSCHAFT MBH	54,610,515
19	VIRTUAL VEHICLE RESEARCH GMBH	50,245,264
20	INSTITUT FUER MOLEKULARE BIOTECHNOLOGIE GMBH	47,112,311

Source: eCORDA, July 2023

How are they doing in partnership project participation?

Based on data from the ERA-LEARN database, Austrian research organisations took part in 631 partnership projects during H2020. This is similar to the projects with Denmark participation and leaves behind Finland but is largely superseded by the rest of the comparator countries. Furthermore, this amount accounts for around 3.85% of the total actual investments made by all involved countries in P2Ps in H2020.[13] This is higher than the share of EC contributions absorbed by Austrian organisations in H2020 (3.85% vs. 2.86% of total net EC contributions). At the same time Austrian participations account for 3.9% in total P2P project participations while this score gets down to 2.86% in for H2020 projects, or 12.33% of P2P-supported projects which again is higher than the share of Austrian projects in the total Horizon 2020 projects (9.15% of total signed grants). The figures are also lower in Horizon Europe projects (2.89% of total participations and 11.56% of signed grants in Horizon Europe). It can be argued that, overall, Austria benefits slightly more in partnerships than in the EU framework programmes.

The beneficiaries of partnership projects stressed the difficulties in getting selected projects started due to the contracting and funding procedures that are not synchronised among the different countries and cause significant delays. The differences across the national participation rules and procedures and funding rules including also extension possibilities were sources of additional burden. Even more so, inabilities of getting funded for (some) partners led to withdrawal from successful proposals or cancellation of the whole project. Some sort of support would be appreciated from the partnerships' management to secure the funding of approved projects and improve the synchronisation of the different countries' procedures.

In this regard, the Horizon Europe calls present an advantage as they are supported by a single structure, uniform rules and procedures and the ability for teams from any European country and beyond to take part in a proposal. However, the strong competition in Horizon calls is an important hindrance and the smaller efforts needed to prepare a proposal for a partnership call were much appreciated.

> "If there was a Horizon call on this topic, it would have been much easier to establish a strong consortium. But it would be more difficult in terms of competition with a higher number of proposals." (ERANet SmartGridPlus beneficiary - research institution) "There is a central mechanism and procedure in Horizon calls and these drawbacks do not exist. Yet, it is easier to deal with the national process and we can only hope there's no problem with the other agencies in the future. National processes are more known to us although we can of course manage participation in Horizon calls." (DUT beneficiary – SME 3) "It was not a very difficult proposal to write compared to national proposals that

[13] These figures may actually be higher considering that around 25% of the financial data of the H2020 P2Ps might be missing in the ERA-LEARN database.

> are significant and the success rate is only around 10%. Biodiversa has a higher rate." (Biodiversa 3 beneficiary - university)

There are different views about the project management burden among the different type of participations. For researchers in universities or research institutions the project management in the role of coordinator may seem manageable once the project is set up and running.

> "Compared to a FWF-funded project with a German partner, in terms of administrative burden, even though more work was needed for the proposal preparation, the process then was smooth. Compared to a Horizon Europe project, the reporting is much less in CHANSE." (CHANSE beneficiary - university) "During the project's lifetime it was surprisingly easy in terms of administrative burden for me as coordinator, as each partner had to do with their country's funder and procedures." (ERANet SmartGridPlus beneficiary - research institution) "We mainly had to do with BOKU that was the leader of the Austrian team in the project and FFG. In this sense it didn't have many differences from the national projects we were involved in, but it was interesting to plan a mobility station in a transnational context – very interesting for us." (JPI Urban Europe beneficiary – SME)

However, it might be an added burden for SMEs in the role of the coordinator compared with locally managed projects.

> The funding issues aside, there is also the reporting that needs to be done both at the partnership level and the agency level. There are also the different rules across the countries. The project management aspect, more so if you are the coordinator, is larger if you want to work with more partners and other countries. Overall, it takes 1/3 of the project budget. (DUT beneficiary – SME 1)

The ceiling of FFG per project that amounts to € 300,000 was also considered low and should be revisited. "Coordinating the whole project within this amount of money does not leave much for the actual research work." (DUT beneficiary – SME 1)

The different funding rates in other countries for private entities or the high bureaucracy that exists in participation rules were mentioned as additional obstacles in the smooth start and implementation of projects. The funding rate in Austria, which depends on the programme, project type and organisation type, was considered high and much appreciated along with the procedures that do not make the participation of SMEs unnecessarily complicated.

The value of creating a community of practice of the project funded was highly appreciated along with the continuation in the collaboration, which is a very common benefit.

> "I'm also looking forward to the creation of a community with the people engaged in such projects, that DUT is planning to do through annual meetings." (DUT beneficiary – SME 2) "The annual meetings organised with other projects are useful. They are open to communication about future calls, and to include additional topics in the calls." (DUT beneficiary – SME 3) "The structure of CHANSE with the conferences bringing together all projects is also very useful." (CHANSE beneficiary – university) "Such projects are definitely preparation steps for other maybe larger projects. With the results you can go ahead for another smaller project but also a Horizon project. At least part of the team will go on to something bigger." (Biodiversa 3 beneficiary – research institute)

The special nature of the partnership projects as intermediate steps before getting engaged in larger projects such as those supported by Horizon was noted. Besides the manageable consortium, the smaller size seems to benefit the participants in terms of really working together, creating synergies and blending perspectives and approaches, thus generating new knowledge. Interviewees also highlighted the added value in terms of the content and flexibility of partnership calls and the multi-disciplinary aspect applied.

> "The call provided a unique opportunity for inter- and transdisciplinary research with substantial contribution from SSH researchers, besides TRL related elements of project work." (ERANet SmartGridPlus beneficiary - research institution) "It is really important to bring people together not only from the classical DUT stakeholders but including also small enterprises, NGOs, and city administrations… Success is not only about publications but also how much people can inspire each other – this is vague and hard to measure, but the enthusiasm of working together is valuable." (DUT beneficiary – SME 2) "The DUT projects are more impact-driven; Horizon calls are more research oriented. In DUT we have to work with local communities, cities, districts, we are normally connected with a testing environment, where you can see the impact directly. This is important." (DUT beneficiary – SME 3) "the Biodiversa projects are more blue-sky projects with lots of creativity and flexibility. Horizon projects are completely pre-determined. Biodiversa calls are less prescriptive than EU calls." (Biodiversa 3 beneficiary – university)

The interviews also provided anecdotal evidence of impact on policy and innovation as well as the participants' capacities and internal strategies.

> "We were also able to show the need for regulatory experimentation and innovation policy measures for regulatory sandboxes to policy makers in Austria, Germany, the European Commission, European regulators and the Clean Energy Ministerial conference… In Austria a programme (Energie.Frei.Raum) was then established by BMK and FFG, to allow for regulatory exemptions for R&D project. Law makers provided the legal basis for the regulatory commission to grant exemptions… Several follow up projects and activities emerged out of the ReFlex project." (ERANet SmartGridPlus beneficiary - research institution)

> "We are in between research and practitioner's work and we except to use the knowledge that will be produced from the project in our daily work – also to gain experience – so it's worth investing in such projects." (DUT beneficiary – SME 1) "The opportunity for internationalisation is really an added bonus." (DUT beneficiary – SME 2) "We have contacts and partners that we met through the JPI Urban Europe matchmaking platforms including two of our most close and regular collaborators…These projects are a big contribution to our strategy, focusing on districts, and cities... We have developed concepts that are now requested at the national level (cities, municipalities) and they also support our consulting work." (DUT beneficiary – SME 3)

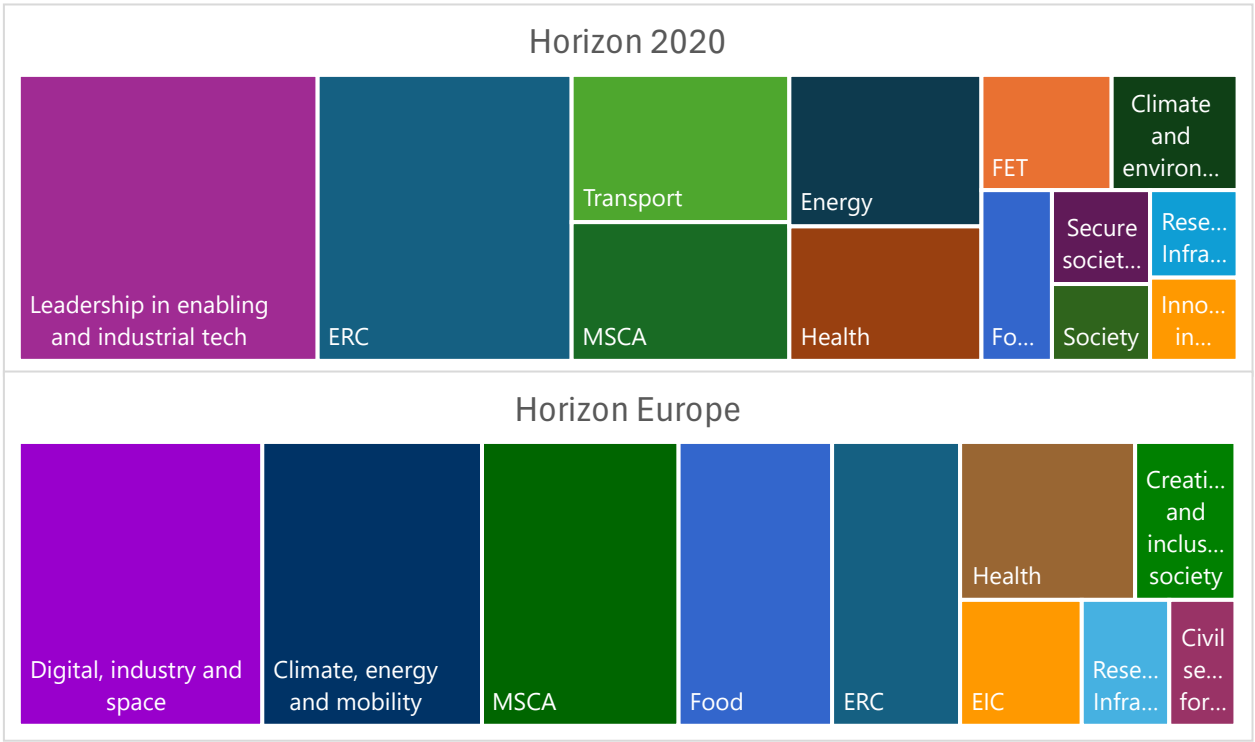
Although the start of partnership projects may suffer from asynchronization and important obstacles that may even cancel their implementation, beneficiaries state that the benefits outweigh the costs. The internationalisation opportunities offered through the projects, along with the multi-disciplinary approach, the creation of communities of practice and the smaller size enabling real collaboration and co-creation are the added value of such projects. Impacts are materialising in the policy and innovation domains, as well as in the participants' capacities, networking, collaborations and future strategies. Efforts should continue, though, to wave the obstacles in participation and project implementation to fully grasp the benefits.

4. In which R&I areas is Austria strong?

The Austrian Research and Technology Report 2023 states that in Horizon Europe, Austrian research institutions and researchers are performing well. Austria's success rate is clearly above the European average, and the returns to Austria have increased in comparison to Horizon 2020. European cooperation is marked as a central cornerstone of Austrian RTI policy. The report also highlights the strong representation of basic research-oriented institutions in Pillar 1 (Excellent Science), non-university research institutions in Pillar 2 (Global Challenges and European Industrial Competitiveness), and an active participation of companies in Pillar 3 (Innovative Europe). Within Pillar 2, the clusters "Climate, Energy and Mobility" and "Culture, Creativity and Inclusive Society" stand out as Austrian areas of strength compared to the European average. The Austrian Research and Technology Report 2024 highlights the leading position of Austria (4th place) in terms of "excellent scientific publications in the life sciences field of biochemistry, genetics and molecular biology" as well as its vanguard place in relation to patent applications in quantum technologies and scientific publications in quantum research.

Comparing the most targeted themes across Horizon 2020 and Horizon Europe based on the total EC contributions, we can see a major focus in the areas of 'enabling and industrial technologies' or 'digital, industry and space' as called in Horizon Europe. Leaving out ERC and MSCA, the next theme that is mostly addressed is the combined 'climate, energy and mobility', which is then followed by 'food' and 'health'. No major shifts are present across the two framework programmes.

Figure 14: Performance of Austrian actors in Horizon 2020 and Horizon Europe - thematic areas based on the total EC contributions



Source FFG based on eCORDA data (cut-off date July 2024)

As marked in the previous ERA-LEARN report, Austrian science is internationally acknowledged in the field of quantum communication and information, in biotech (with Vienna being a major biotech hub in Europe), in mechatronics and in automotive and production technologies. Austria also performs well in the field of smart grids and is leading in electronics-based systems and microelectronics and investing heavily in digitalisation.[14]

Austria is world-renowned for its excellence in several research fields. This is reflected in their performance in Horizon Europe as well as in their participations in European partnerships.

[14] OECD Review of Innovation Policy Austria 2018; Austrian Research and Technology Report 2018

5. With whom does Austria collaborate in R&I and why?

Traditionally Austria has had strong economic as well as scientific and technological linkages with Germany, also due to language. Strong links have also been established with the UK as well as with neighbouring countries (Hungary, Slovakia, Czech Republic as well as Poland and Romania) and Northern European countries due to EU programmes including partnerships.

Besides historical links, language reasons and geographical proximity, it is also the areas addressed by partnerships that guide the collaborations and where the excellence lies in these areas.

> *"For instance, linkages have been developed with time between Austrian and Finnish researchers in forestry or water as they have been working with each other for more than 20 years." (BML official)*

Based on the data from partnership projects during H2020 or the Horizon Europe projects, the top countries that Austrian organisations collaborate with are quite widespread including also Switzerland, Norway and Türkiye.

Table 6: Top collaborations of Austrian organisations in H2020 partnership projects and Horizon Europe projects

H2020 Partnership projects		Horizon Europe projects	
Countries	*Number of links*	*Countries*	*Number of links*
Germany	573	Germany	6.305
Spain	488	Spain	4.804
Italy	422	Italy	4.521
France	372	France	4.113
Netherlands	231	Netherlands	3.075
Belgium	193	Belgium	2.406
Greece	157	Greece	1.868
Sweden	147	United Kingdom	1.657
Finland	92	Sweden	1.638
Switzerland	90	Finland	1.332
United Kingdom	78	Switzerland	1.197
Poland	77	Poland	1.074
Türkiye	62	Portugal	1.071
Norway	61	Denmark	964
Check Republic	56	Norway	912
Portugal	56	Türkiye	558

Source: H2020 partnership projects: BMR 2024. Horizon Europe projects: Horizon dashboard.

There is no overarching strategy for international collaboration in Austria. However, strategic collaboration is sought with countries besides the EU, with innovation front runners such as the USA, India or China, and there are two Austrian Offices of Science and Technology located in the US and China. At the same time, research in the semiconductor/chips field is primarily a European collaboration. FFG has been involved in a series of further activities designed to strengthen international collaboration. These include, among others, bilateral agreements with countries beyond the EU such as Brazil, China, South Korea and Taiwan.

Partnerships are highly appreciated for the opportunities they offer for collaboration with non-EU countries.

> *"In DUT we have also engaged in international outreach beyond Europe. It might also not be only excellence that drives our collaboration but also where the innovation leaders are. Since last year it was also South Korea that participated in our call and the Province of Quebec (Canada) – this year it will also be US, Japan, Australia and Brazil. These are strategic choices for us." (BMK official)*

In relation to basic research, it is worth noting that FWF has an umbrella agreement with certain countries including Switzerland, Germany, Czech Republic, Slovenia, Poland, Sweden and Norway. Under this agreement scientists are free to apply for bi/trilateral grants any time and select freely the lead agency, which suggests funding the top 20% of a ranking list that includes both the international as well as the national proposals. The decision on approval is then taken by the national agency which also applies the national funding and reporting rules to the approved project.

> *"This is the biggest scheme now and it exists for 3 years. It opens up the national programmes to an international dimension. It provides an incentive to researchers to work internationally even though the success rate may be a bit lower than the national programmes." (FWF official)*

In addition, the bilateral agreements of FWF have to be mentioned with several European countries as well as Japan and Taiwan.[15]

Austrian research organisations collaborate with counterparts in the most active countries in both Horizon Europe and the European Partnerships, but the collaboration extends to Eastern and Northern European countries too. This is driven by scientific as well as personal and historical links among individuals and/or organisations. International collaboration is also high in the Austrian agenda, which is targeting the front-runners in certain areas like the US, Japan, Australia, and China.

[15] https://www.fwf.ac.at/en/funding/portfolio/projects/principal-investigator-projects-international

6. What are Austria's S&W in relation to participation in European R&I Partnerships?

Strengths

- Fulfilling the EU's objective of 3% of research intensity since 2014
- A steady increase in participation in European Partnerships since FP7 and strong commitment to European Partnerships and the EU Missions, recognising the high potential of the partnerships as strategic instrument
- National missions, strategies and priorities compatible with EU policy goals and missions
- Improved national coordination and inclusion of sectoral ministries although three ministries remain the key research funders
- High interest in valorisation of research results
- Strong performance in a number of scientific and research areas as well as several areas of industrial R&I - leading position in quantum research
- Public-private co-publications and international co-publications considered relative strengths
- The third highest business expenditure in R&D (BERD as %GDP) although state and firm investments in R&D have decreased since 2023
- Among the top performers in Horizon Europe with higher than average success rate.
- High interest in international (beyond Europe) collaboration with numerous bilateral agreements and R&I offices abroad (US and China)
- A multiform sector of research institutes and research and technology organisations
- An established programme monitoring and evaluation culture

Weaknesses

- Lower performance in relation to top 10% of most cited publications
- High level of R&D investments does not fully translate into innovation outcomes, e.g. business creation, early-stage innovation and growth in the high-tech sectors
- Need to further strengthen the co-ordination at the ministerial level to address more effectively cross-sectoral issues, and not neglect research issues that are important in sectors where the ministries do not hold significant research funding sources

7. Country-specific topic of interest for Austria: Linking partnerships and missions at national level -example/focus on Cities

The concept of "missions" was introduced in Horizon Europe as a new means of addressing major societal challenges. This new approach is more impact-oriented and aims at better liaising with citizens and raising the visibility of science, research and innovation in view of bringing wider transformation. The EU Missions[16] indicate a clear direction and objectives that be targeted, measurable, time-bound and have a clear budget frame. They are programmed within the pillar 'Global Challenges and European Industrial Competitiveness' of the Horizon Europe programme but may also benefit from other programme actions as well as from programmes and activities at the national and regional levels.[17]

The implementation of the EU Missions requires research activities and funding at the national level to be oriented accordingly to contribute to the EU Missions as appropriate. To this end, and acknowledging the cross-cutting nature of the missions' fields, a highly inclusive governance structure has been set up in Austria to facilitate the coordination of the planned actions and activities. A cross-ministerial working group has been established on EU Missions that is co-chaired by the BMK and BMBWF and includes representatives from R&I ministries, sectoral ministries, and 11 central R&I institutions. Under this working group, there are five mission action groups, one for each EU Mission, co-chaired by a sectoral and an R&I ministerial official. The co-chairs of these working groups are brought together to the Mission Management Group to facilitate coordination, while FFG provides the secretariat support and a mission facility for policy-learning, foresight, monitoring and evaluation enables all actors to reflect, adapt and improve mission policies. These groups consist of around 300 Austrian stakeholders in the mission fields, and together they drafted an 'Implementation Plan for the EU Missions of Horizon Europe in Austria'.[18] Based on the Austrian Research Funding Act 2020, the core RTI institutions[19] are also called upon to contribute to implementing the strategic priorities of the RTI Pact, including the EU Missions, within the framework of their performance and funding agreements.[20] Austria has also launched a call for universities to propose mission-oriented concepts, illustrating efforts to engage diverse actors.[21]

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[16] The five mission areas of Horizon Europe are: Adaptation to Climate Change, including Societal Transformation, Cancer, Healthy Oceans, Seas and Coastal and Inland Waters, Climate-neutral and Smart Cities, Soil Health and Food.

[17] https://era.gv.at/horizon-europe/missions/

[18] Wise, E., Conway, R., Penna, C., Uyarra, E., (2024) Moving forward on the implementation of national missions. Mutual Learning Exercise on EU missions implementation at national level. Final Report. European Union publications 2024.

[19] Including research organisations, Austrian Institute of Technology (AIT), Institute of Science and Technology Austria (IST-Austria), Austrian Academy of Sciences (ÖAW), Silicon Austria Labs, Ludwig Boltzmann Society (LBG), as well as the research funding institutions Austria Wirtschaftsservice (AWS), Christian Doppler Society (CDG), Austrian Science Fund (FWF), Austrian Agency for Education and Internationalisation (OeAD), Austrian Research Promotion Agency (FFG)

[20] https://era.gv.at/horizon-europe/missions/missions-in-austria/

[21] Wise, E., Conway, R., Penna, C., Uyarra, E., (2024) Moving forward on the implementation of national missions. Mutual Learning Exercise on EU missions implementation at national level. Final Report. European Union publications 2024 (section 7.2)

The Austrian RTI Strategy 2030 and the RTI Pacts 2021-2023 and 2024-2026 provide a coordinated strategic approach for the EU Missions at national level. Inspired by the EU Missions and in the framework of their implementation at the national level, Austria launched four national missions, i.e. on climate neutral city, energy transition, mobility transition and circular economy, initiated by the BMK. Within the BMK, it is the Directorate General in charge of innovation that leads and supports the four missions, with the involvement of the relevant sectoral Directorate Generals (e.g. energy). Each of the four national missions are backed up by a dedicated impact pathway, which was then translated into specific actions that use a mix of STI funding instruments. Each mission is supported by 30-50 million Euros STI funding per year. [22]

Why missions?

BMK officials stated that they found the missions approach inspiring in giving an increased **impact-driven orientation** to their programmes and activities. R&I projects and activities were already supported in these areas before (climate neutral city, energy transition, mobility transition and circular economy). The mission's framework enabled them to develop further the relevant programmes and activities towards more **impact, directionality and multi-disciplinarity**. Due to the multi-crises happening today the evolution in R&I policies should go beyond the R&I sphere. They should contribute to wider societal challenges, and in this, a mission or transformative orientation is needed. Missions as a key piece to **support transitions** with a **multi-disciplinary** and **highly inclusive** approach.

The way that the Ministry's programmes and activities were changed went far beyond a mere rebranding. Applying the missions approach brought several changes in programming. Certain activities that were not effective or not relevant to the missions' approach were skipped while others were added, based on the focus and objectives of the missions. A more inclusive governance structure was also set up to reflect a truly thematically cross-cutting approach. Teams were created containing people from various units and implementing bodies, e.g. FFG. This was a structured change for the implementation of the missions that enabled more co-design.

Austria seems to have adopted all the key insights that the relevant [22] concluded upon, where the country played a key role as a good practice case:

- Seeing beyond the R&I scope and considering the bigger picture of a wider systems change that the missions embody – this affects the stakeholders and instruments to engage with, as well as the results to target, and necessitates a portfolio approach involving many levers of change.
- Building teamwork (beyond the R&I sphere) to mobilise resources and initiate action and moving from a mindset of innovation to a mindset of system transformation, which inherently includes discontinuing of actions and policy unlearning.
- Adopting a flexible and experimental approach to implementation that enables iterative learning and tweaking of actions over time.
- Understanding missions as a mix of top-down and bottom-up strategic mandates anchored to broad societal interest, coupled with local context to mobilise action and progress.
- Establishing operational leadership and coordinating missions by motivating interest and mobilising engagement. It is important to consider why and to what extent to

[22] Wise, E., Conway, R., Penna, C., Uyarra, E., (2024) Moving forward on the implementation of national missions. Mutual Learning Exercise on EU missions implementation at national level. Final Report. European Union publications 2024.

engage different types of actors with clear roles and governance mechanisms to foster ownership, responsibility and accountability.

Role of Partnerships as a strategic policy instrument

The Austrian Mission in the Climate Neutral City clearly overlaps with the EU Mission on Climate Neutral and Smart Cities. Austria has set itself the ambitious goal of being climate neutral by 2040 at the latest, while the entire EU is to achieve climate neutrality by 2050.

Besides the Austrian Mission, the Driving Urban Transitions (DUT) Partnership is closely linked to the EU Mission on Cities. The core DUT team includes BMK, the Climate Energy Fund and FFG, while a DUT person is also included in the national Mission team. As put by BMK officials, DUT is the international leg of the Austrian Mission on cities. The three branches, i.e. the Austrian Mission, the EU Mission and the DUT partnership are complementary channels to implement the relevant national and the European agendas and work plans.

To address challenges that go beyond national borders it is of crucial importance to link the national and the transnational/European levels and the partnerships are key connecting nodes in this. The success of especially the co-funded partnerships depends on the level they are integrated in the national context and DUT under the overarching framework of the Austrian cities mission and the EU one is a clear good practice in this regard. It is a win-win situation with both national and European programming becoming more effective and impactful, besides being aligned in the same direction to address common challenges. This requires that the partnerships are committed towards wider EU policy goals with the role of connecting the regional and national levels to the EU level. Yet, not everyone recognises the role of the partnerships as policy instruments in support of wider European goals, instead of just another funding instrument.

In view of the upcoming framework programme, the Austrian officials give particular emphasis to positioning the partnerships in general and the co-funded partnerships in particular as **strategic policy instruments** going beyond their mere R&I funding role. There are several reasons for this:

- Considering the EU level, there are certain policy objectives, and the framework programmes are only part of the instrument portfolio to achieve these objectives. In addition, there are the R&I policies at national and regional levels, and the partnerships are a way to leverage regional and national policies and programmes towards EU goals. This is the main added value of the co-funded partnerships.
- At the trans-national level, the networks that are created are a platform for competence and capacity building of national eco-systems. Partnerships offer entry points to the regional and national R&I actors to take part in European and global state-of-the-art research and relevant networks.
- At the national level, creating national missions in line with relevant EU missions brings the benefits of looking beyond national borders and connecting more meaningfully to higher level discussions. Considering the experience of DUT and some other co-funded partnerships, they can be good testing grounds of new instruments, formats, measures, that go beyond R&I funding, like experiments, activities in relation to valorisation, stakeholder engagement and mobilisation. Partnerships are platforms that enable such experimentation across countries.
- At a meta level, the national governments need to work together alongside the EC on the way towards achieving EU policy goals. Partnerships are the key connecting puzzle piece in this task.

Example case: the DUT partnership

DUT is closely linked to the national mission on cities. The people in charge of thematic prioritising on energy and mobility in DUT are also part of the group dealing with the implementation of the national mission. This creates a direct link between transnational and national activities and opens the national experiences to transnational settings, besides ensuring consideration and promotion of the interests of the Austrian research community and other key stakeholders like the cities themselves in both settings.

The link between DUT and the national mission helps expose the national stakeholders to the European context. This is done through the use in DUT of the same mechanism for the mobilisation of stakeholders for the national mission. Further, the mobilisation addresses many more cities than the one Austrian city that is included in the 100 mission cities at the EU level. The interest from other cities is evident in DUT. Indicatively, one third of those that participate in the DUT calls are usually 'mission cities', while the rest two thirds are not. DUT is acknowledged in the community and is used to support cities beyond the 'mission cities' cohort to connect with peers.

The DUT partnership incorporates/facilitates the main features of the mission-oriented approach applied at the national level: multi-disciplinarity, inclusivity, new R&I actors, impact-orientation, and wider transitions. It is firmly believed that city transformation needs a wider change. This can only be brought if we start with and build on the needs of the cities / stakeholders. The AGORA dialogues are an important tool that intensively promotes exchanges and brings stakeholders to the international debate, allowing interactions from the national to the transnational level and vice versa. At the same time, wider eco-systems are built through the AGORA dialogues, supporting the development of the SRIA and the call topics, encouraging the stakeholders to engage in the whole life cycle from defining areas of interests, to following the supported projects and the impact they aim at. The living labs approach that is being implemented for more than 10 years is also a key element to realise the multi-stakeholder, integrated, and multi-disciplinary approach applied in DUT.

DUT does not only encourage but expects projects to be action-oriented, and challenge-driven. A city panel is set up to reflect on what cities need and on the results of the DUT projects and activities. In addition, a pilot exercise was carried out mobilising local initiatives. After identifying local initiatives around Europe (grass roots initiatives that are actively engaged in taking care or changing their neighbourhoods) DUT provided support and training to them to be able to engage in the activities and research projects. This exchange was beneficial for both parties. Local initiatives are an important force that needed to be included in DUT, so they needed to be supported to enable their engagement, but DUT also needs to build on their activities and learn from them. The experiment of working together for a year proved to be quite successful, and the next edition is being planned. Other activities, like the Urban Lunch Talks, also try to strengthen interactions and keep the momentum of strong engagement.

For more information on the DUT partnership: https://dutpartnership.eu/

Annex

Main indicators for Partnerships in H2020+ Horizon Europe based on available data	Austria	Denmark	Finland	Netherlands	Sweden	EU14 average	EU13 average	EU27 AVERAGE
Total actual investments in partnership calls (€ m) (H2020+ HEU)	326	263	262	528	458	325	89	232
Number of participating member organisations to partnerships	29	23	27	51	34	46	16	31
Number of partnership calls with specific country participation	195	162	166	224	201	220	136	178
Number of full-proposals submitted to partnership calls (*)								
Number of eligible proposals submitted to partnership calls (*)								
Success rate (funded/full-proposals) (*)								
Number of partnership projects with specific country participation (**)	631	633	403	1305	951	847	166	519
Number of total project participations from country (**)	1142	984	550	1949	1402	1325	221	794
Total costs of project participation (€ m) (**)	295	367	166	790	485	391	37	220

Sources: ERA-LEARN database (cut-off date June 2024)

(*) Data not available yet

(**) Only H2020 Partnership data available

Main R&I indicators	Austria				Denmark	Finland	Netherlands	Sweden	EU 27 average
	2019	2020	2021	2022	2022	2022	2022	2022	2022
GERD (as % of GDP)	3,13	3,20	3,26	3,20	2,89	2,96	2,30	3,41	2,11
Percentage of GERD funded by the business sector	54,80	49,80	53,00	49,90	59,2 (2019)	58,1 (2021)	56,5 (2021)	60,7 (2021)	57 (2021)
Percentage of GERD funded by government	27,00	33,30	28,50	33,10	28,7 (2019)	25,6 (2021)	30,7 (2021)	23,3 (2021)	30,8 (2021)
Percentage of GERD funded by rest of the world	17,00	16,60	17,20	16,70	5,6 (2019)	14 (2021)	10,3 (2021)	11,7 (2021)	9,9 (2021)
Percentage of GERD performed by the business sector	70,30	69,50	68,90	68,90	61,50	68,00	68,00	73,70	65,80
Percentage of GERD performed by higher education	21,80	22,40	23,10	23,10	35,20	24,00	27,30	22,00	21,90
Percentage of GERD performed by government	7,30	7,50	7,50	7,50	3,00	7,30	4,70	4,20	10,80
GOVERD (% of GDP)	0,23	0,24	0,25	0,24	0,09	0,22	0,11	0,14	0,23
percentage of GOVERD financed by the business sector	9,00	-	12,50	-	3,4 (2020)	5,8 (2021)	9,1 (2021)	4,4 (2021)	6,9 (2021)
HERD (as % of GDP)	0,68	0,72	0,75	0,74	1,02	0,71	0,63	0,75	0,46
percentage of HERD financed by the business sector	5,00	-	4,30	-	2,5 (2020)	3,30	7,50	2,80	7,00
BERD (% of GDP)	2,20	2,23	2,25	2,20	1,78	2,02	1,56	2,51	1,39
percentage of BERD fudned by the business sector	75,30	-	74,00	-	94 (2019)	82,7 (2021)	81,6 (2021)	82,6 (2021)	83,2 (2021)
percentage of BERD fudned by government	3,70	-	4,40	-	2,5 (2019)	3,3 (2021)	6,2 (2021)	3,5 (2021)	5,7 (2021)
percentage of BERD funded by rest of the world	21,00	-	21,60	-	3,1 (2019)	14 (2021)	11,2 (2021)	13,7 (2021)	10,8 (2021)
Total national public funding to transnationally coordinated R&D (€ million) (EUROSTAT)	162,905	159,515	150,826	170,908	52,852	123,425	212,578	189,553	4.571,483
Total researchers (full-time equivalent)	52.794	51.892	56.533	59.882	51.308	44.792	114.913	90.142	2.072.456
International scientific co-publications per million pop				245,2 (2024)	386,2 (2024)	293,7 (2024)	263,7 (2024)	320,2 (2024)	
Share of country's publications in top 10% most-cited worldwide				104,2 (2024)	128,1 (2024)	121,7 (2024)	148,5 (2024)	122 (2024)	
PCT patent applications EIS 2024				110,4 (2024)	130,8 (2024)	133,2 (2024)	113,9 (2024)	133,2 (2024)	
ERC projects				32	29	16	79	31	
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