A robust and harmonised framework for reporting and monitoring European Partnerships in Horizon Europe

First interim report

Independent
Expert
Report

Research and
Innovation

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EUROPEAN COMMISSION

Expert Group on support for the Strategic Coordinating Process for partnerships

A robust and harmonised framework for reporting and monitoring European Partnerships in Horizon Europe

First interim report

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1 DEFINITIONS AND ABBREVIATIONS

European Partnership[1]	European Partnership means an initiative where the Union together with private and/or public partners commit to jointly support the development and implementation of a programme of research and innovation activities, including those related to market, regulatory or policy uptake
Co-programmed European Partnership[2]	Is set up on the basis of memoranda of understanding or contractual arrangements between the Commission and the partners referred to in point 3 of Article 2, specifying the objectives of the European Partnership, related commitments of the Commission and of the other partners regarding their financial and/or in-kind contributions, key performance and impact indicators, the results to be delivered and reporting arrangements. They include the identification of complementary R&I activities that are implemented by the partners and by the Programme.
Co-funded European Partnerships[3]	Union participation and financial contribution to a programme of R&I activities, specifying the objectives, key performance and impact indicators, and the results to be delivered, based on the commitment of the partners regarding their financial and/or in-kind contributions and the integration of their relevant activities using a *Programme co-fund action*
Institutionalised European Partnerships[4]	Union participation and financial contribution to R&I programmes undertaken by several Member States in accordance with Article 185 TFEU or by bodies established pursuant to Article 187 TFEU, such as Joint Undertakings or by the EIT KICs in accordance with the 'EIT Regulation for 2021-2027'. Institutionalised European Partnerships shall be implemented only where other parts of the Programme, including other forms of European Partnerships, would not achieve the objectives or would not generate the necessary

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[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0435, Article 2 (3)

[2] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0435, Article 8 1(a)

[3] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0435, Article 8 1(b)

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0435, Article 8 1(c)

	expected impacts, and if justified by a long-term perspective and a high degree of integration.
Programme co-fund action (linked to Co-funded European Partnerships)[5]	means an action to provide multi-annual co-funding to a programme of activities established or implemented by legal entities managing or funding R&I programmes, other than Union funding bodies; such a programme of activities may support networking and coordination, research, innovation, pilot actions, and innovation and market deployment actions, training and mobility actions, awareness raising and communication, dissemination and exploitation, and provide any relevant financial support, such as grants, prizes and procurement, as well as Horizon Europe blended finance or a combination thereof. The programme co-fund action may be implemented by those legal entities directly or by third parties on their behalf;
Affiliated entity[6]	Affiliated entity is a term used when talking about contributing partners in the case of co-programmed and institutionalised European Partnerships, as contributions of affiliated entities are also counted. This is particularly relevant when partners are represented by an association. Entities are affiliated when they have a link with the beneficiary, in particular a legal or capital link, which is neither limited to the action nor established for the sole purpose of its implementation, in accordance with Article 187(1) of the Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union.

AAP	Additional Activities Plan
AAR	Annual Activity Report
AC	Associate Country
AWP	Annual Work Programme
CEF	Connecting Europe Facility
CORDA	COmmon Research DAta warehouse
DEP	Digital Europe Programme
EIT	European institute of Innovation and Technology
EOSC	European Open Science Cloud
ERA	European Research Area
ERAC	European Research Area and Innovation Committee
ERDF	European Regional Development Fund

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[5]   https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0435, Annex II

[6]   https://ec.europa.eu/transparency/regdoc/rep/1/2021/EN/COM-2021-87-F1-EN-MAIN-PART-1.PDF

IKAA	In-kind contributions to Additional Activities
IKOP	In-kind contributions to Operational activities
JRC	Joint Research Centre
JU	Joint Undertaking
KIC	(EIT) Knowledge and Innovation Community
KIP	Key Impact Pathway
KPI	Key Performance Indicator
MoU	Memorandum of Understanding
MS	Member State
UN	United Nations
PIC	Participant Identity Code
PM	Person Month
PSIP	Partnership Specific Impact Pathway
RFF	Recovery and Resilience Facility
RTD	Research and Innovation
SDG	United Nations' Sustainable Development Goals
SME	Small and/or Medium-size Enterprise
SRIA	Strategic Research and Innovation Agenda
SYGMA	European Commission Participant Portal
TRL	Technology Readiness Level
WP	Work Programme

2   INTRODUCTION

This Expert Group was set up to support the Strategic Coordinating Process – a new governance framework for EU Research & Innovation (R&I) Partnerships. The group is working on issues related to the implementation of this process and supporting the improved evidence base for strategic discussions on the new partnership policy and landscape. This is the first of the three reports that will be produced as the main deliverables of the expert group. This first interim report is intended to support European Partnerships and the Commission to start developing their monitoring and reporting systems, while work will continue in the context of the second interim report (expected early 2022) and finalised in the final report (expected June 2022).

Partnerships are not new elements of the EU research and innovation policy. Bringing together the European Commission, Member States, public and private partners to build critical mass and to align research and innovation (R&I) strategies has been an important element of the European Research Area and the EU research and innovation framework programmes for many years. The interim evaluation of Horizon 2020 (The EU Framework Programme for Research and Innovation 2014-2020) and the Lamy report (Report of the independent High-Level Group on maximising the impact of EU R&I Programmes, 2017) concluded that the next generation of partnerships needs to play a greater role and impact in delivering on EU policy priorities, be more transparent in their implementation and open to newcomers and ensure strategic and coherent approach among EU research and innovation partnerships and between partnerships and the Framework Programme. Responding to the requests from the European Parliament and Member States, and drawing on lessons-learned from the Horizon 2020 interim evaluation, a major reform was carried out to rationalise the portfolio of instruments and make partnerships more coherent, open, and strategic.

Horizon Europe launches a new generation of European Partnerships guided by a coherent set of criteria across their lifecycle, including their selection, implementation, monitoring, and evaluation and phasing out. By adopting a strategic and systematic approach, European Partnerships are expected to generate stronger policy impacts and to contribute to the EU policy objectives of a green, digital, and resilient Europe, including EU-wide progress towards the UN Sustainable Development Goals (SDG). Partnerships are required to step up their ambition by setting clear targets to be achieved by 2030, strengthening commitments from partners, and establishing collaboration with other relevant initiatives to ensure effective synergies. The new generation of European Partnerships is expected to involve a broader range of partners, from the public, private and third sector, that are relevant for achieving the objectives, regardless of the form. Thus, under Horizon Europe the rationale of the new European Partnerships goes beyond creating critical mass and leverage, as they are expected to contribute to EU wide transitions towards sustainability and push the digital transformation. They will be important tools for coping with the profound transformation in economies and societies and for gaining more resilience and European competitiveness in times of global challenges and deep changes in world markets.

The Strategic Coordinating Process for partnerships is part of this renewed ambition. The objective of the process is to support a coherent, evidence-based, and strategic policy making process on European Partnerships, guided by a common set of criteria, and ensuring close cooperation with Member States. A biennial monitoring report of partnerships will be the most visible output of the Strategic Coordinating Process, providing an evidence-based and transparent overview of the partnership landscape. The first report, which will provide a baseline, is foreseen early 2022.

In this first interim report, the Expert Group focused on developing a framework for reporting and monitoring on the progress made by all forms of European Partnerships – individually ('partnership-specific indicators') and as a policy approach ('common indicators'), while making sure it is aligned with the Horizon Europe monitoring system and its Key Impact Pathways. A well-functioning reporting and monitoring system for European Partnerships, with good quality data and evidence, is necessary to assess their contribution to the EU's policy objectives and demonstrate their added value in comparison with other Horizon Europe instruments. It is also needed to prepare the biennial monitoring report and later to feed the Horizon Europe evaluations.

This is the first time the Commission tries to develop a more harmonised monitoring and reporting system across the EU R&I partnerships. Therefore, the challenges of this exercise should not be underestimated given the high diversity of partnerships and the need to link them to the Horizon Europe monitoring systems. At the same time, it will provide important policy learning on how to monitor and evaluate such complex initiatives.

The Expert Group worked closely with Member States and partnership representatives to ensure relevance, as well as synchronisation of reporting and monitoring efforts. In the context of this task – harmonised monitoring and reporting of European Partnerships – particular emphasis was placed on engaging with partnership representatives to ensure that monitoring becomes a key element for their strategic steering, as well as to ensure that a more harmonised monitoring and reporting system can eventually feed into the biennial monitoring report. In the second interim report, the group will focus on the biennial monitoring report of partnerships.

The Expert Group work builds on the recommendations of the ERAC Ad-hoc Working Group for Partnerships[7] (2018) and the Transitional Forum for R&I Partnerships[8] (2019-2020).

The expert group is financed from the Horizon 2020 Work Programme 2018-2020 (Decision C(2020)1862 of 25 March 2020).

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[7]   https://data.consilium.europa.eu/doc/document/ST-1215-2018-INIT/en/pdf

[8]   https://ec.europa.eu/transparency/expert-groups-register/screen/expert-groups/consult?do=groupDetail.groupDetail&groupID=3662

3   EXECUTIVE SUMMARY

The purpose of this first interim report of the Expert Group was to develop and propose a set of common indicators that can be adopted and used across all European partnerships to monitor their progress as a policy approach, as well as provide guidance for the partnerships in developing partnership specific indicators for monitoring their contributions towards European objectives. The Expert Group was also tasked to analyse and provide recommendations related to practical data collection concerns and issues. The second interim report of the Expert Group is planned for early 2022, and the final report for mid-2022.

3.1   Common indicators

The fundamental starting point for developing and proposing common indicators for all partnerships was the **Horizon Europe Regulation**[9] and specifically what is laid down regarding European partnerships and their monitoring. During the development of the common indicators, special attention was paid on the **relevance, feasibility, and data availability**. Although, caution was paid that the common indicators are applicable to **all types of partnerships**, some of them may be more relevant to a specific type than others. In addition, they are **complementary to**, and thus exclude, the indicators used for the **Horizon Europe Key Impact Pathways** that mostly address the project level, and those partnership-specific monitoring indicators that are being developed in the partnerships' monitoring and evaluation frameworks.

The proposed common indicators focus on measuring the **added value** that is **generated by partnerships** compared to alternative policy measures. The proposed common indicators are quantitative, qualitative, and some include anecdotal evidence through presentation of success stories and practical examples. Furthermore, they illustrate how the **governance** of European Partnerships **is improved** compared to earlier Horizon 2020 implementation.

European **partnerships were consulted** during the development of the proposed common indicators, once in a virtual workshop and twice through an online survey. Member States were consulted once through an online survey.

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[9] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2021.146.01.0001.01.ENG&toc=OJ%3AC%3A2021%3A146%3ATOC

The proposed common indicators are in the **section 5** and **appendix 1.** It is important to note, that even if these proposed common indicators represent the best understanding of the Expert Group at the time this report is written, the Expert Group will continue its work until summer 2022. It is clear that further work will bring additional insights about the relevance, feasibility, operationalizability and appropriateness of the proposed common indicators. This work includes the development of the biennial reporting approach and related templates, compiling the first biennial partnership monitoring report, further consultations with existing and planned European Partnerships, Member States and national funding agencies, interactions with parallel efforts to develop other Horizon Europe monitoring systems, and related data collection pilots. It is therefore possible, that the **Expert Group or the Commission may** decide it is necessary to **revise the proposal for the common indicators at a later stage**.

3.2   Partnership specific indicators

In addition to the common indicators, it is essential to **monitor the progress of individual partnerships** against their **operational, specific, and general objectives**. Majority of these objectives are based on the objectives of the EU relevant for the thematic focus of the partnership.

The work of the Expert Group focused on the **identification** of (1) **common challenges** related to the establishment and operation of partnership-specific monitoring frameworks, and (2) **areas where harmonization can be achieved** (e.g., towards reporting to higher policy objectives e.g., impact on climate change, UN SDGs, specific EU policy dashboards, etc.), as well as (3) an **assessment of the practical feasibility** of indicator implementation and the solutions proposed to ensure the practical application of results for both mature and newly established partnerships.

This work was done in **close collaboration with five 'pilot' partnerships and EIT**. The main sources of information for these case studies include an initial desk analysis of the existing monitoring frameworks provided by the partnerships, and a series of in-depth interviews and meetings that led to the issuing of initial guidelines and recommendations on how to address a monitoring framework from a partnership perspective.

The **guidelines for developing and operationalising partnership specific indicators** developed in this report take into account two important perspectives: (1) the requirement to **demonstrate the added value** of the European approach & actions represented by the partnerships and (2) the **needs of partnerships related to their monitoring obligations** (namely proper categorizations of objectives and definition of relevant indicators; monitoring framework establishment cycle and governance; implementation and costs of the monitoring).

Recommendations presented in this report specify the importance of transparent and inclusive processes towards establishing (or revising) a monitoring framework. It is essential that relevant stakeholders are identified and included in the process, and that sufficient time is taken to discuss and validate

the indicators and proposed measurement methods. Revisions to existing monitoring frameworks should be possible but considered carefully – changes should be made only if new indicators and/or baselines can better reflect on the impacts to be measured than the initial ones.

The implementation of a sound monitoring framework is based on **reliable, high-quality, and timely available data**. The identification of data sources required to feed specific indicators, and the distinction between project-level and partnership-level data remains an important challenge. The data identified as to be collected by the partnerships can be classified in two major groups: internal data (collected from all possible sources within a Partnerships' ecosystem) and external data collected through surveys, interviews, case studies or events but also data coming from the European Commission portals like CORDA or SYGMA. However, data collection is often linked to significant workload and, in case of its automation, requires the development of appropriate and even proprietary ICT systems, which facilitate the input.

When a policy initiative is designed, it is important to define **meaningful indicators to measure** or demonstrate change or **progress** and inform the partnership's management and stakeholders towards strategic decision-making. An indicator is a quantitative or qualitative measure of how close the organization is to achieving a set objective. Indicators need to apply to different levels of results/effects (short-term outputs, intermediate outcomes, and long-term impacts). If a **proper intervention logic** is developed, indicators should be easy to construct, as each element in the intervention logic holds a potential measure. The 'SMARTer' the policy objective, the easier to define a corresponding indicator according to the 'RACER' principle explained and considered by the EU Better Regulation Toolbox[10]. However, in the context of the EU partnerships, well-chosen case studies (e.g., which provide analytical generalization potential at the level of the programme), can provide valuable insights, in particular in the absence of clear and direct quantitative linkages to more 'macro-level' indicators.

The monitoring framework must further include a **tailored organizational structure, with adapted resources**, that should not be underestimated. However, joint efforts should be made between partnerships, the European Commission and Member States, (1) to ensure comprehensive collection of data, and (2) to allow an exchange of best practices in the context of managing monitoring frameworks, propelling monitoring as an activity that creates value over the partnership's lifetime (as opposed to being perceived and/or carried out as a mere administrative obligation).

Finally, the particular challenge of reflecting on partnerships objectives, while keeping them connected to overarching societal challenges (SDGs) and the Key Impact Pathways of Horizon Europe, can be overcome by using the concept of the **Partnership Specific Impact Pathways**, allowing strategic and straightforward linkages of partnership-specific indicators to macro-level

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[10]   https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-41_en_0.pdf

indicators, such as economic growth and competitiveness, social advancements, and environmental objectives.

What is presented **in this report represents an initial, basic set of guidelines**, supported by **highly practical and relevant examples** from the pilot case studies which **can later grow into a harmonized reference guide** for the community of partnerships supporting the management and development of monitoring frameworks, as further experience is added over the lifetime, e.g., through exchanges facilitated by the future Partnership Knowledge Hub.

3.3 Practical data collection concerns and issues

The Expert Group's work on identifying and addressing reporting needs at the level of European partnerships focused on the additional reporting needs for common indicators at the partnership level to capture data that is not collected through the Horizon Europe proposals and project reporting. A data mapping exercise was carried out to compile **a template for collecting data for the proposed common indicators** (Appendix 7). Furthermore, the Expert Group identified **concerns** and developed practical **recommendations to the European Partnerships and the Commission related to data collection**, data exchange, Horizon Europe project proposal and project reporting templates, partnerships and Horizon Europe Key Impact Pathways and partnership-related monitoring arrangements.

The most i**mportant recommendation** proposed for European Commission is to **create** as a pilot a cost-effective solution to start collecting the partnership level data necessary for common indicators. This should consist of a **well-defined data transfer interface** combined with an easy-to-use interface, e.g., a survey type tool such as EU Survey. To have all-inclusive and consistent project level data in European Commission databases it is recommended to **further support** and develop th**e ongoing data exchange pilot** exercise.

4   APPROACH AND TASKS

The fundamental rationale for establishing collaboration platforms, such as European Partnerships under Horizon Europe, is that they can act as vehicles for achieving something that is not possible to achieve using other approaches. Furthermore, Horizon Europe stipulates that European Partnerships can only be set up if it is demonstrated that they are the most effective and efficient approach to achieve the set policy objectives compared to other possible policy measures[11].

While European partnerships may contribute to addressing market failures, the fundamental rationale for them lies in systemic and transformational failures. According to the impact assessment study for institutionalised European partnerships under Horizon Europe[12], "*The European Partnerships under Horizon Europe most often find their rationale in addressing* **systemic failures**. *Their primary function is to create a platform for a strengthened collaboration and knowledge exchange between various actors in the European R&I system and an enhanced coordination of strategic research agenda and/or R&I funding programmes.*", and "**Transformational failures** *addressed aim at reaching a better alignment of the strategic R&I agenda and policies of public and private R&I funders in order to pool available resources, create critical mass, avoid unnecessary duplication of research and innovation efforts, and leverage sufficiently large investments where needed but hardly achievable by single countries.*"

The added value of partnerships originates from:

Shared R&I agenda, reflecting shared understanding of challenges and opportunities and how these may be addressed (*directionality*), thus ensuring motivation to engage in joint actions, and thereby eliminating/reducing dead weight and less attractive avenues of research, innovation, and business. This increases the relevance of activities based on the shared agenda, although limited to the members of the partnership.

Additional / joint activities that go beyond launching traditional calls that support the market, societal and/or regulatory uptake – which thereby ensure that challenges and opportunities may be addressed more effectively and efficiently than without the partnership.

Pooling of resources towards common, agreed objectives, leading into increased volumes and quality of outputs (*additionality*).

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[11] See the text approved by the EU Council (Article 10 and Annex III):

https://data.consilium.europa.eu/doc/document/ST-7064-2020-INIT/en/pdf

[12]   https://op.europa.eu/en/publication-detail/-/publication/8e98b39a-8154-11eb-9ac9-01aa75ed71a1/language-en

Knowledge transfer and learning, which supports capacity development of less developed ones (e.g., Member States, SMEs, etc.), helps identify and capture complementarities, synergies, and exploitation opportunities.

Shared resources and platforms facilitating the development of structures and solutions which can support more radical socio-economic transformations.

Large scale experiments, which can showcase possible benefits of new structures, platforms, and solutions, and thereby influence socio-political decisions to launch the necessary reforms.

The first four have long formed the fundamental underlying rationale for establishing and supporting European partnerships. While the two latter sources of added value have received increasing attention, implementing them in practice is less common.

While a partnership may on surface seem to be launched to deliver many of these added values, its ability to do so depends on how it is governed, and what activities are launched and how they are implemented in practice. If the partnership acts only as an umbrella, i.e., collecting actors interested in a topic merely to do the minimum to secure funding, the added value is likely to remain negligible. Monitoring partnerships should therefore sufficiently capture activities and their relevant characteristics (e.g., how they support learning, capitalise on synergies), as well as key governance processes (e.g., updating strategies/roadmaps, outreach activities to expand and establish strategic external alliances). This is reflected in the new impact-oriented approach set for European Partnerships under Horizon Europe.

Based on the overall intervention logic and the sources of added value, the indicators needed in monitoring partnerships can be categorised in the following way:

- input indicators, i.e., additional inputs achieved, or inputs made possible because of partnerships

- activity indicators, i.e., additional activities launched, or activities made possible because of partnerships, including how they are governed

- output indicators, i.e., additional outputs reached, or outputs made possible because of partnerships

- impact indicators, i.e., additional impacts reached, or impacts made possible because of partnerships

Monitoring is done during the implementation of the partnerships' activities. The purpose is to find sufficiently reliable indications and thereby confirm that the partnership and the activities it has chosen to undertake can be reasonably expected to result in outcomes and impacts set as objectives when the partnership was originally launched, and that these outcomes and impacts are significant compared to resources allocated to the activities of the partnership.

Since many of the eventual outcomes and most of the impacts will materialise after the partnership has successfully implemented its planned activities, measuring both output and impact during monitoring will have to be at least partly based on indirect indicators, i.e., proxies that are linked to Key Impact Pathways (KIPs) and indicate that the pre-identified pathways are becoming and have become operational. For example, the impact pathway can indicate increased inputs into research activities and hiring more researchers, which is expected to lead into increasing science outputs (e.g., publications), dissemination of these outputs (e.g., citations, patents), and eventually exploitation (e.g., knowledge transfer contracts, co-patenting, innovations). While all of these can and should be used in monitoring, early indications of this impact pathway becoming operational shows in numbers of researchers and funds allocated to research activities, then in science outputs, then on dissemination indicators and finally on exploitation indicators, often sometime after the activities have ended (or in practice taken a new direction).

Using proxies and defining the underlying impact pathways is particularly important for longer-term socio-economic impacts, because materialisation of these impacts – when, how and to what extent – will often eventually depend on several related socio-economic policy decisions. One of the possible added values of European Partnerships may in fact be in their ability to influence these policy decisions, thus facilitating and speeding up necessary socio-economic transformations, which might otherwise be significantly delayed or not happen at all. Establishing common large-scale platforms to experiment with new infrastructures to replace existing ones, or establishing new smart regulations and standards allowing new innovative approaches and solutions may be examples of these types of impacts.

Setting up and establishing partnerships takes time and resources, which is justified by the added value they create once they are fully up and running. Since the winding-up period often takes 1-2 years, and the real added value can often be captured in full scale after it, platforms are often planned and established for longer than single projects or even programmes. This brings another aspect to the monitoring of partnerships, i.e., the need to periodically review and if necessary, update the indicators and possibly even the monitoring system. This is particularly important in cases where the underlying policy objectives which act as the rationale for the platform, change over time.

The work of the Expert Group draws on the rich experience with several monitoring and data collection systems for R&I programmes already in place in Europe. The starting point is the life-cycle criteria for European Partnerships set out in Horizon Europe (Annex III)[13]. It aligns European Partnerships with the overall monitoring and evaluation framework on Horizon Europe, particularly to

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[13] Regulation: https://data.consilium.europa.eu/doc/document/ST-7064-2020-INIT/en/pdf. More detailed explanations in the Commission draft criteria framework can be found from: https://www.era-learn.eu/documents/wk-14470-2018-init-en.pdf/view

the KIPs and both the existing and the planned data collection systems for Commission funded projects and programmes.

The scope of the work leading to this first mid-term report was to propose a robust and harmonised framework for reporting and monitoring European Partnerships in Horizon Europe.

When talking about monitoring of partnerships under Horizon Europe, there are three levels to consider:

1. **Project level:** EC collects detailed information on projects, their results and expected impact through its IT systems. That allows to trace the contributions of partnerships to the Key Impact Pathways through their projects automatically and in a consistent manner with the rest of the programme. Aggregated information on proposals will be available on CORDA and the Horizon Dashboard (also filter per partnership).

2. **Individual partnership level:** Each partnership will have to set general, specific and operational objectives and report their progress towards these.

3. **Partnerships in general:** Common indicators on the functioning of all European Partnerships – closely linked to the new policy approach and added value generated by partnerships as compared to traditional calls. There is also a strong European Research Area (ERA) dimension in the monitoring of partnerships (structuring effect, improvement of the national R&I systems / fabric).

All this will also inform the biennial monitoring of European Partnerships (second interim report of the Expert Group), as well as the evaluation of partnerships.

The Expert Group work focuses on the second and third point.

The approach the Expert Group to undertake this work was divided into the following tasks:

Definition of common indicators related to the functioning of the European Partnerships, including

- *a list of common indicators, including a justification for their choice. These should capture notably the criteria defined in the draft legal base[14] and the added value created by partnerships.*

- *recommendations to make them operational, including methodologies, data availability and additional data needs, data collection methods, sources, and responsibilities for collecting data, link to Horizon Europe monitoring framework (e.g., Horizon Europe Dashboard and Key Impact Pathways).*

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[14] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0435

The source material and methods used in this work are described in Chapter "Criteria for the choice of common indicators". The resulting proposal for the common indicators is discussed in Chapter "Proposed common indicators" presented in Appendix 1, and the underlying analysis in Chapter "Analysis of common indicators"

Definition of the additional reporting needs at the level of the European Partnerships, including to capture additional data needs not covered by the project-level reporting of Horizon Europe. It should propose a methodology and a format for the periodic reporting of European Partnerships, in line with Horizon Europe. It should also include recommendations for organising the reporting at the level of a partnership in an efficient manner, ensuring a low administrative burden for partners other than the Union (e.g., by exploring online tools).

The source material and approach used in this work are described in Chapters "Partnership monitoring and evaluation requirements" and "Horizon Europe reporting systems" and in Appendix 5. Analysis and methods are described in Chapter "Data needed for the proposed common indicators", and the resulting proposal for data collection templates can be found in Appendix 6. An example of the data mapping exercise for the collecting the data for the proposed common indicators is presented in Appendix 7, and the analysis of feedback on data collection can be found in Appendix 9. The work on this task resulted in a long list of recommendations, which can be found in Chapter "Concerns and recommendations".

Provide recommendations on how to fine-tune the indicators identified by the candidate European Partnerships to track their progress towards operational, specific, and general objectives. This should include notably:

- *Development of monitoring frameworks that can serve as examples / models for all future European partnerships. For this purpose, five pilots will be carried out to develop comprehensive monitoring frameworks with the following five candidate European Partnerships: Innovative Health Initiative (IHI), Photonics, Driving Urban Transitions, Water4All, European Open Science Cloud (EOSC).*

- *Recommendations to fine-tune indicators and to make them operational in terms of setting the baseline, methodologies, data sources, responsibilities for data collection, links with Horizon Europe monitoring, etc.*

- *Options to harmonise indicators addressing similar objectives across the European Partnerships (for example, those that address climate or ERA goals etc.).*

Chapter "Choice of the pilots" describes the rationale for selecting the pilot partnerships, and Chapter "Methodology applied" the methodological approach used in the work. The analysis of the five pilot partnerships and the EIT is discussed in Chapter "Analysis of monitoring frameworks proposed by the pilots and EIT" and presented in Appendix 3.

This analysis performed during this task includes a discussion about options to harmonise indicators addressing similar objectives across partnerships and makes recommendations how a set of feasible and relevant indicators can be identified and defined.

Rather than proposing a monitoring framework aimed at covering all possible partnership specific objectives, the Expert Group decided to propose initial guidelines which partnerships and the Commission can use in identifying and defining good monitoring indicators for partnership specific objectives. These initial guidelines are presented in Appendix 4. The Expert Group may develop these guidelines further at a later stage. However, the guidelines are proposed eventually to be a tool owned and further developed in collaboration by the partnerships, the Commission in the context of the Partnership Knowledge Hub.

5 COMMON INDICATORS FOR MONITORING EUROPEAN PARTNERSHIPS

5.1 Purpose and scope of common indicators

Several monitoring and data collection systems for R&I programmes are already in place. Many partnership-specific monitoring systems are established and focus on general and specific objectives of one specific partnership. The KIPs are the Commission's new monitoring and evaluation framework on Horizon Europe. They evaluate scientific, economic, and societal impacts. With this, the KIPs provide a broad picture of the contributions and impacts of R&I funding of the European Union. The KIPs are mostly based on project data and do not capture the added value or the effectiveness of programmes. This leads to a gap which the definition of common indicators on the functioning of European Partnerships is trying to fill. European Partnerships are designed to be more than the aggregate of project funding. They deliver an added value by leveraging contributions and building networks as well as creating synergies with other partnerships and beyond.

The Horizon 2020 interim evaluation pointed out that partnerships lack a robust and harmonised methodology to monitor their progress on common issues, such as leverage[15]. In addition, Horizon Europe puts forward a new, coherent approach to European Partnerships with common life-cycle criteria. It is thus important to monitor and evaluate this new approach of partnerships, with a focus on how the design of the instrument works and delivers. The proposed indicators are complementary to the partnership specific thematic indicators and KIPs.

The definition of common indicators on the functioning of European Partnerships serves as a framework for the monitoring on how the new policy approach achieves its goals of stronger EU added value, directionality, additionality, synergies, increased transparency etc. At the same time, the common indicators shall not duplicate other monitoring frameworks. For instance, publications, innovative products, or SME participation are not collected under these common indicators, because they are already captured by the partnership specific monitoring and/or KIPs. Accordingly, aggregate contributions to EU policy priorities like the European Green Deal are not captured by these common indicators[16]. However, in-kind contributions that go beyond project funding are relevant for common indicators. The focus of common indicators is to get a big picture on how the new approach of European Partnerships progresses and develops over time. This will feed into evaluation exercises to capture the added value generated compared to Horizon Europe traditional calls and other instruments.

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[15] See for example:
https://www.kowi.de/Portaldata/2/Resources/horizon2020/H2020-cPPP-mid-term-evaluation-report_.pdf

[16] See chapter focusing on partnership-specific indicators.

Since there are three different types of partnerships[17], as well as different starting points, different branches and scientific fields, the focus is not to compare each partnership to another. It is obvious, that such a comparison would be difficult to conduct due to the heterogenous field of partnerships. Due to this heterogeneity, there are no baselines defined for these common indicators, so far. At a later stage (possibly in the first monitoring report), the definition of baselines for each indicator and each partnership should be discussed. The definition of baselines for indicators should be based on policy requirements set up by the European Commission. Partnerships start from different levels and focus on different things at different points in time. Our starting point is the Horizon Europe Regulation Article 10 and Annex III[18] that sets out the common principles and criteria for the lifecycle of European Partnerships. This legal framework provides the criteria that define what the overall added value of the partnerships approach is, and Article 50 with Annexes III and V give guidance on Horizon Europe monitoring.

Despite the differences in technicalities and levels of reference (ministry level, agency level, inclusion of industrial associations or not, etc.) European Partnerships are all structures that are formed for a specific time and might be slightly or significantly changed over time in terms of membership and thus by capacities and committed resources. In other words, they are networks or institutions that join forces to pursue commonly agreed targets. European Partnerships shall fill a gap in the funding landscape and establish an innovation ecosystem that is better suited to deliver on R&I policy goals than traditional calls and programs. Accordingly, the monitoring of partnerships especially focuses on the added value of partnerships as a policy approach.

The list of indicators is determined by the objectives on the functioning of European Partnerships that are anchored in the legal framework. We are identifying the list of common indicators based on:

- Annex III criteria for European Partnerships[19]

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[17] Co-programmed, co-funded, and institutionalised, see e.g. https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe_en

[18] POSITION (EU) No 8/2021 OF THE COUNCIL AT FIRST READING with a view to the adoption of a Regulation of the European Parliament and of the Council establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013. Adopted by the Council on 16 March 2021

[19] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2021.146.01.0001.01.ENG&toc=OJ%3AC%3A2021%3A146%3ATOC , Annex III

- Impact Assessment of the Horizon Europe regulation proposal (Brussels, 7.6.2018 SWD (2018) 307 final[20]

- Partnership draft proposals

- Monitoring frameworks of individual partnerships (common elements)

- Monitoring and evaluation frameworks of existing partnerships under H2020

- RIPE toolkit[21].

5.2 Criteria for the choice of common indicators

Appropriateness and technical feasibility

The common indicators should be applicable for all types of partnerships. The burden of monitoring and reporting should be appropriate and reporting requirements should be proportionate to the resources available both internally and at the partnership level – it should not be overly burdensome when compared to general implementation. Work should stay practical and efficient. At the same time, the monitoring on common indicators should be ambitious and able to capture the full value of the Partnerships. The monitoring of added value of partnerships is not well developed, so far. This is the first approach of a coordinated monitoring framework for all partnerships. The common indicators shall capture quantitative and qualitative information and aspects. Including best practice examples, success stories and case studies as illustrations for the policy objectives to allow for continuous improvements and inspiration. Additionally, the monitoring framework shall reflect the different levels of monitoring (i.e., programme level, project level, partnership level) as well as geographical scope i.e., national/regional, European, and international outreach.

The monitoring system - and indicators defined – will be closely related to the data reporting system of the European Commission. Data should be used from the EU common database (aggregated project level information) and other databases. Data of proposals and projects for all European Partnerships will be accessible in a common European Commission database. Additional reporting is needed at the level of partnerships and at the level of national agencies, when it comes to measuring added value that goes beyond the aggregation of project data (see Chapter "REPORTING NEEDS AT THE LEVEL OF EUROPEAN PARTNERSHIPS").

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[20] Impact assessment study for institutionalised European partnerships under Horizon Europe - https://op.europa.eu/en/publication-detail/-/publication/8e98b39a-8154-11eb-9ac9-01aa75ed71a1/language-en

[21] R&I Partnership Evaluation (RIPE) Toolkit — ERA-LEARN (era-learn.eu)

Strategic and legal considerations

The context of the Horizon Europe framework and criteria/ Horizon Europe's new approach to monitoring and reporting (no duplication of KIPs) is the guiding light for the non-technical choice of common indicators.

The added value of partnerships, as prescribed in the legal basis, relates to the value of pooling resources and taking action collectively, instead of individually by Member States acting alone, to pursue objectives that are of common interest. Related to this, the partnerships should also contribute to strengthening and increasing the impact and attractiveness of the European Research Area (ERA), by fostering participation from all Member States, including low R&I performing Member States. Thus, the added value of partnerships refers to the value of concerted action, (international) collaboration and thus strengthening the ERA.

In addition, the value added of partnerships should also be documented as a specific instrument in terms of how the activities and results achieved compare to other instruments supporting R&I collaboration, such as initiatives under Horizon Europe or relevant national programmes enabling trans-national collaboration. This needs to take also into account that partnership projects, which until now were often smaller in size than framework programme projects, have been considered as steppingstones for larger collaborative endeavours facilitated for instance under the EU research and innovation framework programmes. In addition, the projects have been more internationally oriented than national projects.[22]

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[22] See for instance the ERA-LEARN country reports (Documents — ERA-LEARN (era-learn.eu) inserting 'country report' in the search phrase) or the policy briefs on impact assessment of certain partnerships on Monitoring and Assessment — ERA-LEARN (era-learn.eu).

The following **monitoring and evaluation questions** draw upon the legal framework and the previous explanations on the new approach of European Partnerships:

Additionality	What is the level/ share of contributions compared to initial commitments?
	What is the additional private and/or public R&I investments mobilised as a result of joint investment on EU priorities (leverage effect resulting from the Union intervention)?
	How do impacts from Partnerships compare to those that are created by other Framework Programme actions or national actions?
	How do Partnerships facilitate the creation and expansion of R&I networks that bring together relevant and competent actors from across Europe, thus contributing to the realisation of the ERA?
Coherence and synergies	Are partnerships more effective in achieving synergies[23], compared to other modalities of Horizon Europe?
	What is the level of coherence among partnerships, and between partnerships and Framework Programme activities, other EU action and national/sectorial action (in relation to objectives and impacts sought, partners involved, and activities implemented)?
Directionality	Progress towards the common strategic vision of the purpose of the European Partnership?
	Do Partnerships clearly demonstrate delivery of results for the EU and its citizens, notably global challenges, and competitiveness, which cannot be achieved by traditional calls alone?
Flexibility in implementation	How is flexibility ensured in updating the Strategic Research Innovation Agendas, or equivalent strategic documents that guide the Partnerships and in adjusting objectives, activities, and resources to changing market and/or policy needs?

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[23] More on coherence and synergies of European Partnership candidates, see
https://ec.europa.eu/info/sites/info/files/research_and_innovation/funding/documents/ec_rtd_coherence-synergies-of-ep-under-he.pdf

International visibility	To what extent are partnerships acting as global ambassador for the European R&I system/establish global relevance/ achieve scientific and technological reputation in the international context/ serve as hubs for international cooperation, where appropriate?
	What is the level of international cooperation at partnership and project level and how does this result in visibility for the European Partnership?
Phasing out preparedness	What are the foreseen measures and conditions set for the orderly phasing-out of the Partnership from the Framework Programme funding?
	Is there a plan for the Partnership to become self-sustained after the planned period of EU support?
Transparency and openness	Is the necessary information available to all possible stakeholders on the Partnership activities (functioning of the governance, management, and decision-making processes, SRIA development, call topics selection and call implementation, etc.), communication, dissemination, and outreach measures, and access to results?
	What is the level of openness in use of research result?
	Are there open and transparent processes for consulting all relevant stakeholders and constituent entities in the identification of priorities?
	Are there procedures / mechanisms in place to expand the partnership to involve new members at partnership and project level, as well as gradually engage a broader set of stakeholders across Europe?
	Measures ensuring information to SMEs and promotion of their participation (notably for partnerships with industry participants).

5.3 Analysis of common indicators

The analysis started with the criteria and monitoring questions. While the monitoring questions should all be addressed, the suggested indicators should not overlap with the Horizon Europe KIP indicators. At the same time, the common indicators should avoid being specific to any particular type of partnership or focusing on any specific thematic area. Thus, items which are already measured by KIP and/or are included in the individual partnership

monitoring systems that were either drafted in view of Horizon Europe or that were applied in the existing partnerships, were identified and excluded.

Guided by this approach, an initial list of 24 indicators that excluded any indicators already set to be addressed by the Horizon Europe KIPs, as well as any partnership- or theme-specific indicators was developed. This list included both quantitative, qualitative, and mixed indicators and addressed various timeframes of data collection (annually, at year 3 and 7 of the partnership lifetime, at year 5+). A specific sub-set of these indicators – 14 indicators that were to be addressed annually and focusing on monitoring rather than evaluation – was included in a questionnaire survey sent to Partnerships' representatives, while the whole lot was presented at the first Hearing workshop on 17 March 2021 including Partnerships' representatives and the European Commission. A description of the survey and its main results can be found in Appendix 8.

Based on the feedback received both from the hearing and the survey, the list of indicators was further qualified, and some were able to be excluded, while some other refined. In parallel, the feasibility of data collections needed for the initial set of 24 common indicators was analysed. Based on all these feedbacks the **indicators were grouped into four categories**:

1. Indicators proposed as common indicators for all partnerships.

2. Indicators identified as important, but can and should be developed for future Horizon Europe evaluation purposes, not used for monitoring (including references to the Horizon Europe project data and the common indicators proposed for the partnerships and how they can be used as proxies (linking to impact pathways) or in connection with new evaluation data collected to arrive at the indicator).

3. Indicators identified as relevant but cannot yet be operationalised. These need to be developed further and considered at a later stage when Horizon Europe data collection may be expanded, or other data collection or analysis methods become available.

4. Indicators rejected entirely because they are not possible to operationalise for all partnerships (reasons may be many).

The analysis showed that addressing additionality, directionality, openness, synergies/coherence and international visibility with common indicators was possible. Phasing-out is mentioned in the Draft Criteria Framework as an entry-point requirement, in the sense that all partnerships should have drafted a phasing-out strategy from the outset (in practice partnerships are expected to have their phasing out strategies by the time to feed the interim evaluation of Horizon Europe – by the end on 2022). Thus, it does not lend itself to be a monitoring dimension. Flexibility in terms of frequency in adopting SRIAs and related action plans, is interesting to monitor. However, this would highly vary across partnerships as it is dependent on the thematic areas addressed by the partnership. Effectiveness, on the other hand, is not a monitoring dimension and is better addressed in a full-scale, interim and ex-post evaluations, which is also true for the phasing-out dimension. Four indicators on directionality and

international visibility that lend themselves for later evaluation exercises were also identified.

Additionality can be captured well by the monitoring indicators, but it should be kept in mind that qualitative research through, for instance, success stories is also very important to capture evidence on "additionality". By the same token, directionality can also be captured in this way to some extent. Directionality might better be addressed in the mid- and long-term, and as it is more visible in outputs, it is very important to capture directionality in the monitoring of individual partnerships and through interim and ex-post evaluations.

The survey showed which indicators are considered more feasible by the partnerships. Based on the feedback from the survey, some indicators were totally dropped as not feasible. However, some indicators were kept although they were classified as not feasible by the partnerships. These indicators were of crucial importance to the new partnership approach (e.g., financial and/or in-kind contributions) and supporting data will be collected provided the appropriate collection systems are set by the partnerships in collaboration with the European Commission. The relevance dimension across the various indicators was not assessed very differently by the partnerships. There was greater variety in the assessment of feasibility.
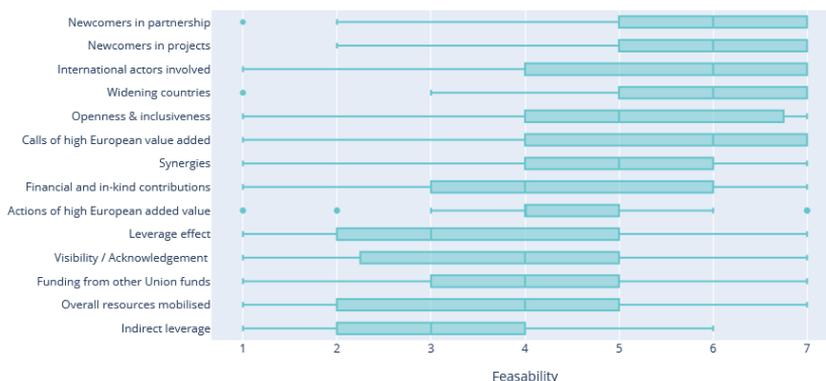
Figure 1: Ease of data collection: responses by representatives of European Partnerships.

The open comments from the survey showed the diversity of types of Partnerships. Some indicators like "direct leverage" are easier to be collected by some Partnerships because they already capture these data in their monitoring systems. The analysis of these open comments by indicator is valuable not only for the exercise of choosing suitable indicators, but also for the next steps. There is still room for adjustment and fine-tuning, which should be based in part on the qualitative comments from the survey (see Appendix 8). The responses from the survey also show that some Partnerships might provide best practice examples on how to collect and provide data on common indicators. Knowledge transfer on data collection for monitoring might help harmonize the reporting on common

indicators. It might be useful to establish a possibility to exchange experiences on data collection and monitoring between the different types of Partnerships, e.g. in the context of the Partnerships Knowledge Hub.

Specific indicators were also addressed through specialised questions in a second survey that targeted both European Partnerships and Member States. Overall, the key points of the two consultation rounds can be summarised as follows:

The common indicators need to be based on clear definitions of key terms, e.g., 'in-kind contributions', 'additional activities', 'direct leverage', or 'indirect leverage', 'within and outside the scope of the partnership', 'public investments', private investments', etc.

The definitions applied need to respect the provisions already made in the legal basis setting up the partnerships (e.g., the Single Basic Act and the Memorandum of Understanding).

It is inevitable that some definitions will be different across the different types of partnerships. Yet, this does not decrease the value of the indicator as such. Although they are set to be common for all partnership types, allowing for flexibility is also key.

The suggested timing of monitoring certain indicators also needs to be revised.

Qualitative inputs are equally important even though they may only be indicative rather than representative of the results of the partnership.

 As stated by the partnerships, the main achievement of a partnership is in relation to the level of successfully pursuing the objectives in the SRIA. This overall aim can be translated to Partnership-specific indicators in the respective monitoring and evaluation framework and lies outside the scope of the common indicators suggested here.

The open responses in the surveys also provided valuable ideas for additional common indicators. These ideas should be further analysed, and possibilities to merge them with the proposed common indicators should be examined. This is work in progress. Based on the feedback received until end of May 2021, the categories of common indicators were further reduced to a list of "green" indicators that is recommended for monitoring and a list of "yellow" indicators that is recommended for further evaluation (Appendix 1 and 2). Further refinement may take place in the coming months.

To guarantee a harmonized reporting on common indicators, it would also be useful to implement an interface with the EC at the partnership level. A continuing open survey might serve as a starting point to collect data in a harmonised way. It is important to have a common understanding on the indicators and harmonized collection methods. A lot of data and qualitative reporting will be at partnership level, accordingly a reporting system for common indicators should be implemented by the European Commission.

5.4 Proposed common indicators

The proposed indicators in the table below are described in more detail in Appendix 1. They are quantitative, qualitative and some would include anecdotal evidence through presentation of success stories and best practice examples. The guiding line is to propose indicators that are suitable for all partnerships. Nevertheless, even common indicators are in some cases better suited to one type and in other cases better suited to another type of partnerships. However, these common indicators build a framework on the monitoring of the new approach of European Partnerships as a policy approach.

No	Criterion addressed	Proposed common indicators
1	Additionality	[direct leverage] Financial (€) and in-kind contributions, committed and actual
2	Additionality/ Synergies	[indirect leverage] Additional investments triggered by the EU contribution, including qualitative impacts related to additional activities
3	Directionality	Overall (public and private, in-kind and cash) /Additional investments mobilised towards EU priorities
4	International visibility and positioning	International actors involved
5	Transparency and openness	Share & type of stakeholders and countries invited/engaged
6	Transparency and openness	No and types of newcomer partners in partnerships and countries of origin (geographical coverage)
7	Transparency and openness	No and types of newcomer organisations in supported projects (in terms of types and countries of origin)
8	Coherence and synergies	Number and type of coordinated and joint activities with other European Partnerships
9	Coherence and synergies	Number and type of coordinated and joint activities with other R&I Initiatives at EU /national/regional/sectorial level
10	Coherence and synergies	Complementary and cumulative funding from other Union funds (Horizon Europe, National funding, ERDF, RRF, Other cohesion policy funds, CEF, DEP, LIFE, other)
11	International visibility and positioning	Visibility of the partnership in national, European, international policy/industry cycles

The operationalization of common indicators will continue in the context of the second interim report, including the relation between the three types of indicators (common indicators, partnership-specific indicators and Key Impact Pathways).

5.5 Integration of monitoring into Horizon Europe evaluation

Monitoring of European Partnerships can be carried out using descriptive indicators. These are limited according to data availability and practical concerns. Accordingly, the monitoring/evaluation questions can be answered only to a certain extent by the proposed set of common indicators. However, additional Horizon Europe evaluations that are concerned with impact channels, are needed. The evaluation of policy measures should always ask: How does the policy intervention contribute to the achievement of a previously determined goal? An example would be to evaluate if the approach of European Partnerships had a greater impact on carbon emission reduction than another set of policy instruments would have had in a counterfactual situation (based on the same amount of funding by the EC). To answer such a question, descriptive indicators are helpful, but limited. The gold standard of such an evaluation, would be to measure causal effects. This might be carried out by field experiments, where a treatment group is compared to a control group. Since this method requires an exogenous treatment, it is not possible to applicate it here (participation in a partnership seems to be endogenous in most cases).

During the last few decades, substantial advances in topical areas, such as statistical analysis, machine learning and data mining to handle the significance of large and complex data sets have been seen. Therefore, it is important to analyse if there is information within the data that queries and reports cannot effectively reveal. It should be asked whether in the light of the reported data it would be possible to use a data-driven approach to automatically categorize or group data, identify patterns, identify anomalies – early-stage problem identification, show correlations, or predict outcomes within the partnerships. Examples of how pharmaceutical executives use data analysis tools effectively to identify and qualify potential partners for collaboration have already been seen.

Future evaluation strategies would most probably benefit from an algorithmic impact assessment to answer questions that traditionally were too time consuming to resolve. The tools would also scour the data for information that experts may miss because it lies outside their expectations. However, more information is not necessarily better, and it has been seen that data-gathering can become a goal itself – quantity does not equal quality.

The proposed common indicators are a basis for later evaluations. Appendix 2 identifies mid- and long-term indicators that are not feasible for the continuous monitoring of partnerships but might be useful for interim and ex-post evaluations. It is to be discussed if, how and when data collections on these indicators might be carried out.

6   DEFINING PARTNERSHIP-SPECIFIC INDICATORS

In Horizon Europe, all European Partnerships must monitor and report on their progress towards their objectives. The Expert Group was to provide recommendations on how to fine-tune the indicators identified by the candidate European Partnerships to track their progress towards operational, specific, and general objectives (mostly thematic)[24]. This deals with indicators that can be built on project-level data, additional data collected from partnerships and external data sources (e.g., OECD, World Bank, United Nations Agencies) and that are directly linked to the general, specific, and operational objectives of the partnerships. Although the core of this work is complementary to the definition of common (transversal) indicators and identification of specific, additional reporting needs, it was essential to capture any possible overlaps between partnership-specific and common indicators, as well as to provide insights into monitoring frameworks and their specificities that could be translated into joint reporting needs.

It was agreed that the outcome of this work should be two-fold:

- Providing guidelines including a set of recommendations on how to address a monitoring framework from a partnership perspective including: (i) the definition of a 'Partnership Strategy Map' to best embrace the objectives and related impacts, (ii) definition of "relevant indicators" and linked targets (iii) best practices in terms of the management of resources (human resources, IT systems, others) related to the development, implementation, and maintenance of monitoring systems.

- Providing practical examples of good partnership-specific monitoring frameworks based on the five pilots and the EIT monitoring framework[25] analysis, including an explanation of the underlying logic for proposed objectives and connected indicators.

Based on an initial assessment of the Expert Group, and the multiple objectives of stakeholders within the context of monitoring and evaluating European Partnerships, there are three major complementary objectives that emerge: (1) The need for the European Commission to monitor partnerships from the viewpoint of the additional value a European approach provides in the R&I environment, which implies the need to establish common indicators related to the legal and policy base of the EU partnerships, and which allow mostly an aggregated view of the performance of the new policy approach to European Partnerships (see previous chapter), (2) The need, from a broader societal

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[24] The analysis of the indicators identified by European partnerships was based on inputs provided by partnerships, based on a common template (developed and coordinated by DG RTD)

[25] See e.g., Annex 8 in
https://www.eu.dk/samling/20191/kommissionsforslag/kom(2019)0330/kommissionsforslag/1583589/2065403/index.htm

perspective, to monitor and evaluate the contribution of the partnerships to the specific societal challenges they address within the social, economic and environmental domain. The work focused, in particular, on this second objective, i.e., the importance and the value of partnership specific monitoring frameworks; and (3) The need of European partnerships to monitor the management, operations and functioning of the Partnership (based on Article 50 of Horizon Europe and common indicators discussed in the previous chapter, which aim to streamline this effort.[26] Related provisions are often laid down in the respective frameworks that set up the different European Partnerships – legal base, Memorandum of Understanding, Grant Agreement).

Our methodology consists of confronting insights from the mainstream practices of monitoring and evaluation of organizations, our expert knowledge in the context of monitoring and impact assessment, confronted with the current established and emerging practices within both existing and newly created partnerships through a more in-depth investigation of five 'pilot' partnerships, as well as the EIT monitoring framework.

6.1   Choice of the pilots

The work was done more closely with a small number of future European Partnerships in order to provide useful examples and models to serve as inspiration for others in developing their monitoring framework. It allowed to make the work operational, given the strict timeframe and the large number of European Partnerships to be considered.

The pilot studies were considered as transversal to the work of the Expert Group since they allow on the one hand the exploration of monitoring frameworks and validation of desk analysis, and on the other hand the assessment of the framework developed in terms of the feasibility and readiness of these selected European Partnerships. More specifically, the pilots present the 'bottom-up' component of the expert assignment as they provide for an in-depth 'on-the-ground' look at both the practices applied, opportunities and bottlenecks at the level of the EU partnership(s) (organizations).

The choice of the five pilots applied the following criteria (i.e., striving a good overall balance of the components below):

- The typology of partnerships (institutionalised, co-programmed, co-funded)

- Their maturity level (new partnerships vs mature/experiences ones)

- The thematic (pillars) they cover

- The type of driving organizations [public (MS) or private (industry)]

- Their interest in improving their monitoring processes and availability to support the experts' group in their work.

Based on the list of proposed partnerships, the experts developed a longlist of potential candidates for the pilots considering the various dimensions. Some partnerships volunteered for the exercise by expressing interest to the European Commission. During a common meeting, and following initial commitment of the proposed shortlist, both the experts and the European Commission decided on the final choice.

The five European Partnerships proposed for the pilots were:

1. Innovative Health Initiative (JU, health, public-private, cluster 1)

2. Photonics (co-programmed, industry driven, cluster 4)

3. Driving Urban Transition (co-funded, cluster 5)

4. Water4All (co-funded, cluster 6, with important focus on calls for projects)

5. European Open Science Cloud (EOSC) (pillar I / transversal, co-programmed).

It was also agreed to include the contribution of EIT that was well advanced in the development of its monitoring framework and presented a supplementary point of view.

The mixture of experienced partnerships with the new ones allowed an equal consideration and appreciation of recommendations stemming from in depth experience, and, at the same time, of the needs expressed by the newcomers. Such a combination was essential for proposing an overall monitoring framework and initial guidelines most adapted to all types of partnerships. A lot of useful work related to monitoring has been proposed by the mature partnerships and it is further hoped to streamline their important work and create a bridge of lessons learned to the newer partnerships.

6.2 Methodology applied

The work was executed based on the (desk) analysis of existing and proposed monitoring frameworks of the future partnerships as well as direct collaboration with five partnerships (pilots) and EIT and feedback from the hearing with partnership representatives that took place on 17 March. The combination of desk work and interviews approach allowed for multiple feedback loops and avoided pilot projects to be confronted with a 'take or leave it' framework.

The study was divided into an exploratory and validation phase. The exploratory phase focused on identifying of common challenges, areas where harmonization could be achieved (e.g., towards reporting to higher policy objectives e.g., impact on climate change, UN SDGs, specific EU policy

dashboards, etc.), and an estimation of practical feasibility of indicators and solutions proposed. Furthermore, best practices which can be easily transferred to other partnerships were identified. In general, the methodology applied, and the proposed results should be useful for both mature and newly established partnerships. Therefore, the validation phase was composed of practical application (testing) of the framework proposed as well as hands on evaluation of the proposed guidelines by the pilots. For example, one of the pilots – EOSC – has recently been launched and will suit as a perfect case to test the relevance and comprehension of the proposed guidelines and their further development. It will also allow to deepen the observations collected in the exploratory phase.

After confronting the insights of the pilots with the common indicators and data collection considerations, and other issues related to partnership specific indicators, discussion on the framework with each pilot for fine-tuning and assessing feasibility and acceptance will take place. Furthermore, the interviews will include first discussion on the format and content of the biannual report (testing of suggestions).

6.3 Underlying background

In Horizon Europe, Partnerships are fully integrated to the monitoring system of Horizon Europe, reflecting their strategic relevance in achieving the objectives of the Framework Programme. Concretely, this means that Partnerships need to follow a monitoring system that is in line with the requirements set out in Article 50 of the Horizon Europe Regulation[27], around the Key Impact Pathways specified in the Annex V and Partnerships specific monitoring criteria specified in Annex III. According to the latter, the monitoring of European Partnerships needs to track progress towards specific policy objectives, deliverables, and key performance indicators. Attention is given to R&I achievements, outcomes, and impacts. However, to fully appreciate the added value and impact of Horizon Europe Partnerships, these overarching objectives must be complemented by Partnership-specific monitoring measures. In this context, all Partnerships must formulate their own monitoring frameworks based on the general, specific and operational objectives at programme level, allowing to track progress towards achieving their own goals. Such monitoring frameworks should focus on partnership-specific objectives and indicators, represent low administrative burden and be comparable in terms of standards and methodology. The proposed frameworks should allow for an assessment over time of achievements, impacts and potential needs for corrective measures. Finally, it should be underlined that next to quantitative data, self-assessment, and success stories to narrate the impact created through a partnership approach adds value (especially in view of the interim evaluation of Horizon Europe).

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[27] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2021.146.01.0001.01.ENG&toc=OJ%3AC%3A2021%3A146%3ATOC

The process of defining Key Performance Indicators (KPIs) at the partnership programme level was to be achieved in close collaboration between the potential partners and the Commission services. Partners had an important role in defining Partnership-specific KPIs, while the Commission played the leading role in defining the "overarching" KPIs related to their contribution to Horizon Europe objectives, EU priorities, and the partnership implementation criteria. Horizontal Commission services helped to coordinate the effort to ensure alignment with the overall monitoring requirements and framework for Horizon Europe and partnerships.

The definition of the monitoring frameworks was carried out in an interactive manner: first the horizontal services developed a common template linking the different objectives with KPIs (and methods, data sources etc.). After an initial feedback, partnerships were asked to send their revised draft monitoring frameworks by January 2021. This information was then provided to the Expert Group for analysis and further recommendations. The aim was to have stable monitoring frameworks around May 2021 (the timeline may vary a bit depending on the form of partnership, e.g., co-programmed partnerships will be launched the earliest and co-funded the latest). All Partnerships will have to add their final monitoring frameworks to their SRIAs (adopted by their governing board or equivalent).

During the hearing of 17 March 2021, partnership representatives pointed out that as major issues the time constraints and relatively limited flexibility of the defined monitoring frameworks (this concerns mostly the co-programmed partnerships that had to agree on a draft MoU in February/March), and insufficient initial (in)formal feedback process. Since the monitoring frameworks of the future Horizon Europe Partnerships constitute, next to the pilots, the basis of this work, the experts considered this element within the preliminary analysis provided below.

6.4 Analysis of monitoring frameworks proposed by the pilots and EIT

In advance of the pilot a preliminary desk study was performed to analyse the monitoring frameworks proposed by the (pilot) partnerships. This included the study of the logic between the identified general, specific, and operational objectives, indicators and targets assigned to them and their relevance towards Key Impact Pathways and Sustainable Development Goals (Appendix 3). The identification of the proposed sources of data necessary to feed the measurement of respective indicators was initiated and completed by information gathered through dedicated interviews with pilot partnerships as well as the outcomes of the survey addressed to all partnerships (Appendix 8).

In February and March, the exploratory discussions with the selected partnerships (pilots) in terms of their vision on the development of suited indicators to measure their performance took place. They provided additional insights into how both compulsory and optional (or general versus specific) reporting is currently performed and perceived, what the ambitions of the partnerships are, and if and how the organizational capabilities of the partnership are aligned with the ambitions set out for performance reporting, and what are the main challenges

in terms of impact measurement. A case study protocol and interview guide were developed to carry out this work. These and the analysis can be found in Appendix 3.

Relevance of objectives and indicators

The preliminary analysis of the monitoring frameworks of the five partnerships chosen as pilots as well as that of the EIT has shown that the definition of general, specific, and operational objectives, the connection with the relevant indicators, targets and baseline was a complicated exercise. This was often related to the fact that even the pre-existing Partnerships operated under different monitoring framework and had to revise them, while the new ones struggled with positioning within Horizon Europe strategic objectives and demonstration of their own added value. All pilot representatives indicated that the timeframe to define their draft monitoring framework was too short.

The more "mature" partnerships were partially safeguarded thanks to their pre-existing solid monitoring system and well anchored strategy and validation process, which facilitated the definition of indicators and identification of sources of data or processes required to measure them (IHI, Photonics, EIT). But even the experienced ones resolved sometimes to the support of external experts, and the whole process took over one year (and is still not completed).

The difficulty to properly determine relevant indicators was also reflected by the number of proposed objectives (from 3 to 14 per category) and KPIs per objective that spread from 4 to 34. Although all representatives agreed that the number of objectives and indicators should be minimised ("less is more"), the newcomers recognized that the fragility of their monitoring framework is due to (temporary) lack of adequate expertise and validation process including relevant stakeholders. EOSC, for example, is in the process of recruiting management resources to their team.

The challenge of the exercise was also enhanced by the fact that the complementary frameworks and detailed indicators to be included under Key Impact Pathways and Horizon Europe project-level monitoring systems of the European Commission were still under development.

RECOMMENDATION 1[28]:

The guidelines and annotated monitoring frameworks *should reinforce the definition of General, Specific and Operational Objectives demonstrating/explaining how (especially General Objectives) they are aligned with the impacts of Horizon Europe first strategic plan 2021-2024[29] and ensure*

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[28] This may have to be adjusted for institutional partnerships.

[29] https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/3c6ffd74-8ac3-11eb-b85c-01aa75ed71a1

that EU research and innovations actions contribute to EU priorities, including an economy that works for the people, climate-neutral and green Europe and a Europe fit for the digital age. If possible, each General Objective should include the respective impact dimension (scientific, societal, economic) in its description.

*The list of characteristics of a "good indicator" should be included and specify how to assess usefulness and appropriateness of a partnership-specific indicator. Examples of "bad indicators" could be given demonstrating the reasons for which they should be avoided. A '**Partnership Strategy Map**' concept could be proposed to help in defining the logic underlying the definition of a specific objective, the linked indicator, and the expected impact. **The number of indicators should be kept at minimum,** and the focus should be on reflecting the contribution to societal objectives of each partnership.*

*The guidelines should include the **description of the related decision-making process** - involvement of governance bodies and stakeholders in the choice and endorsement of indicators. Considering that the current frameworks were already pre-validated within the MoU or SRIAs, it is necessary to define the procedure for the revision of indicators and objectives (possibly, at least during the mid-term review, and always before a new funding decision or contract extension by the European Commission). Regarding indicator-specific recommendations, given the variety of partnerships and the vast domain experience present in partnerships, the Expert Group members do not intend to make specific recommendations towards partnership-specific indicators, but to provide overall guidance and recommendations.*

Feasibility for monitoring

Any framework and the associated solutions for indicator reporting should preferably strongly consider the perspective of the partnership, i.e., how can the indicators developed provide overall added value (including managerial one) at the level of the partnership, and towards their direct and indirect stakeholders (including society at large). Both internal (showing the performance of processes and achievements within the partnership as motivators for both staff and partnership members) and external value (showing the performance of processes and achievement of the partnership to external stakeholders (society, broader industry, governments), i.e., supporting the 'social license to operate' of the partnership, should be considered.

While digitalisation has led to efficiency increases at the level of performance monitoring management and evaluation, in particular when data can be automatically 'scraped' or obtained, some partnerships may not experience this. Many applications still require a manual counting or inputs into a database or application, several KPIs require additional investments in both HR and ICT[30] to extract meaningful indicators and dashboards, and in some cases external service

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[30] E.g., business intelligence software such as Microsoft Power BI (https://powerbi.microsoft.com/en-us/)

suppliers are contracted to conduct surveys. This is exactly where the burden regarding KPI development is observed, and where some partnerships or projects are left behind, leading to an image of unnecessary workload and costs associated to any monitoring framework development, and even stalling the establishment of KPIs beyond the minimum requirements (or worse, reporting KPIs which are not assured in terms of data quality or causally linked to the achievement of the partnership's objectives).

When defining their monitoring frameworks, the majority of pilots and EIT were able to clearly identify the source of data required to feed the specific indicator and to distinguish between project-level and partnership-level data.

The data identified as to be collected by the partnerships can be classified in two major groups:

Internal data: collected from projects funded by the partnership, data from partnership website or portal, documents like calls, annual reports and binding agreements, internal surveys to partners.

External data: collected through surveys, interviews, case studies or events, but also data coming from the European Commission portals like CORDA or SYGMA.

However, when it came to assigning responsibilities for collection of proposed data, issues arose. Several elements need to be taken into account. First, it was considered that gathering of data is often linked to significant workload and, in case of its automation, requires development of a solid monitoring system which facilitates the input. Not all partnerships are equipped with such systems and, until now, have not considered, or were not able to estimate the overall costs that such development would represent.

Secondly, at the time of the monitoring framework development, it was impossible to confirm whether the proposed indicators were overlapping or complementary with all other indicators foreseen within Horizon Europe performance measuring and thus the linked availability of data collected by the European Commission.

Thirdly, it is expected that any qualitative indicators will be more demanding (in manpower and/or budget), since they are frequently related to processing of external data, analysis of surveys or documents, interviews, etc. Therefore, a good balance between qualitative and quantitative indicators should be foreseen from the start, while the definition timeframe did not allow the partnerships to study in depth what they are proposing and evaluate in detail costs that may be generated by the suggested indicators.

Finally, it was clear that all interviewed partnerships did not embrace fully the need to develop or adapt their own monitoring system or sometimes depreciated the added value of partnership-level indicators, even though Horizon Europe explicitly mentions that partnerships need to track their progress towards their strategic objectives. High expectations were put on the system developed by the European Commission that should discharge the partnerships from unnecessary workload.

RECOMMENDATION 2: The guidelines should include recommendations on overall evaluation of costs and efforts as well as best practices implemented by "mature" partnerships when evaluating the choice of data sources and measurement type for the proposed indicators. The operationalisation issues to be considered when selecting an indicator should be presented. It is necessary to include examples relevant for institutionalised as well as for co-programmed and co-funded partnerships, since their Horizon Europe monitoring framework will differ (e.g., the collection of data from funded projects of institutionalised partnerships is done within European Commission monitoring system, while co-funded partnerships collect the data in their own monitoring systems that should be connected and interoperable with the system of the Commission). If possible, the list of partnership-level common indicators that will not be collected by the European Commission should be presented and the possible ways to include them into partnership-level monitoring system should be proposed.

Options to harmonise indicators addressing similar objectives

The indicators proposed within the six analysed monitoring frameworks were compared with the fourteen common indicators to identify any possible overlaps. As indicated in the Table below, all monitoring frameworks included at least one indicator focusing on the measurement of same or similar impact and based on the same type of data to be collected.

Common indicator	N° of partnerships with overlap
N°6: No./description of joint actions of high European added value that go beyond joint calls (building research networks, establishing joint living labs, etc.)	5
N°7: Number and type of coordination and other joint activities with other R&I Partnerships, and R&I Initiatives at EU /national/regional/sectorial level	2
N°8: Complementary and cumulative funding from other Union funds (Horizon Europe, National funding, ERDF, RRF, Other cohesion policy funds, CEF, DEP)	2
N°10: Visibility/Acknowledgement of the partnership in national, European, international policy/industry cycles	2
N°5: No. of joint calls of high European value added (=cannot be effectively realised by Member States acting alone)	1
N°9: International actors involved: N° and types of organisations and countries most represented in the partnership/ Evolution of engaged countries/associations (geo	1

areas; level of engagement: no. activities, cash and in-kind contributions)	
N°11: No and types of newcomer organisations in partnerships (and countries of origin)	1
N°12: Openness – inclusiveness: evolution of participation of widening countries (which partnership activities, cash and in-kind contributions)	1
N°13: No and types of newcomer organisations in supported projects (in terms of types and countries of origin) (quant)	1

Almost all partnerships consider that measuring of joint actions that go beyond project funding is necessary to demonstrate their added value. Similarly, partnerships considered that evaluation of their impact requires assessment of their visibility and strategic impact at national, EU and international level. Nevertheless, limiting as much as possible any overlaps between the partnership-specific monitoring frameworks and the common indicators would be recommendable, in particular, if these are not instrumental to establish what can be defined as 'partnership-specific impact pathways' (PSIPs).

A proposal for initial guidelines (to be further reviewed and developed in final version of the report) based on these recommendations and other observations the Expert Group made during this work are presented in Appendix 4.

7 REPORTING NEEDS AT THE LEVEL OF EUROPEAN PARTNERSHIPS

The focus was on the additional reporting needs at the partnership level to capture data that is not collected through the Horizon Europe proposals and project reporting. Due to time constraints this work focused on identifying additional data needs related to common indicators, since covering data needs of all 49 partnerships would have been too time consuming. This section starts with the reporting requirements and systems under Horizon Europe, then provides the analysis of data needed for the proposed common indicators, then the methodology of the data mapping exercise for common indicators and observations from the data mapping exercise. The concrete product of this work is a template for collecting data for the common indicators (Appendix 6).

7.1 Partnership monitoring and evaluation requirements

The activities of the European Partnership will be subject to continuous monitoring and periodic reporting in accordance with Article 50, Annex III and Annex V of the Horizon Europe Regulation[31]. Annex III states the provisions and criteria for the partnership selection, implementation, monitoring, evaluation and phasing-out.

The monitoring and reporting part in Annex III states that each of the European Partnership should have in place:

- A monitoring system in line with the requirements set out in Article 50 to track progress towards specific policy goals/objectives, deliverables and key performance indicators allowing for an assessment over time of achievements, impacts and potential needs for corrective measures.

- Dedicated reporting on quantitative and qualitative leverage effects, including on financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments.

Therefore, partnerships are required to report to the European Commission and the Commission also has a legal basis to request this information. Furthermore, each partner of a European Partnership needs to provide on an annual basis data reflecting its contribution to the partnership as defined in their legal framework, e.g., grant agreement, MoU, Single Basic Act[32]; EIT Regulation).

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[31] Regulation (EU) 2021/695 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination

[32] EU to set up new European Partnerships and invest nearly €10 billion for the green and digital transition https://ec.europa.eu/commission/presscorner/detail/en/ip_21_702

The description of how reporting in different European Partnerships will be organised can be found in Appendix 5.

7.2 Horizon Europe reporting systems

To simplify and standardise the reporting at the level of the individual projects funded by the partnerships, the data on proposals, selected projects, their outcomes and results will need to be integrated in the European Commission central IT tools (eGRANTs Data Warehouse, dashboard)[33]. This is also reflected in the provisions for European Partnerships (Article 10, Annex III) in the Horizon Europe Regulation.

In terms of data from projects and proposals, the current bottlenecks for Horizon Europe are those calls launched by European Partnerships involving Member States and contributions from their programmes (co-funded European Partnerships). Data captured by the European Commission internal IT tools for the partnerships is presented in the table below[34].

Type of partnership / implementation	Automatically covered by common framework programme IT tools	Not automatically covered by common framework programme IT tools
Article 187 initiatives (JUs) with private members only	In Horizon Europe, fully covered by common IT tools.	Partners' contributions (except if the contributions take place within the grants, they will be covered by common framework programme IT tools)
Article 187 initiatives (JUs) with participating states (and private members) – HPC, KDT, EDCTP3	Centrally managed calls and projects covered by common IT tools	Nationally managed projects[35]
Article 185 initiatives (Metrology)		Projects centrally managed by the Designated Implementation Structure

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[33] ERA-Learn report: https://www.era-learn.eu/news-events/events/workshop-supporting-the-preparation-of-future-european-partnerships/era-learn-ws-report-supporting-the-preparation-of-future-european-partnerships.pdf

[34] European Partnerships: Data on proposals, projects, and results for all calls. Internal working document of European Commission.

[35] Possibly also national co-funding when directly paid to beneficiaries, not via the JU.

		Nationally managed projects
European Institute of Technology and its Knowledge and Innovation Communities (EIT-KICs)		Data on funding from the EIT to the KICs Allocation of funding to projects within each KIC (Exception – some of this data will be reported through XML template for cascading reporting)
Co-programmed partnerships with private members	As in H2020, calls launched with the Union budget are part of the Annual Work Programme Horizon Europe: fully covered by common IT tools	Partners' contributions (except if the contributions take place within the grants, they will be covered by common framework programme IT tools)
Co-programmed partnerships with participating states (EOSC)	Calls launched with the Union budget are part of the Annual Work Programme Horizon Europe: fully covered by common IT tools	Partners' contributions (except if the contributions take place within the grants, they will be covered by common framework programme IT tools)
Co-funded Partnerships	Meta-data on the programme co-fund action supporting the partnerships	Joint calls for transnational proposals launched by the Participating States
Optional: Other R&I Partnerships of European Relevance		Joint calls for transnational proposals launched by the Member States
Optional: Other programme co-fund actions with cascading grants	Meta-data on the programme co-fund action	Calls for proposals launched by the beneficiaries

7.3 Data needed for the proposed common indicators

The first coordinated approach for monitoring all European Partnerships via common indicators provides a lot of data-related challenges. The proposed common indicators capture very large variety of additional value of the partnerships, for example, best practices, success stories, meeting the policy objectives etc., resulting in very different data needs (i.e., qualitative vs quantitative data. Some indicators are mixed type of indicators requiring both). The indicators require initial input data at different levels (i.e., programme level, project level, partnership level) as well as at different geographical levels i.e., national/regional, European, and international.

In parallel to the development of the common indicators, the data collections needed for the initial set of common indicators was analysed. In the final list, there are 14 indicators recommended for further implementation/discussion, out of which 11 could be operationalised immediately.

Methodology of the data mapping exercise for common indicators

The data mapping exercise can be found in Appendix 7. To match the data needs of the indicators, each indicator was divided into subdivisions according to the need for different data (e.g., under indicator 1 there are different data fields referred as 1.1, 1.2, 1.3 etc.). The following criteria were described for every subdivision: data unit, data final requirement level (partnership or project level), data collection level (collected at partnership or project level), if the data is needed to be collected directly from partnerships or not, what is the data source, methodology, other dimensions (e.g., some indicators need to be defined at country or cluster level).

In case the data were needed at project level, it was further analysed whether the data will be asked at European Commission project level reporting (or asked during the project proposal submission as part of the project proposal template), or whether there is a need to implement an additional data collection field to the project reporting template or project proposal template.

The results were discussed within the Expert Group, the European Commission and with four pilot partnerships to find the most suitable data sources and to find the most reasonable, cost-effective data collection method.

Observations from the data mapping exercise

Most of the proposed common indicators require input data only at partnership level. Very few of the proposed common indicators require data partly or only at project level. For one indicator data are needed at cluster level.

The data for quantitative indicators is the easiest to collect and analyse. Free text option is the most reasonable solution for some indicators, while not for others as the list in drop-down menu would be too long (not reasonable, would contain too many options). There are also other limitations to using a drop-down menu.

For example, the partnerships participating in the pilot exercise mentioned that the predefined list for the added value of a partnerships would be restrictive and would exclude many added values, as partnerships are very different. It was stressed that it would be very important for partnerships to be able to define for themselves what the added value of their partnership is. At the same time, for the programme monitoring and evaluation purposes it is important to define taxonomies, also on the added value. To meet both needs, the solution could be an identification of categories (in consultation with the partnerships), complemented by open fields where each partnership can elaborate further.

For some indicators, it is possible to ask necessary data at project level (e.g. Indicator 10 regarding synergies with other funds), but it is not efficient, as often the necessary data will be known and collected by national funding bodies or at national level (i.e. organisations that are not participating in projects) and should be therefore collected at partnership level (e.g. by secretariat), as the project partners will often not know the national funding sources for projects related to partnerships. Ideally, however, there would be a possibility to extract an overview of projects that bring in other funds that would facilitate the secretariat to collect further information.

For the "type of organisation" (data field in several indicators) it would be good to use the same categorisation as in Horizon Europe project proposal template.

The majority of the indicators allow to track the progress of the indicator over time. For example, for reporting of partners' contributions, there are columns for "committed" and "actual" contributions. Depending on the indicator, the committed contribution could be the committed resources at the beginning of a partnership or the situation in year one. Afterwards, these values will be compared to actual contributions over time or over the situation at year 3, 5 etc. The initial feedback of the pilots also indicated that the time series of the indicators would be very important for partnerships to be able to monitor their progress in time, in line with their time-bound objectives. Furthermore, it was suggested that the monitoring of impacts the European Partnerships should last 10 years or more, as the full added value of the partnerships takes longer to be evident. That is relevant especially for the development of the new technical solutions (from TRL1 to TRL 9) and for policy related impacts.

7.4   Concerns and recommendations

Data collection

The European Commission has done significant efforts to have the project level data of partnerships in their databases. The partnerships' related projects in Horizon Europe will be marked, and, therefore, it will be possible to link them with the concrete partnerships. The European Commission has also launched a data exchange pilot to test the project level data exchange possibilities with the partnerships whose projects do not report directly to the European Commission's databases (i.e., co-funded European Partnerships, but also EIT KICs).

As mentioned above, the common indicators proposed by T1a require mainly partnership level data, and it is not sufficient for the common indicators to simply aggregate the project level data of partnerships. The partnership level data is currently not existing for most of the partnerships in the European Commission's databases. Currently, one of the main bottlenecks seems to be the collection of partnership level data as there is no common central platform for it. The partnership level data are currently collected, and are foreseen to be collected, in Horizon Europe via different platforms and actors (e.g., some partnerships report the partnership level data directly to European Commission systems (e.g., co-funded partnerships), others are keeping track over partnership level data by themselves (data collected by partnerships secretariats) and report to European Commission upon request (usually once a year). That said – while the reporting and data collection systems may be depending on the partnership form (co-funded, co-programmed, institutionalised), the intention of the Commission is to harmonise partnership-level reporting, allowing to pave the way towards a more robust system for the future.

It is important that the monitoring and reporting requirements are proportionate to the resources available both at the European Commission and at the partnership level – they should not be overly burdensome when compared to general implementation. Therefore, it needs to be seriously discussed whether a centralised platform (IT tool) would be a cost and resource effective way forward. Alternatively, a simple interface (survey type of activity) could be used as a pilot activity to collect the partnership level data for the common indicators. It also depends on the final number of agreed common indicators.

Each European Partnership has to set up a monitoring and reporting system for partnership related monitoring/reporting activities. If the number of common indicators will be kept modest, the most cost-effective solution seems to be a well-defined interface to periodically gather data. Over time, it would be planned to make the data transfer automatic, so that the data transfer would be easier and faster, allowing to get close-to-real time datasets.

Therefore, it would be very important to invest and support the further development of partnership-based monitoring and reporting tools for collecting partnership level data, so that the partnerships will be able to fulfil the annual/biennial monitoring requirements by the European Commission.

This work and earlier experiences with similar monitoring systems and respective data collection arrangements highlight several concerns. These are collected into the tables below (R=recommendation, C=concern). Recommendations and concerns were discussed with the 5 pilots. Their feedback was used for fine-tuning the recommendations and concerns. Further feedback collected during the May 2021 survey is analysed in Appendix 9. It will be considered during the work of the Expert Group leading to the second interim report and eventually to the final report in 2022.

Concerns and recommendations related to data collection

C	Confidentiality of submitted data is a concern raised by partnerships, notably on the additional activities carried out by private partners. The Commission is already exploring an IT tool for collecting data on additional activities in the context of co-programmed European Partnerships.
R	All data for indicators presented to the public should be at an aggregated level to guarantee the confidentiality and protection of interests of different participants of European Partnerships (it especially applies to the industry related partnerships). The level of aggregation must be agreed for all the indicators by their data subdivisions.
R	Qualitative data collection should be limited as much as possible as it is difficult to analyse, takes time to insert and raises data quality issues.
R	Data validation should be done during collection and could be the responsibility of a partnership/project inserting the data.

Concerns and recommendations related to partnership level data collection

C	Having a common understanding on the indicators and harmonized collection methods.
C	Ensuring confidentiality of reporting (notably on additional activities, fearing disclosure of sensitive competition information). Indicators should be developed so that all the necessary data is presented in an anonymised or aggregated level. The project or activity level data would be in most cases captured in the form of success stories.
C	Clarifying who is responsible for further analysis of the collected data. This concerns notably the analysis of the quantitative data collected for indicators. This analysis might require a lot of manual work.
C	Getting the necessary data for the proposed indicators from some partners (e.g., because of data confidentiality issues, but also confusion with reporting obligations).
C	Cost of data collection (cost vs effort) is an important factor which should be considered while planning data collection and the selection of the reporting tool.

C	Developing a dedicated tool for partnership level data collection is currently not in the planning and requires time. It should be possible to start the collection of common indicators related data with a pilot solution.
R	The European Commission should collect data through a well-defined interface that would guarantee the data quality, correct format and confidentiality (no third-party access to sensitive data). There should be two interfaces – one for data collection and another for the European Commission for further analysis of the data.
R	The proposed cost-effective immediate solution is to start collecting the data necessary for common indicators through a survey type of tool (e.g., EU Survey or similar). That kind of interface should be flexible enough to allow to collect data in different formats (e.g. numbers, drop down menus, free text options), apply field validation for the input form (e.g. number of words in free text fields, format cells), generate different charts and graphs, provide the first analysis of the collected datasets and would allow different outputs necessary to the European Commission and the partnerships (Excel format, PDF files, raw data) for the further analysis or for special occasional needs (e.g., for audit purposes).
R	The European Commission could explore implementing a common reporting interface for collection of data on common indicators of European Partnerships in order to guarantee a harmonized reporting on common indicators. Data collection directly via Excel or Word sheets is suggested to be avoided if possible.
R	It could be considered to add the requirement to participate in the monitoring activities (during the project lifetime and also a fixed period after the project) to the project grant agreements, so that the partnerships would be able to collect the data necessary for the partnerships related monitoring requirements.
R	The European Commission should clearly communicate the templates for data collection and the technical requirements on common indicators to partnerships at first chance so that they could take these into account when adjusting their partnership-based IT systems.
C	Having a common understanding on the indicators and harmonized collection methods.

A template for collecting the data for common indicators is proposed in Appendices 6 and 7. The templates may serve as an input for developing an interface for the data collection (common indicators).

Data exchange

In Horizon 2020, the data for partnerships related projects were directly reported to the European Commission IT systems only for **Public-Private Partnerships** (Article 187 Joint Undertakings and contractual PPPs) with some exceptions (ECSEL, HPC). Therefore, data exchange pilots were tested for **Public-Public Partnerships (ERA-NET co-fund, Article 185) and EIT KICs.**

Concerns and recommendations related to data exchange

C	Data exchange with partnerships and the European Commission system has so far been tested only for project level data (EIT and P2P Data Exchange and pilots).
C	According to the survey, 70% of the respondents stated that they do not have an IT based monitoring system for their partnership (please see the graph below). From the discussions with pilots, it came out that all the partnerships must have addressed the monitoring issues, but perhaps some partnerships have managed to get by with simpler tools, e.g. only with a sophisticated Excel file.
C	The readiness and the ability of the partnerships to exchange structured data with European Commission system is quite low – in terms of data availability and IT systems (please see the graph below).
C	Many EIT KICs gave quite low scores in the survey conducted by the Expert Group for the readiness and the ability of their systems to exchange data with the European Commission, even if the EIT is currently participating in a data exchange pilot. The data exchange pilot is still ongoing, but the first results are rather positive and show that at aggregated data level, the exchange of project's related information is possible.
R	In the medium to long run, the European Commission should consider adding all the partnership-related data to the European Commission data system (e.g. after first reporting periods on common and partnership-based indicators). This can be done either directly from the developed interface or via data exchange with partnerships. That kind of approach would guarantee that the partnership level data feeds directly to the Commission database and would allow further analysis and comparison/compilation with other data sets.
R	The European Commission should provide more support[36] by to further develop the data exchange pilot, as the data exchange will be most probably the only possibility to get project level data under some

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[36] Please see for more information also Appendix 9. Analysis of consultation feedback on data collection.

	partnerships (or concerning some calls under the partnerships), as the application and reporting of some calls will be done via national IT systems. The European Commission should provide further support to the partnerships for adjusting and developing their IT systems to respond to the data collection needs of the Commission IT systems (e.g., data necessary at partnership level reporting on common indicators, developing their IT systems). The support can include for example: a contact person for data-related questions, dedicated material with best practices and lessons learnt from the first pilots, or a mutual learning exercise.
R	The partnerships should plan additional resources for developing/adjusting their IT systems with the reporting/monitoring needs at partnership level in order to speed up the development of the IT systems. It would save the Commission from developing a similar IT tool in parallel. Some partnerships are outsourcing the development of partnership-based IT systems, and perhaps extra funding could help them to speed up the process.
R	The Commission should ensure access to its datasets that are necessary or useful for partnerships, e.g., possibility to extract selected data directly from the European Commission data based in Excel and PDF format. That would be necessary for partnerships specific indicators and potentially also for some specific purposes (e.g., for audits etc.).
R	The European Commission should consider providing aggregated data in a predefined format (e.g., in a table, charts etc.). The data may be useful for partnerships for monitoring progress and for dissemination activities.
R	The European Commission should promote more the success stories of data exchange pilots by the EIT KICs and co-funded partnerships, e.g., via workshops or dedicated communication efforts. It would encourage more partnerships to participate in the future.

About 1/3 of the partnerships have developed proprietary IT systems for the purpose of monitoring performance. There are no marked differences between the types of partnerships when it comes to the implementation of IT systems for monitoring. This observation merits potential in-depth analysis on whether technology platforms can be shared (or replicated) between partnerships and/or which costs, experiences and added value these systems represent.
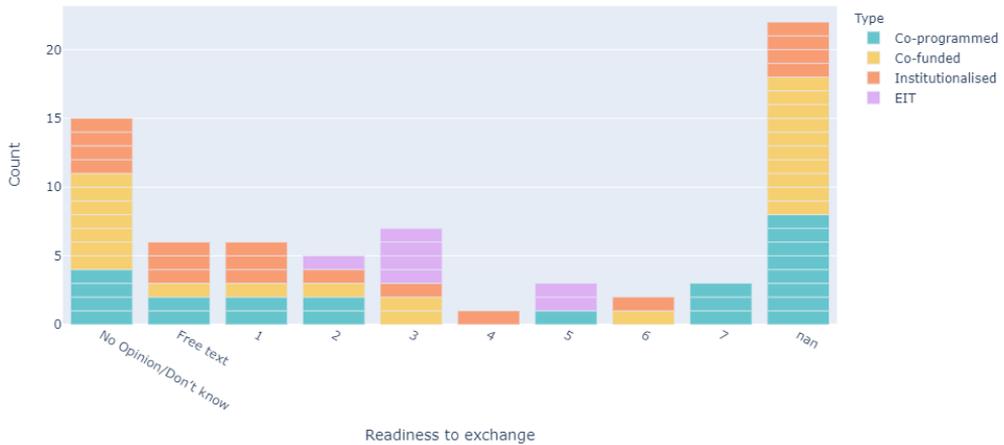
Figure 2. Question 3.3. in the survey conducted under T1: "What is the ability and readiness of your reporting system to exchange data with European Commission database?". Legend: 1=low, 7=high, nan = not available, No Opinion/Don't know, Free text. (more detailed analysis of the survey can be found in Appendix 8).

Reporting

The following observations were made on how to adjust the project proposal and project reporting templates according to the partnerships' needs. These also include lessons learnt from Horizon 2020 project level reporting.

The Expert Group is aware that the development of Horizon Europe project proposal and reporting templates by the European Commission is at the very last stage, but some improvements in the templates could be considered as these would certainly streamline the efforts and support partnerships in their monitoring and reporting activities.

Recommendations related the Horizon Europe project proposal template	
R	All partnership projects should be linked with partnerships' KPIs already at the application phase. This will facilitate tracking and progress of partnership related KPIs.
R	All partnership projects should be linked with SRIA areas since the application phase. This will facilitate tracking and progress of partnerships to follow SRIA areas/goals.

R	Identifying which stakeholder types are connected to the project (the same applies also to project reporting template) would allow to track the involvement of different types of stakeholders in the partnerships.
R	Collecting data on which (industry) sectors are connected to the project would allow to show the high transdisciplinary approach of partnerships. The same applies for clusters.
R	Partnership specific monitoring indicators and the project's connection to these indicators should be described in the impact section of reporting. It would allow the partnerships to track the partnership specific impact indicators. The progress of these indicators could be monitored via project periodic reporting.

Monitoring partnership specific indicators and showing the added value of partnerships by adding the following fields for the project level reporting template (some of them would also support the nine Key Impact Pathways monitoring) could be worth considering.

Recommendations related the Horizon Europe project reporting template	
R	To include qualitative evaluation of acquired/developed strategic skills in the projects (Connected also to the KIP no 2). Strategic skills should be defined by partnerships themselves.
R	To highlight cross-sectoral projects (additional field could be added).
R	To add the possibility to add X number of indicators per partnership to the Commission reporting tools in order to facilitate the reporting of partnership specific indicators
R	To capture more precisely the policy recommendations done by partnership related projects. In the reporting template there is a section called Policy relevant evidence of your project which could be further developed, for example, by asking whether the policy recommendations were made at Member State, regional or EU level.

Recommendations related the merging the partnerships and Horizon Europe KIPs	
R	Each (SRIA) objective of a partnership should be linked to a certain KIP. It would allow to monitor the partnership's input to KIPs[37].
R	The outputs of the partnership related projects should be connected to the KIPs.
R	The KIP monitoring period (at years 1, 3 and 5+) may be too short for capturing the full input to KIPs by partnerships – the impact of the partnerships appears after the lifetime of a partnerships. Therefore, a follow-up monitoring of the European Partnerships in relation to KIPs should be considered after the end of Horizon Europe (after the European Partnerships have finished)[38]. That could be a partnership-level study.

Monitoring

During this work, the following concerns and recommendations related to monitoring arrangements and systems have been identified:

Concerns and recommendations related to monitoring arrangements	
C	It is important to ensure flexibility as there could be unforeseen needs to introduce some additional indicators (common or partnership specific) during the lifetime of Horizon Europe.
R	The Commission and partnerships should ensure consistency by continuing to monitor the same indicators through (and also some time after the end of) Horizon Europe and also in the same format so that the data would be comparable.
R	The Commission and partnerships could exploit more the data from the projects reporting from the Funding and Tenders portal for the monitoring of partnerships. It would concern only the projects funded under partnerships and would require that the project is connected to the partnership since submitting the application.

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[37] IMI feedback about the implementation of the key impact pathways (KIPs) in the context of Horizon Europe and research data will be tracked and how they will be tracked? June 2019

[38] IMI feedback about the implementation of the key impact pathways (KIPs) in the context of Horizon Europe, March 2021

R	The Commission and partnerships should ensure that the monitoring of partnerships is done continuously to have up to date information. The process should be well organised and not time consuming – e.g., quick and easy to fill for the partnership (has to be done via well-defined and easy to use data collection interface).
R	The data collection interface should contain dropdown menus with options (if appropriate), automatically prefilled fields, and minimal number of open text questions (for some indicators unavoidable). For qualitative data collection open text is often the best solution.
R	The Commission could minimise the monitoring effort by ensuring automated tools for the analysis of quantitative data, e.g., the graphs/overview tables are generated automatically after data submission.
R	The Commission should explore whether the partnership-level on the common indicators can be transferred to Horizon Dashboard to allow wider audience to access the data. There needs to be a process setup to transfer the collected data and display them on the dashboard.
R	The Commission could consider developing a protocol on who is responsible for the analysis of the collected data (EC or partnerships? In case of EC which units?), who would be responsible for the data storing if the data is not transferred to the central EC databases. In case the data will be stored in the EC central databases there needs to be a process setup for the data transfer.
R	It is important to review the monitoring system and indicators at regular basis over the Horizon Europe period, as the landscape of the partnerships is constantly changing.
R	Representatives from the different types of the European Partnerships should be involved in the key decision-making processes regarding designing the monitoring indicators and organising the reporting to ensure the usefulness and feasibility of the proposed indicators, processes for partnerships.[39]

[39] European Partnerships were contacted in May 2021 via survey and the partnerships provided input on further support needed for developing their IT based monitoring/reporting systems for partnership-based monitoring/reporting. The results are summarised in Appendix 9.

8 Appendix 1. Proposed common indicators

The proposed common indicators described here are quantitative, qualitative and some would include anecdotal evidence through the presentation of success stories and best practice examples. The guiding line is to propose indicators that are suitable for all European Partnerships and address criteria on the functioning of European Partnerships from the legal base. These common indicators focus on the added value that is generated by partnerships as part of the new policy approach and illustrate how the governance of European Partnerships is improved compared to the previous cycle under Horizon 2020. Accordingly, the common indicators exclude the indicator system captured by the Horizon Europe Key Impact Pathways, which is based on project data. They also exclude, but are complementary to, the partnership-specific indicators developed under the Partnership specific monitoring systems.
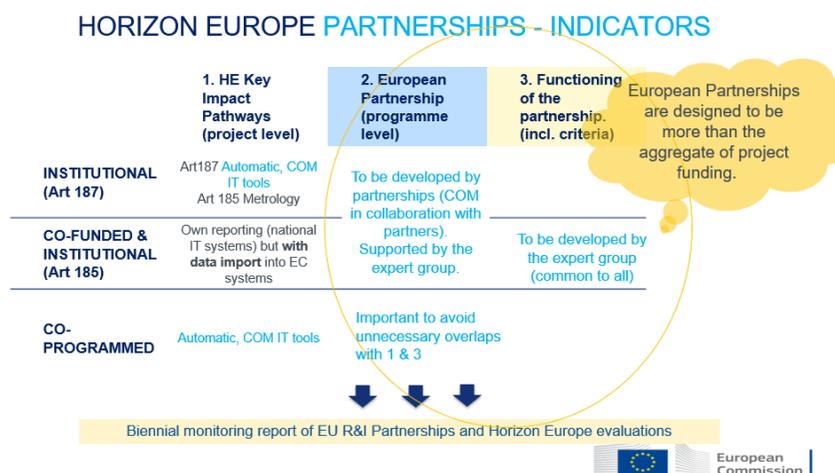
Figure 3. Three levels of indicators related to European Partnerships

The common indicators were developed based on an analysis of relevance, feasibility, data availability and reflection of the legal basis for Partnerships. Although, caution was paid that the common indicators are applicable to all types of partnerships, some of them may be more relevant to a specific type than others. These common indicators are the starting point for a broad monitoring and reporting on the functioning of the approach of European Partnerships. As such they will be analysed and interpreted in biannual monitoring reports. This reporting and analysis will take care of an appropriate placement of the indicators, taking advantages and disadvantages of the indicators into account. In addition, the boundaries of comparability will be addressed. However, these common indicators build a framework on the monitoring of European Partnerships as a policy approach and might be adjusted and refined while monitoring proceeds. Below follow one-page descriptions of the suggested common indicators. Appendix 2 provides further common indicators (marked yellow) that might be suitable for later evaluations. Appendix 6 and 7, in turn, include details on calculation methods and units used for data and sub-indicators for all the indicators suggested.

8.1 Detailed descriptions of indicators proposed as common indicators for all partnerships

Name of the indicator	1. Financial (€) and in-kind contributions, committed and actual [direct leverage]
Criterion addressed	Additionality
Definition of the indicator	• How much public funding (€) was generated for 1 € of EU contribution? • How much private funding (€) was generated for 1 € of EU contribution? • How much in-kind contributions generated by 1 € of EU contribution? [Taxonomy/categorisation for in-kind contributions to additional activities is to be developed.] Financial and in-kind contributions from partners other than the Union are defined in the respective legal frameworks – grant agreement (for co-funded partnerships), memorandum of understanding (for co-programmed partnerships), and basic act (for institutionalised partnerships). For more information, please refer to Appendix 5. Direct leverage: activities initiated by partnerships themselves and directly related to activities which are launched and managed by partnerships / partners (including also the in-kind contributions to additional activities that are outside HE funded actions, but agreed on an annual basis)
Type of indicator: Quant /Qual /mixed	Quant
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Interface provided by EC (starting with a survey), Partnerships insert data based on their monitoring systems. Partnerships collect data from each partner to insert data in the central system reflecting partner's annual contribution to the Partnership based on the definition in their legal framework (e.g., grant agreement, MoU, Single Basic Act). Disaggregation of contributions for public partners, for private partners and per country. Should be aligned with project-level reporting on contributions and planned reporting on additional activities and on leverage.
Frequency of data capture/ Timeline	Depends on data availability, some pilots proposed the month of May as suitable for data collections/ Annually

Calculation formula/ methodology used	The sum of partners' (public/private) contributions divided by the sum of the EU's contributions.
	The sum of in-kind contributions divided by the sum of EU's contribution.
	In-kind contributions to the Actions funded by the Union are captured automatically through EC IT systems. The Commission is planning an IT tool for reporting additional activities (outside projects) in the context of co-programmed European Partnerships.
	See Appendix 6 and 7
Project data calculation on "leverage"	Leverage is calculated by the division of overall contributions by EU's contribution (see calculation method). Project data feeds into overall contribution. The leverage shall be measured at Partnerships level, since it should be "more" than the sum of projects carried out in a traditional call. In the case of Co-funded Partnership (that are considered "projects" in the Horizon Europe monitoring system) this calculation method can also be applied. Here the leverage of contributions should be (on average and in the long term) higher than in traditional calls.
Who acts on the data/ is responsible?	Data collected at partnership level. Partnerships insert data into EC IT tool, EC feeds in additional data (if it is not available for partnerships) or provides an interface for partnerships to get project level data, analysis, and publication of aggregate data at EC level, monitoring of progress at partnership level.
	Data is reported in absolute numbers (contributions by partnership). Analysis is done at EC level since EC has overview of the EU contribution (share of Partnership contribution compared to EC contribution).
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	Interaction with indicator 2, which captures leverage outside the Partnership.
Potential methodological problems	Need to establish clear and common understanding of the different types of financial and in-kind contributions for the different types of partnerships (definitions are included in Appendix 5)
Notes	

Name of the indicator	2. Additional investments triggered by the EU contribution, notably for exploiting or scaling up results (linked to but outside the partnerships, including qualitative impacts and success stories) [indirect leverage]
Criterion addressed	Additionality/ Synergies
Definition of the indicator	Indirect leverage: additional activities or investments triggered by the partnership (not as part of the partnership but in addition to it). Partnership acts as a kind of a trigger (e.g., because of a partnership, MS decides to launch a national programme). These can include e.g. private investments in training or activities required for putting on the market the product/service which results from the European Partnership; or public investments mobilised from other EU/ national / regional programmes (e.g. ERDF, CEF).
Type of indicator: Quant /Qual /mixed	Mixed
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Interface provided by EC (starting with a survey), Partnerships insert data based on their monitoring systems.

Some data on leverage can be also collected from project-level reporting (e.g., further investment mobilised to exploit or scale-up project results, but this is asked only for the last reporting). |
| Frequency of data capture/ Timeline | At year 3, 5 and 7 |
| Calculation formula/ methodology used | Category or type of a success story ☐ Drop down menu with options of added value (e.g., building research networks, establishing joint living labs, etc.). This is inserted by the Partnership in the EU survey.

Description of the success story ☐ Free text. Qualitative study based on additional activities carried out by the Partnership/ members of the Partnership/ affiliates/ funded projects (collected by the Partnership)

A structure for the free text option should be developed and provided. There could be some examples. Maybe a limit to 150 words would be helpful (depending on the later usage --> case studies or communication activities). For reasons of harmonization and comparability a structure would be very helpful (could be developed in the next interim reports).

Web page/links to additional materials ☐ Partnership/ partners/ affiliates/ Project level (collected by the Partnership) |
| Project data calculation on "leverage" | Focus on quantitative data if possible (financial and in-kind contributions) and especially qualitative data that show investments that are additional to the EU funding. Like starting a new network or finding new partners for future projects that were not involved before but increase the ability to innovate due to xyz. |

	This is mainly captured by success stories. Partnership coordinators could explicitly ask projects to describe such success stories.
Who acts on the data/ is responsible?	Partnerships collect data/ qualitative responses from partners etc. and provide it to EC. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	Interaction with "direct leverage". The "indirect leverage" complements on "direct leverage" by showing the more qualitative aspects of added value of European Partnerships. Including the former "common indicator #8", which was qualitative on indirect leverage.
Potential methodological problems	Collection of success stories is nothing to be aggregated. Instead, it shall help to illustrate the added value generated by European Partnerships by leading examples. This approach comes with large heterogeneity. Will not be an easy task to precisely distinguish between activities within and without the scope of the Partnership (maybe more guidance by the EC is needed here). There are also challenges in estimating the value of indirect leverage that has a link / is triggered by the partnership.
Notes	EC could provide some success stories/ best practices/ case studies from previous evaluation to give some guidance for the Partnerships. Description of additional activities/ investments that materialised and their impacts (e.g., networks created through Knowledge Hubs that attracted that much of investment and helped the careers of that many researchers in these ways, description of best practices of joint actions of high European added value that go beyond joint calls, building research networks, establishing joint living labs, etc.) Success stories at partnership level. This is not easy to compare but could illustrate a part of additionality that cannot be shown by data.

Name of the indicator	3. Overall (public and private, in-kind and cash) /Additional investments mobilised towards EU priorities
Criterion addressed	Directionality
Definition of the indicator	The focus of this indicator is on differentiation of contributions to specific areas (e.g., clusters, other cross-cutting objectives, Union priorities or SDGs). How much overall/additional investment is generated by European Partnerships for specific areas (Example: x% directed to carbon emissions reduction)? Areas can be defined also based on the impact areas in the strategic plan (to be developed by the EC with Partnerships).
Type of indicator: Quant /Qual /mixed	Quant
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Interface provided by EC (starting with a survey), partnerships insert data based on their monitoring systems.
Frequency of data capture/ Timeline	Annually
Calculation formula/ methodology used	The aggregated investments (overall/additional) per area need to be based on a typology of areas that the Partnerships address within Horizon Europe - could be the 5 clusters/ pillars as a start if not possible to create narrower sub-clusters at this stage. Partnership level cash/ in-kind contribution data is inserted by partnerships and could be summed up per cluster.
Project data calculation on "leverage"	See indicator 1. Focus of directionality is how much investment/ in-kind contribution is directed into which policy priority.
Who acts on the data/ is responsible?	Partnerships collect data from partners etc. and provide it to EC. Aggregation and analysis is carried out at EC level. An aggregation of data might also be carried out at Partnerships cluster level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	

Potential methodological problems	It is crucial to define areas that are of interest to measure directionality. The Partnership clusters are a good starting point. In addition, the EC should provide some areas (SDGs could be a good baseline). This is important for later reporting and publications on how the Partnerships have contributed to solving the global challenges.
Notes	Horizon Europe project reporting collects data on contribution to the SDGs.

Name of the indicator	4. International actors involved
Criterion addressed	International visibility and positioning
Definition of the indicator	• No. and types of organisations and countries most represented in the partnership (members) • Evolution of memberships of countries and associations (no. and types of activities, cash and in-kind contributions**)**
Type of indicator: Quant /Qual /mixed	Quant
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Interface provided by EC (starting with a survey), Partnerships insert data based on their monitoring systems. Partnerships should record in their monitoring systems which countries are represented in which activities and how much do they contribute (€ and in-kind).
Frequency of data capture/ Timeline	Annually
Calculation formula/ methodology used	Membership in partnerships should be reported in terms of types or organisations and countries. The evolution over the years should also be recorded together with the annual contributions made (both cash and in-kind) based on indicator 1. This information can then be estimated for specific country cohorts (i.e., EU27, Third Countries, Associated Countries, Widening countries, other).
Project data calculation on "leverage"	see indicator 1 "direct leverage"
Who acts on the data/ is responsible?	Partnerships collect data from partners etc. and provide it to EC. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	Cash and in-kind contributions should be provided based on indicator 1 "direct leverage". Link to 6. "newcomer partners" and 7. "newcomers in projects"

Name of the indicator	5. Share & type of stakeholders and countries invited/engaged
Criterion addressed	Transparency and openness
Definition of the indicator	Share & type of stakeholders and countries invited/engaged in: Governance structures; SRIA development and call topics; Call implementation and other activity involvement.

The procedures should be recorded and assessed in terms of how open, transparent and inclusive they are addressing various types of stakeholders and countries. |
Type of indicator: Quant /Qual /mixed	Mixed
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Interface provided by EC (starting with a survey), Partnerships insert data based on their monitoring systems.
Frequency of data capture/ Timeline	Years 3 and 7
Calculation formula/ methodology used	Qualitative through a satisfaction survey carried out by Partnerships. Report the list of participating entities and the type of their engagement at Partnerships level. Analysis at EC level.
Project data calculation on "leverage"	Data from projects on number and type of participants and new stakeholders (also affiliates) might be used.
Who acts on the data/ is responsible?	Partnerships collect data from partners/stakeholders etc. and provide it to EC. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	Link to 6. "newcomer partners" and 7. "newcomers in projects"
Potential methodological problems	Some definition on stakeholders that are of interest is needed ☐ EC should try to give guidance on it. At the end of the day, this will still leave some space for interpretation at Partnerships level, which is fine as long as the Partnerships define for themselves how they calculate this indicator consistently.

Name of the indicator	6. No and types of newcomer partners in partnerships and countries of origin (geographical coverage)
Criterion addressed	Transparency and openness
Definition of the indicator	Newcomer partners in partnerships are those organisations that have never been included in any types of European R&I partnerships before. This should be recorded at the set-up phase of the partnership as well as during its lifetime.
Type of indicator: Quant /Qual /mixed	Quant
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Interface provided by EC (starting with a survey), Partnerships insert data based on their monitoring systems.
Frequency of data capture/ Timeline	Years 3 and 7
Calculation formula/ methodology used	Organisation with newly registered PIC or YES/NO question at project level reporting? (Question "Are you a first-time project partner in this specific partnership?"). This is relevant for the Co-funded Partnerships that are regarded as 'projects' in Horizon Europe monitoring system. For the other types, the data need to be collected / inserted by the Partnerships. Drop down menu with options for the type of org. (e.g., policy org, funding agency, business, research org, educational inst. societal org. Other, etc.). Drop down menu with country names. Additionally, a drop-down menu could ask them to select from a list of Horizon 2020/ FP7 partnerships, to indicate where they had participated.
Project data calculation on "leverage"	This indicator focuses on the partnerships level (partners, members)
Who acts on the data/ is responsible?	Partnerships collect data from partners/stakeholders etc. and provide it to EC. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	Link to 4. "International actors involved" and 5. "Share & type of stakeholders and countries invited/engaged" and 7. "newcomers in projects"

Potential methodological problems	
Notes	

Name of the indicator	7. No and types of newcomer organisations in supported projects (in terms of types and countries of origin)
Criterion addressed	Transparency and openness
Definition of the indicator	Newcomer project beneficiaries are those organisations that have never participated in a project supported by any partnerships before (could be part of Horizon Europe/H2020, though).
Type of indicator: Quant /Qual /mixed	Quant
Unit(s) of measurement	See Appendix 6 and 7
Data sources	eCRODA data to be elaborated by the EC to identify newcomers in partnership projects and then made available to the Partnerships
Frequency of data capture/ Timeline	Years 3 and 7
Calculation formula/ methodology used	Quantitative based on project data to be collected by the Commission (based on PICs / other unique identifiers)
Project data calculation on "leverage"	Project data on newcomers could be collected at partnership level. Do partnerships funded projects leverage participation of newcomers?
Who acts on the data/ is responsible?	Data collection in eCORDA. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	Link to 6. "newcomer partners"
Potential methodological problems	One possible issue is that PICs do not respect corporate structure (so a subsidiary of an existing participant might have a different PIC).

Name of the indicator	8. Number and type of coordinated and joint activities with other European Partnerships
Criterion addressed	Coherence and synergies
Definition of the indicator	Description of e.g., joint calls, trainings, sharing infrastructure, involvement in governance structures, etc.
Type of indicator: Quant /Qual /mixed	Mixed
Unit(s) of measurement	See Appendix 6 and 7
Data sources	Commission should define a list of coordinated and joint activities (incl. e.g., calls, trainings, sharing infrastructure, etc. with also 'other' as option) so that the Partnerships can easily report the number and type of coordinated/joint activities. It might be possible to add to reporting on additional activities the option to select other partnerships that cooperated on the activity. That could produce very interesting data for network analysis etc. It would be known which partnerships collaborate with which other partnerships, not only with how many, for example. In that case, maybe there is no need for annual reports (or these could simply list what has been reported previously.)
Frequency of data capture/ Timeline	Years 3 and 7
Calculation formula/ methodology used	Report in a form that would allow to map which partnerships collaborate with each other.
Project data calculation on "leverage"	
Who acts on the data/ is responsible?	Partnership level. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	

Name of the indicator	9. Number and type of coordinated and joint activities with other R&I Initiatives at EU /national/regional/sectorial level
Criterion addressed	Coherence and synergies
Definition of the indicator	Description of e.g., consequent calls in national programmes, capacity building or upscaling/exploitation actions at national / regional / sectorial level, etc
Type of indicator: Quant /Qual /mixed	Mixed
Unit(s) of measurement	See Appendix 6 and 7
Data sources	The Commission should define a list of coordinated and joint activities so that the Partnerships can easily report the number and type of coordinated/joint activities. The typology would have to be carefully considered (same goes for other indicators).
Frequency of data capture/ Timeline	Years 3 and 7
Calculation formula/ methodology used	
Project data calculation on "leverage"	
Who acts on the data/ is responsible?	Partnership level. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	
Potential methodological problems	
Notes	

Name of the indicator	10. Complementary and cumulative funding from other Union funds (Horizon Europe, National funding, ERDF, RRF, Other cohesion policy funds, CEF, DEP)
Criterion addressed	Coherence and synergies
Definition of the indicator	Provided that Partnerships have annual budgets for all activities (i.e., management, calls, other activities) there should be possibility to record the different sources of funds for the total of these activities. It is necessary that MS provide relevant information.
Type of indicator: Quant /Qual /mixed	Quant
Unit(s) of measurement	See Appendix 6 and 7
Data sources	The Commission should define a list of diverse funding sources where the Partnership can select the funding sources applied and the share coming from each source.
Frequency of data capture/ Timeline	Annually
Calculation formula/ methodology used	
Project data calculation on "leverage"	
Who acts on the data/ is responsible?	Partnership level. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	
Potential methodological problems	
Notes	

Name of the indicator	11. Visibility of the partnership in national, European, international policy/industry cycles
Criterion addressed	International visibility and positioning
Definition of the indicator	This would be based on the dissemination activities of the partnership as a whole and would cover both passive and active communication channels. Information on which countries are attracted by the Partnership could then be estimated for different country cohorts, i.e., EU27, Third countries, Associated Countries, Widening countries, other)
Type of indicator: Quant /Qual /mixed	Mixed
Unit(s) of measurement	See Appendix 6 and 7
Data sources	No of hits/members in contact lists, press releases, references in media, events, policy conferences, etc. and their description
Frequency of data capture/ Timeline	Annually
Calculation formula/ methodology used	
Project data calculation on "leverage"	
Who acts on the data/ is responsible?	Partnership level. Aggregation and analysis is carried out at EC level.
Baseline/ starting point	Defined by EC (compared to H2020 evaluation) or use first year level (defined by each Partnership)
Potential targets/objectives and tolerance of the indicator	Defined by EC (legal base, Horizon Europe objectives)
Interaction with other indicators	
Potential methodological problems	
Notes	

9 Appendix 2. Mid- and long-term indicators proposed for future evaluations

No	Criterion addressed	Common Indicators	Description	Quant /Qual /mixed	Data source and methodology used	Who is responsible for monitoring /providing data	Timeline
12	Directionality	**No. and share of projects/actions/results cited in (or contributing to) public policy and strategic documents**	Any reference to specific results of supported projects or any direct reference to the work of the Partnership as a whole should be reported. This would require good monitoring on the side of the projects as well as on the side of the whole partnership through their dissemination and communication activities.	**Mixed**	Semi-quantitative analysis beyond project data (Regular monitoring of reports and strategic policy papers etc. at EU and national level.) This is not overall citations, but references in policy documents linked to the partnership and its results. It should measure the importance and impact of partnerships on policy developments and future policy strategies (one aspect of contributing to EU/national policy goals).	Partnership level /Commission level	5-7 years in partner-ships lifetime
13	Directionality	**Alignment of national / regional / sectorial policies (strategic level)**	Alignment of policies and strategies can be illustrated by the degree to which national policies/priorities are reflected in the SRIAs and the degree to which the SRIAs influence national policies and strategies. This is also relevant for SRIAs and sectorial policies/strategies. Any structural impact should also be cited here e.g. creation of coordination structures at	**Qual**	Qualitative reporting (an important element would be a survey at national / sectoral level? To ask on the impact of partnership to alignment?) Focus on output data and not on inputs. If it is about, as an example, common battery	Partnership level /national level	At years 3 and 7

			national level of participation of the country in Partnerships.		standards, it could qualify as an output / result.		
14	International visibility and positioning	**No. and share of projects/actions/results cited in (or contributing to) international public policy and strategic documents**	Any reference to specific results of supported projects or any direct reference to the work of the Partnership should be reported. This would require good monitoring on the side of the projects as well as on the side of the whole partnerships through their dissemination activities	**Mixed**	Semi-quantitative analysis beyond project data (Regular monitoring of reports and strategic policy papers etc. at international level.)	Partnership level /Commission level	5-7 years in partner- ships lifetime

10   Appendix 3. Analysis of selected pilot partnerships and the EIT

Questions included in the analysis stem from previously defined instructions communicated by the European Commission to all partnerships. They serve as basis to identify which elements can be difficult to achieve (to be complemented by information collected during the interviews). Please note that the frequency of data collection (to feed the indicator) has not been reported here and thus it should not be considered that all proposed KPIs will be measured on annual basis. Further, the table below presents the situation (snapshot) 'as is' when the Expert Group started its work (February 2021); meanwhile (May 2021), the monitoring frameworks have evolved substantially (e.g., reduction of general objectives, reduction of the number of KPIs, changes in KPI definition) for most pilots considering the interaction within their partnership and following the interactions with and recommendations from the Expert Group.

No	Criterion analysed	Innovative Health Initiative	Driving Urban Transitions	Photonics	Water4All	European Open Science Cloud	European Institute of Innovation & Technology (EIT)
1	The General, Strategic and Operational objectives are well defined and vertically interconnected	Yes, but vertical connections not made explicit	Yes, but vertical connections not made explicit	Yes, but only partially vertically connected	Yes, but only partially vertically connected	Yes, but only partially vertically connected	Yes
2	N° of proposed elements - General Objectives and their indicators (GO/KPI)	3/5	3/12	6/11	7/19	3/4	8/10

3	N° of proposed elements - Specific Objectives and their indicators (SO/KPI)	5/12	9/31	5/8	4/41	9/22	9/16
4	N° of proposed elements - Operational Objectives and their indicators (OO/KPI)	7/9	9/26	6/14	13/27	14/34	16/15
	Total N° of objectives and proposed Key Performance Indicators (TO/KPI)	15/26	22/69	17/33	24/87	26/60	33/41
5	Is the impact dimension (scientific, economic, societal) clearly identified within General Objectives (indirectly = the objective is formulated in a way that it can be connected to	Yes (indirectly)	Yes (indirectly)	Yes (directly)	Yes (directly)	Yes (indirectly, only scientific)	Yes (directly)

#							
	impact dimension)						
6	Is the link to SDGs or specific EU strategies specified	Yes	Yes	Yes	Yes	Yes	Yes
7	Are Operational Objectives measurable within the lifetime of the Partnership	Yes	Yes	Yes (but some are part of continuous monitoring going beyond the lifespan of the partnership)	Yes	Yes	Yes
8	Are the target and baseline identified for each indicator	No (few missing, especially for GOs)	No	Yes	No	Partially	Yes
9	Is the source of data clearly identified per proposed indicator	Yes, except for GOs	Yes	Yes	No	Yes	Yes

10	Is the level of data collection (project-level or partnership-level) identified	Yes	Yes	Yes	No	Yes	Yes (if KICs are considered as "project-level")
11	Is it clearly specified who will be responsible for monitoring and providing the data / information and when it will be collected	Yes, but need to develop additional functionalities in project data collection	No	Yes	No	Yes	Yes
12	Are the proposed indicators overlapping with the proposed common indicators	Yes, partially with N°2 and 6	Yes, with N° 5,6, 8, 9, 10, 11, 12 & 13	Yes, partially with N°10	Yes, 6,9 & 10	Yes, partially with 6 &7	Yes, mostly N°6, 7 &8
13	Are the proposed indicators overlapping with common indicators measured at Horizon Europe level (Key	Yes, publications, innovation (SMEs, tools, diagnostics)	Yes, tools, pilots, education, N° of students, etc.	Yes, SMEs, tools, jobs, market share	Yes, patents, demonstrators, publications	Yes, publications	Yes, products, SMEs, services, students

	Impact Pathways)						
14	Does Partnership have already existing own monitoring system	Yes	Yes, but foresees building a new one	Yes	Not a proper one but projects were previously monitored	No	Yes
15	Is the pre-existing monitoring system focused on collection of project-level data or partnership-level data (or both)	project	project	both project and partnership	project	N/A	Foreseen to collect both project (KIC) and EIT-level data

11   Appendix 4. Guidelines for defining good partnership indicators

It is important to underline that the elements of these proposed initial guidelines stem from the main observations of our initial desk research and interviews with the pilot partnerships. These are the following:

1. Partnerships struggle with the proper categorization of *operational ['project'] - specific ['partnership'] – general ['global']* and show different interpretations of the provided generic definitions when positioning indicators within the monitoring framework. Suggested timeframes towards the definition of indicators at different levels also complicate the exercise. The challenge is further exacerbated as additional dimensions to categorize indicators are introduced, such as the key impact pathway categories (Scientific, Societal and Economic/Technological). Next to that, other frameworks such as the SDGs (17 goals) as well as both overarching (Green Deal) as well as specific EU wide policies (Mobility, Health, Digitalisation, etc.) put forward other 'macro' dimensions, further complicating the exercise, in particular towards the general indicators, associated to societal impact.

2. In quite a number of cases, in particular newcomers or substantially revised partnerships, the development of the monitoring frameworks did not follow a traditional cycle of interactions and validation by stakeholders, experts and governing bodies. The reasons are diverse, but mainly relate to the initial short timeframe provided to submit a draft monitoring system within the proposed template, but also to a lack of resources and capabilities to establish and implement a monitoring system. For established partnerships, with appropriate structures, resources and processes in place, the challenge was less outspoken in the sense that the existing and recently developed indicators were 'fitted' to the template, and additional dimensions (such as key impact pathways) added. Experienced, dedicated resources (in particular specialized HR) and continuity clearly played a pivotal role and are an important attention point moving forward. In particular for newer partnership, like EOSC, the importance of establishing an organizational structure for monitoring at the very beginning of the partnership life cycle – bringing in relevant competence and allocate resources at an early stage cannot be stressed enough.

3. Overall, the majority of pilots show a (very) large number of objectives and associated indicators, leading to challenges for experts (and outsiders alike) to understand the partnership impacts in a transparent fashion. While it has to be acknowledged that partnerships are complex organizations with a plethora of objectives, a streamlining exercise is advisable towards the first biannual report to design intuitive, comprehensible and straightforward frameworks linking the partnership vision to a limited number of high-level objectives, supported by Partnership Specific Impact Pathways (PSIPs).

4. Based on the investigated monitoring system proposals (snapshot February 2021), using the categorization General (GO) – Specific (SO) – Operational (OO), it can be observed from graphical representations that foremost a 'horizontal' approach emerges whereby the three levels are considered separately, and indicators formulated, but not formally interlinked (although partial examples existed at the level of initial formulated frameworks e.g. connecting operational and specific objectives by Water4All in the first draft monitoring framework). As a result, within the partnership specific monitoring frameworks as initially assessed, it was difficult to identify causal or at least connected pathways towards the realization of the vision and high-level objectives.

5. Finally, the provided materials and insights from the pilots at this preliminary phase, without exception, all provide valuable approaches and content for inspiration.

Based on the above, by means of (a proof) of guidelines, the following elements are proposed to be tackled:

-   Process and governance towards establishing (or revise) a monitoring framework.

-   Setting up an efficient organizational structure.

- Designing a monitoring framework: introducing the Partnership Specific Impact Pathway approach (based on the generic concept and principles of Strategy Maps[40]).

- Defining appropriate indicators.

The below guidelines serve as a starting point to potentially deliver towards a 'living' toolkit during the further lifetime of the partnerships, as monitoring and evaluation experts from the partnerships could enhance the below text by providing more examples, formats, and ideas/practices to support the whole community of monitoring experts within the partnerships. This could be further achieved through the set-up of an online repository within the Partnership Knowledge Hub of good practices (e.g., description of the process), working formats (e.g., templates for indicator definition and management), reporting examples, etc. A main guidelines document could be further developed and adapted over the lifetime, providing both general and specific guidance through supplements in line with other reporting initiatives such as the GRI[41], the world leading organisation to support sustainability reporting standards for organizations.

11.1 Process and governance towards establishing (or revise) a monitoring framework

Preliminary note: existing partnerships with an already mature monitoring system stemming from predecessor activity, may have gone through the below suggested process already. For review processes, some steps may not be required or shortened (e.g., the preparatory/initial phases). Nevertheless, the main principles in terms of stakeholder inclusion and validation would remain valid and may be also used for re-evaluation when relevant.

Typically, the set-up and implementation of a basic monitoring system within any organization, when initially developed and supported by appropriate resources and stakeholder inclusion (internal and external), is characterized by a lead time of 6 to 12 months, in particular within complex organizations (sometimes shortened to 3-6 months depending on the organizational readiness and resource availability).

When developing monitoring frameworks, the *"process is as important as the product* [42] , and therefore a **sufficient timeframe for discussion among stakeholders should be foreseen**. In what follows, a basic roadmap for the setup of a monitoring framework end-to-end (including indicator definitions, measurement methods and initial implementation) is presented.

Setting up a monitoring framework (lead-time: ca. 6 – 12 months)

Preparatory/initial phase:

- Set-up a dedicated expert team to guide and oversee the development and implementation of the monitoring framework (if needed, involve external experts specialized in strategy and performance management)

- Identify the key stakeholders[43] to include in the monitoring framework development process (develop a stakeholder map)

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[40] Kaplan, R. S., Kaplan, R. E., Norton, D. P., Davenport, T. H., & Norton, D. P. (2004). *Strategy maps: Converting intangible assets into tangible outcomes*. Harvard Business Press.

[41] Global Reporting Initiative, see https://www.globalreporting.org

[42] Wisniewski, M., & Ólafsson, S. (2004). Developing balanced scorecards in local authorities: a comparison of experience. *International Journal of Productivity and Performance Management*.

[43] There is no one size fits all in terms of stakeholder inclusion: this will depend on the type of partnership, the objectives pursued, and the composition. However, there exists a plethora of

- Convert the existing intervention logic into a limited number 'Partnership Specific Impact Pathways' (PSIPs, see infra) and discuss/validate with stakeholders (this leads to a Strategy Map proposal) through interviews and workshops. Note: "*Strategy maps provide a visual representation of an organization's critical objectives and the crucial relationships among them that drive organizational performance*[44]" (see also infra)

- Following stakeholder and expert interaction, finalize the monitoring framework for approval at the Governing Board.

(1st Governing Board validation at this point) (t + 3 months)

- Following approval of the monitoring framework, define potential indicators (definition, calculation method, frequency, data sources, etc.) to measure the partnership performance within the different levels of the PSIPs;

- Discuss and validate the indicators with stakeholders: ask them about the relevance (towards the partnership objectives) and the feasibility of the indicator (in terms of data availability and quality and overall cost to implement)

- Decide on the final selection of indicators to be included.

(2nd Governance Board Validation at this point) (t + 6 to 9 months)

- Implement the monitoring framework by establishing the processes for data collection (data sources)

- Produce a first version of the monitoring report.

(3rd Governance Board validation and discussion) (t + 12 months)

Operational phase:

- Yearly discussion with the Governing Board of the monitoring framework and indicator outcomes (partnership performance)

    o Review indicators, targets and baselines

    o Introduce new indicators when relevant and necessary (e.g., strategic changes, priority setting).

- At least bi-annually (recommended): organize a broader stakeholder dialogue around performance and indicators.

In most organizations, it takes 3-5 years to learn and have an optimal monitoring framework. Therefore, incremental changes to initially developed indicator definitions and baselines are normal practice but should always be justified by the executive management and endorsed by stakeholders. The "new" proposed indicators should be as relevant as the previous but with improved feasibility. For example, some organisations mention explicitly that baselines are set indicatively when they implement an indicator. In addition, during the set up and operational phase it could be useful to learn by other partnerships and exchange experiences and best-practices. This could be arranged in several ways depending on thematic clusters or maturity of the partnership. If possible, a peer-review process between the partnerships could also be used to support and evaluate each report and monitoring system.

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methods to identify and classify stakeholders, see e.g., Friedman, A. L., & Miles, S. (2006). *Stakeholders: Theory and practice*. Oxford University Press.

[44] https://hbr.org/2000/09/having-trouble-with-your-strategy-then-map-it (while developed traditionally for-profit companies, the generic idea is valid and applicable to all kinds of organizations, including partnership-based organizations.

The above-mentioned approach is consistent with observed practice by partnerships, e.g., Photonics clearly applies a process whereby the monitoring framework, indicators and baselines are adapted in function of evolutions within both the Photonics ecosystem and the uptake of technological innovations, a similar practice is also implemented in the development of the EIT monitoring framework.

The predecessor of Driving Urban Transitions, JPI Urban Europe, set up a process in 2017 to develop its M&E concept, of which the timeline example is provided below, also highlighting the importance of stakeholder interaction throughout the process. The concept note from 2017 was followed by a detailed implementation plan in 2019. The process followed is consistent with the generic roadmap provided above, and the need for monitoring and evaluation to be 'learning' experience is clearly highlighted.
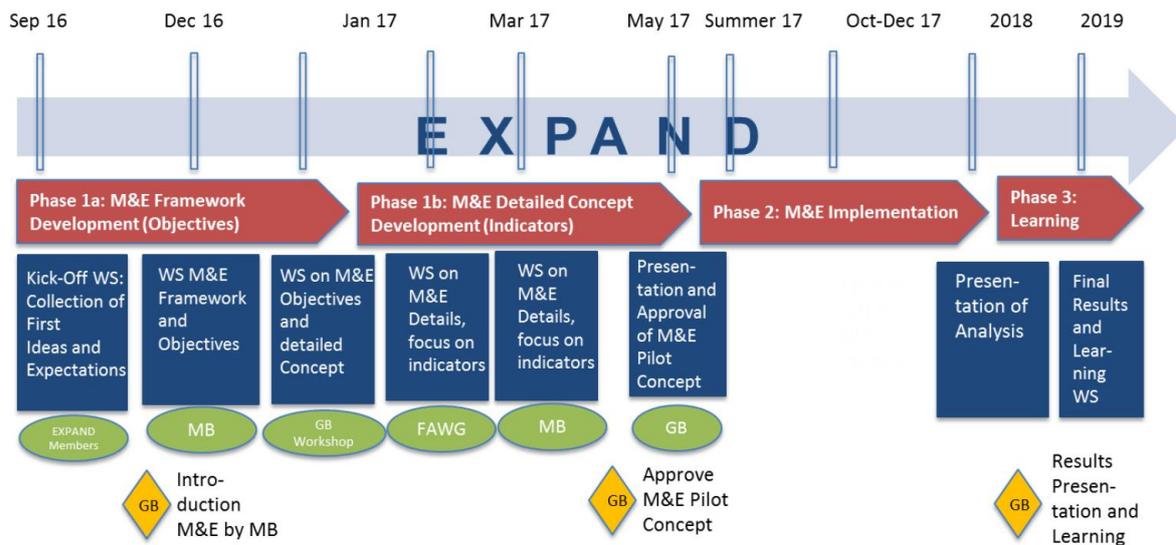
Figure 4. Example of a timeline for the development of the M&E framework at the partnership level.

Source: JPI Urban Europe, "Monitoring and Evaluation Concept of the JPI UE", September 2017

Indicators are defined by a task force within the executive board. This task force comprises ca. 5 people and develops and tracks KPIs. The CEO of the Executive Board has substantial private sector experience, which translates in setting up a manageable, realistic framework. For the establishment of the current framework, the task force met 5 times with the objective to keep the framework simple and 'crisp', meaning that follow-up of the framework should be simple and straightforward. After a first framework was set-up, about 5 teleconferences were held to fine-tune and validate the framework, followed by a presentation to board of stakeholders and the Photonics Unit at the European Commission. The Photonics partnership also defined a CSA (Coordination and Support Action) with 12 national partners and end users to hold workshops around the KPIs. As the end user perspective was less relevant for the set-up of the framework, Photonics opted to work with an executive board task force and further ask external consultants to support indicator development and calculation. E.g., external experts were contracted to develop KPIs for specific areas, such as skillset related KPIs, which require specific knowledge to set up appropriate indicators.

A group composed of 5 representatives of health industry associations and of representatives of different EC DGs (RTD as well as CNECT, GROW and SANTE) was formed to discuss various aspects related to the design of the partnerships, including the monitoring framework. The IMI Office representatives were included as observers providing lessons learned from implementing the predecessor initiative, IMI2. The group meets regularly and recently once a week. The work on indicators started in late 2019 and took about one year. The work was based on the monitoring framework document provided by the European Commission and that also included intervention logic and other types of information provided in the draft partnership proposal. The definition of specific indicators, most relevant to agreed objectives, was based on an initial analysis of pre-existing indicators of IMI and of other JUs. The industry discussed also with national funding authorities to capture the examples of how they measure the competitiveness of industry. This analysis served as basis for the first set of indicators that was discussed internally by representatives of the European Commission, industry (through R&I working groups of companies) and IMI. The representativeness of the objectives, practicality of and feasibility of the

All KICs and DG EAC were consulted and provided input to the content of the Framework through their representatives in the Strategy and Impact Working Group (SIWG). In addition, two external experts were contracted to provide support in facilitating the SIWG debates and developing the EIT Impact Pathway and Impact Framework drafts. Comprehensive input and advice were provided by the Joint Research Centre as well. Several videoconferences with the DG RTD team working on HE Key Impact Pathways and indicators took place to clarify the RTD approach and timeline to developing the pathways and establish cooperation to ensure alignment. Other important studies and assessments were also considered. Finally, at the end of 2020 the EIT contracted PMPI consultancy company to finalise the EIT Impact Framework and develop a methodology for its implementation. As part of the contract the PMPI provided expertise individually to each KIC in developing their societal impact pathways incl. societal impact definitions and KPIs also included in the KIC Strategic Agendas (2021 – 2027).

The EIT Governing Board provisionally approved a new set of EIT KPIs 2021 – 2027 at its 58th meeting in Jan. 2020 (https://eit.europa.eu/sites/default/files/2021-17_20210507-gbwp_eit_kpis.pdf). This provisional approval was needed to proceed with the development of the KIC Business Plans 2021 and KIC Strategic Agendas (2021 – 2027). The annually planned and reported KPIs were subsequently integrated in the KIC business planning 2021 and the data to be reported and validated was further defined. In addition, the KICs have determined their targets for the approved KPIs in their Strategic Agendas.

11.2 Setting up an efficient organizational structure

Next to a clear definition of roles and processes within the partnership coordinating structure, including decisions on whether to develop full internal capacity or the appropriate combination of in-house resources and external support (specific consultancy; ICT; etc.), an important part revolves around a thorough insight into the costs of monitoring.

It can be observed that generally, partnerships underestimate the resources necessary for a high-quality monitoring system. On the other hand, large investments in resources do not always lead to create the value expected from a monitoring system. In all cases, an overall evaluation of the cost of monitoring (system implementation, workload, and service provision) is useful to understand the value creation behind the processes. More than the overall monetary investments in terms of resources spent, the quality of the resources, in particular human resources, matters greatly, as evidenced by the pilot experiences.

In sum, conducting monitoring and evaluation activities need proper resources. The **related expenses for monitoring activities are**:

- Staff time

- Consultancy expenses, when relevant / needed

- Specific costs related to field data collection and analysis (e.g., databases, surveys)

- Office equipment (e.g., computer, phones, etc.)

- Travel expenses (car, fuel, accommodation, etc.)

- ICT tools development and maintenance.

A general rule of thumb is that the monitoring budget should not be too small as to compromise the accuracy and credibility of results, but neither should it divert project/program resources to the extent that programming is impaired. Usually, monitoring budgets constitute from 3% to 10% of the overall project/program's management budget (so including project-based monitoring within the project budgets). When the monitoring framework is supported by proprietary ICT, the costs associated to ICT tools (investment/development, maintenance) may amount to 20 to 30% of the total monitoring cost at the level of the initial investment. Note that the above percentages are based on developments that must start 'from scratch' and that running organizations (e.g., partnerships with predecessors) may have a basis to build upon, as expressed by the examples below, leading to lower annual costs. As such, the Expert Group refrains from suggesting specific amounts at the partnership level but believes that the examples and guidance provided could support the thought process at the level of partnership in terms of resources to be foreseen.

Example Photonics

The running cost of monitoring comprises ca. 2 persons for 1 person month/year, other operating costs of 20 k€ per year, additionally 150 k€ per year (for externally contracted studies – in particular, the market study based on a survey), and 2 full-days of meetings with consultants for the market study. Overall, there is a concern in terms of resources to be dedicated to monitoring. The European Commission might consider taking the partnerships more at hand as there is internal knowledge present within EU Commission departments. Within Photonics, Microsoft Excel is mainly used (as the idea is to keep it straightforward), there is no proprietary ICT system. The persons responsible for the monitoring framework have a solid experience in industry (marketing; controlling; etc.), and have used industry concepts such as e.g., Six Sigma as an inspiration, next to the proprietary development of sound statistical bases, and attention to internal performance criteria of the partnership. In general, there is a feeling that the costs (particularly, time invested) is underestimated, which may be related to experience of the team responsible for monitoring as they seem to have completely 'absorbed' the process. The Photonics case clearly highlights the importance of highly skilled and experienced human resources. It also shows that well-functioning, valuable and 'lean' monitoring systems can be developed without investing large amounts in proprietary ICT.

Example Innovative Health Initiative

The precise costs of the monitoring framework could not be provided. However, besides the development of dedicated monitoring tool (by external provider, 5-6 developers), the costs include at least 1 FTE dedicated to KPI measurement. For comparison, it took more than 1 year (full time job for IMI) to adapt/create the monitoring system to allow the tracking of IMI2 KPIs approved by IMI2 Governing Board in December 2017. Moreover, the work of IMI scientific officers that dedicate their time during project reporting periods to scan the report and extract the information manually or from the survey, also needs to be accounted. When preparing the Annual Activity Report, one person from the communication team makes sure the info is readable and can be used by the policy and decision makers and useful for industry partners. The Annual Activity Report is also used by the EC for several purposes, including the progress tracking and communication.

Example Driving Urban Transitions

During 2019, JPI Urban Europe (DUT's predecessor), defined a detailed monitoring and evaluation implementation plan. Based on their existing structure, it was expected that a budget of 4 person months per year, and 7.000 euro of annual operating costs (consumables, services) were needed for program level monitoring. For project call implementation and monitoring, a budget of about 20 person months and 22.000 € direct costs over a period of 5 years are suggested. (Source: JPI UE Implementation Plan for the monitoring of programme and projects – December 2019)

11.3 Designing a monitoring framework

Introducing the Partnership Specific Impact Pathway (PSIP) approach based on the generic concept and principles of Strategy Maps[45].

While the present setting of generic monitoring frameworks (general-specific-operational objectives + relevance to key impact pathways) is considered as useful approaches, it is believed that an initial, more 'back to basics' intuitive approach is required to simplify the current documented 'products' (in terms of suggested and/or implemented monitoring frameworks).

A first step is to split the overall vision into a limited number of high-level objectives (maximum 3 to 5), which relate directly to major societal challenges (social, economic, environmental). At this stage (and when possible), it is useful to link these objectives to general and/or specific policy objectives, and their associated monitoring frameworks (examples: World Bank, UN SDGs, OECD dashboard, EU Scorecards within particular policy areas, Industry specific objectives set and validated by global or European trade associations, etc.). While linking to such external resources, it is important to assess the continuity of updates of these more 'general' or 'macro' monitoring systems (e.g., there have been examples of EU policy domain scorecards which have had a rather ad-hoc character, see e.g., the EU transport scoreboard where a significant number of indicators apparently has not been updated since 2018[46]). Furthermore, additional challenges may exist due to the scattered nature of general indicators within certain areas (e.g., water related indicators are collected at various institutions). It has been observed through the collaboration with the pilots that knowledge of, access to, and interaction/integration with other data sources needed to connect partnership impact indicators on the general impact level (e.g. Eurostat, data available at OECD, UN agencies, specific EC DGs, etc.) is seen as a particular challenge.
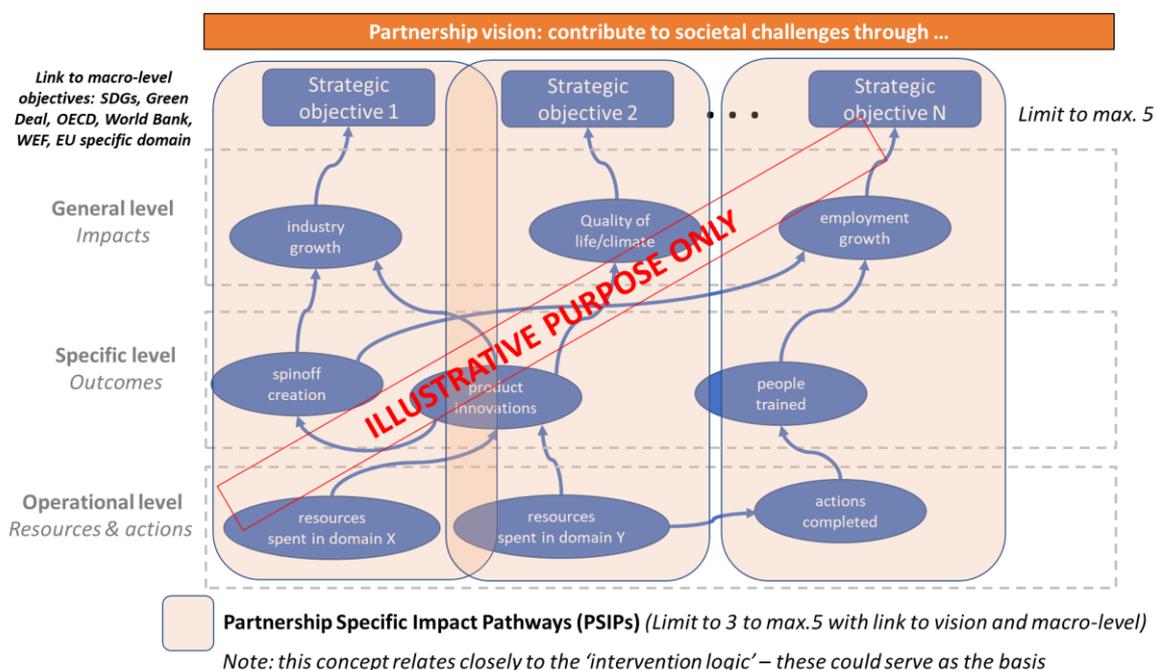

Figure 5. Example of a Partnership Specific Impact Pathway

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[45] Kaplan, R. S., Kaplan, R. E., Norton, D. P., Davenport, T. H., & Norton, D. P. (2004). *Strategy maps: Converting intangible assets into tangible outcomes*. Harvard Business Press.

[46] https://ec.europa.eu/transport/facts-fundings/scoreboard/

Next, a more 'vertical' approach is suggested, following a 'Strategy Map' logic, i.e., building up a Partnership Specific Impact Pathway, linking the resources of the partnership, and the actions taken (operational objectives / indicators) towards concrete outcomes (specific objectives / indicators) directly to one (or more) of the general objectives. In other words, a strategy map links the main resources and actions of the partnership (operational indicators) to concrete outcomes (specific indicators), which then further link to higher-level, general objectives (which in turn have a direct link to macro-level indicators such as economic growth and competitiveness, social advancements, and environmental objectives – the so-called Triple Bottom Line, as well as the three dimensions of the Key Impact Pathways – where the environmental dimension is captured under the 'social' heading). This type of framework closely relates to the so-called 'intervention logic' schemes found at the level of policy development, which are also described at the level of European Partnerships, but not following a harmonized framework currently.

An important element is thus to somewhat step away from the existing, proposed frameworks (GO-SO-OO and Key Impact Pathways), and to apply a more intuitive, streamlined approach (and then add these layers when the PSIPs are more intuitively defined). Furthermore, while it is tempting to define a large number of cause-and-effect relationships at this stage (e.g., across PSIPs), the Expert Group proposes to keep those connections limited and as straightforward possible. Based on the investigated pilot monitoring frameworks, the content base to perform such exercise is already largely present and provides a good basis to develop a limited amount of 'vertical' PSIPs (e.g., the intervention logic could serve as a basis to develop a strategy map, as examples provided, e.g., DUT and Water4All, already implicitly suggest such 'vertical' pathways).

In sum, the strategy map builds further on the intervention logic and translates it in a (limited) number of PSIPs, to which a limited number of existing and new indicators could be assigned, instead of the large amounts of currently suggested KPIs, which actually in most cases do not reveal the explicit links to PSIPs (within the current intervention logics and monitoring frameworks that were investigated).

The Expert Group would therefore advise, in line with and based on current intervention logics and/or monitoring templates proposed, to define 3 to maximum 5 (vertical) PSIPs and the associated indicators (also limiting to ca. 5 indicators per pathway, in order to have a partnership specific monitoring framework with between 15 to 30 indicators maximum). Here, it has to be mentioned that partnership specific impact pathways may converge in the sense that various outcome (indicators) resulting from the partnership's activities within different pathways may converge at the general level, including the identification of potential positive (and sometimes even negative, as trade-offs exist) influences between pathways.

An important element here, and the actual test that the monitoring framework is sound, is that both internal and external stakeholders should be able to understand and even explain the logic applied. The challenge therefore is to make the framework as 'tangible' as possible.

As an example, the strategy map for the Water4All partnership is described. It is currently 'work-in-progress'. The initial 24 objective/87 indicator framework (which served as a structured longlist, and as such had a lot of merit), was meanwhile reworked using the PSIPs concept to the following framework.
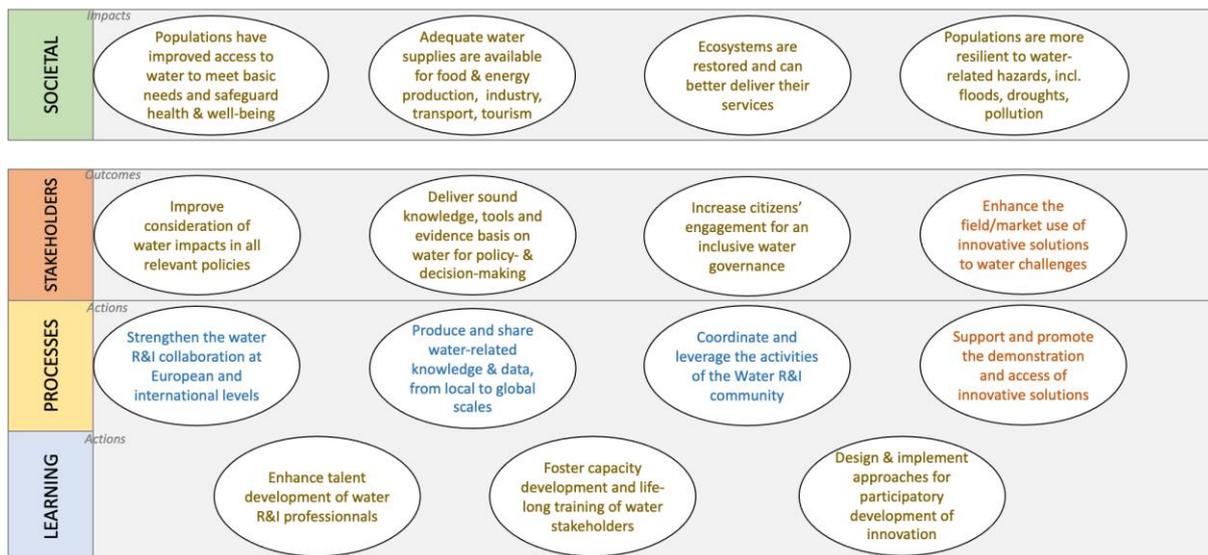
Figure 6. Example of a European Partnership Water4All strategy map

Source: Water4All, 2021 (note: work-in-progress)

It can be noted that at the level of actions, the partnership makes an interesting distinction between learning and processes, and also formally includes the stakeholder dimension at the level of the outcomes. This also confirms that partnerships will have leeway at that the PSIPs approach while leading to some harmonization, does not prevent (as Strategy Maps and Balanced Scorecards also do) integrating own accents, as long as the general principles behind the concept remain accepted. Also, objectives, which can be linked to KPIs in a following stage, are formulated in very concrete directions and in action-oriented ways (increase, decrease, strengthen…) making linking them to KPIs and defining baselines and quantitative indicators possible. Currently (May 2021), the partnership is working on the vertical dimension through establishing storytelling lines to support the key interactions within the framework and highlight the 3 to 5 PSIPs. The partnership also acknowledges the value of the PSIPs framework towards proposal development.

11.4 Defining appropriate indicators

Preliminary note: as the partnerships are very domain-specific and develop specific activities (some more 'process' oriented, some more 'product/service'/technology oriented, or combinations, different TRLs), the knowledge on the formulation, design and implementation of specific indicators related to the activities and the domain, is mostly outside the remit of the specific knowledge available in the Expert Group (i.e. the Expert Group is not fully entitled and endowed to evaluate "good" or "bad" indicators at the partnership specific level). Recommendations on indicator definition remain thus on the generic level, and the main value of the guidelines thus lies on the format, clarity, readability and feasibility of proposed monitoring systems, including indicators.

When a policy initiative is designed, it is important to set the indicators to measure or demonstrate change or progress: it is therefore important to not only know where the organization is heading for (the target/objective) and where the organization is compared to that, but also the performance level where it started from (the baseline). An indicator is a quantitative or qualitative measure of how close the organization is to achieving a set objective. Indicators need to apply to different levels of results/effects (short-term outputs, intermediate outcomes, and long-term impacts).

There is a preference, especially among policymakers, and the Expert Group endorses this point of view, for the use of quantitative indicators, which often attain higher visibility in policy debates compared to qualitative impact statements. Qualitative indicators can be highly illustrative of the outputs and impacts of activities also explaining the factors and conditions that made impacts happen but are more difficult to aggregate and more than often considered more subjective than quantitative analyses. However, in the context of the EU partnerships, well-chosen case studies (e.g., which provide analytical generalization potential at the level of

the programme), can provide valuable insights, in particular in the absence of clear and direct linkages to more 'macro-level' indicators.

Since the intervention logic is highly likely to be subject to some evolution during the lifetime of the policy intervention due for instance to change of assumptions over time, it is important that indicators are also allowed to be revisited.

Example Photonics
KPIs have changed since 2008/2010 and are influenced by external factors, leading to the importance of time-to-market indicators, investing R&I funds in the right industry segments, developing the human resources (the industry faced a huge challenge in terms of skillsets and job creation, especially around 2008/2010 and for Horizon 2020).   *Links to external KPIs are made through 'storyboards': e.g., outgrowing GDP as an industry, increase market shares. On an internal level, the market study is very important to identify growing areas, where are the emerging strengths in the EU value chain? It is important to not run behind, but also to seek value from funding assigned to monitoring: "if you have less money, spend it wisely". Understanding the EU value chain through specific KPIs delivered by an external study is a key element, e.g., Photonics at one point stopped funding OLED, PV, etc. given KPIs showed the shift of industrial value chains to China.*

Example Innovative Health Initiative
The industry input for KPI was based on the HE Key Impact Pathways but also EU "Health at a Glance" report. The WHO and OECD material to measure the general performance of healthcare systems and innovation were also used. The propositions were validated internally within respective industry associations after consulting different company representatives with expertise on health economics and indicators definition. The work devoted to IHI indicators definition started early based on earlier experiences: in IMI2, the predecessor initiative, the set of indicators was not present from the start, which posed a problem in measuring the progress of the partnership. That is why for IHI the intention was to have a set of KPIs ready at the start of the initiative. The EC officers also checked internally with colleagues in other DGs to look for best practice examples. Also, experience of IMI2 helped in refining some of the indicators, e.g., the wording of IMI2 indicator on SME participation turned out not precise enough (it was not clear whether it should cover the number of different SMEs that participate or the number of participations, where some could come from the same SME participating in several projects).   *There were several candidate indicators that were agreed from the start by industry and EC that were very relevant but finally were not taken up due to the practicalities of data collection (underlying data were not possible to obtain, for various reasons). Moreover, measuring the impacts of health R&I faces the issue of long timelines from basic research to uptake in health care: to collect meaningful data on the impacts achieved, it would be necessary to go beyond the lifetime of the partnership.*   *Finally, it was decided that the indicators should not be enshrined in the legislation to maintain the flexibility for changes during the partnership lifetime. They should be adopted at the level of each partnership by the General Board or a corresponding body and amended when needed. At IHI, there is no fixed timeframe for the revision of the indicators so modifications can be introduced when a need arises (e.g., for rewording, removing, or adding indicators).*

If a proper intervention logic is developed, indicators should be easy to construct, as each element in the intervention logic holds a potential measure. The "SMARTer" the policy objective, the easier to define a corresponding indicator. Different organizations could define their own explanation for SMART, in the context of objectives and corresponding indicators, but an easy-to-understand example is proposed below:

- **Specific:** The goal/indicator is precisely formulated, not vague.

- **Measurable:** It is feasible to quantify the goal/indicator.

- **Agreed:** the goal/indicator is accepted by project partners.

- **Relevant:** The goal/indicator is valid and describes the underlying issue.

- **Time-bound:** A temporal reference is given.

Indicators can be categorized according to the information they provide to the process of monitoring and evaluation:

- **Input indicators** are used to describe the resources used for the implementation and make part of the operational perspective.

- **Output indicators** relate to goods, services, technology and knowledge directly produced due to activities – to measure **short term** (immediate) effects related to **operational objectives** (OO).

- **Outcome indicators** show the initial results of the intervention providing the reason for the programme and are less tangible than outputs – to measure **medium term** (intermediate) effects related to **specific objectives** (SO).

- **Impact indicators** measure the long-term socio-economic changes the intervention brings about – to measure **long term** (cumulative) effects related to **general objectives** (GO).

The diagram below presents a generic monitoring framework with all important elements and links between them.
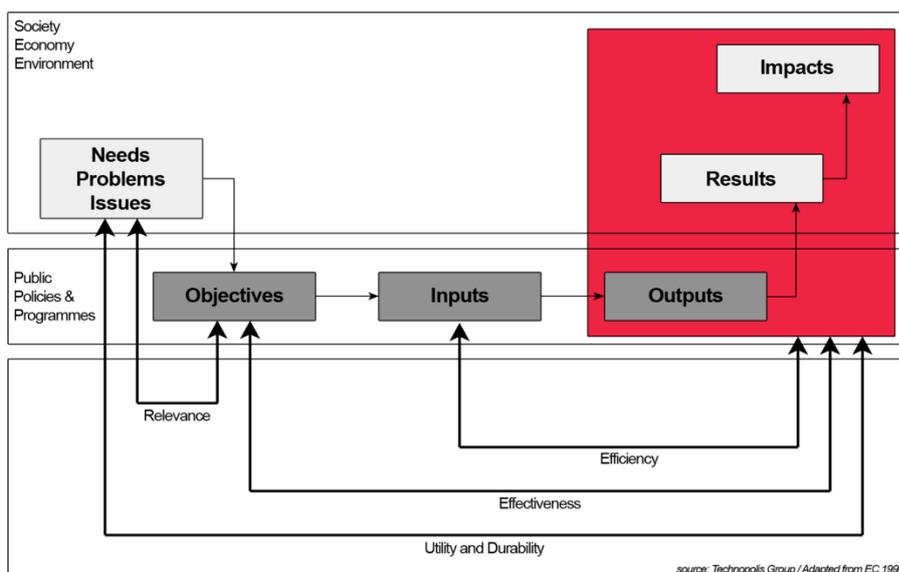

Figure 7. Elements of a monitoring frameworkand links between them.

Source: Technopolis Group.

All indicators should be 'RACER', i.e.:

- **R**elevant (should measure the right thing vis-à-vis, the targeted objective).

- **A**ccepted (e.g., by staff, stakeholders).

- **C**redible for non-experts (unambiguous and easy to interpret).

- **E**asy to monitor (e.g., data collection should be possible at low cost).

- **R**obust against manipulation (e.g., if the target is to reduce administrative burden on businesses, the indicator should also measure the overall reduction of burden as it might have shifted from businesses to public officials).

The RACER principle is also explained and considered by the EU Better Regulation Toolbox[47] and some pilots (e.g., DUT) have already used the principle to guide their thought process.

In other words, a good indicator should meet the following five standards:

1. The indicator is needed and useful.

2. The indicator has technical merit.

3. The indicator is fully defined.

4. It is feasible to measure the indicator.

5. The indicator has been field-tested or used operationally.

Further elements to consider are:

- There should be at least one or two indicators for each goal/objective on each level (operational, specific, and global).

- At least one indicator for every core activity.

- No more than 8-10 indicators per area of significant programme focus or PSIP, preferably less (ca. 5).

- An indicator should be defined in precise, unambiguous terms that describe clearly and exactly what is being measured.

- Indicators do not specify a particular level of achievement – the words "improved", "increased", or "decreased" do not belong in an indicator.

- Use a mix of data collection strategies and sources.

- In general, there is a preference to use quantitative indicators and objectives, in particular at the operational and specific level.

- If defining quantitative indicators at the general level is difficult, qualitative cases may help to showcase the impact towards general, and macro-level objectives.

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[47] https://ec.europa.eu/info/sites/info/files/file_import/better-regulation-toolbox-41_en_0.pdf

- Consider the use of indices (if for a specific objective more than one indicator is monitored, a composite indicator may be a solution, but needs to be transparent and meaningful to outsiders, which presents a particular challenge). Moreover, towards the biannual reporting, PSIPs and the associated indicators should present the 'core' of the partnerships' logic and achievements through the KPIs, and thus focus is advised towards the biannual reporting (limitation to the number of PSIPs, and limitation to the most telling KPIs), but this does not prevent monitoring of additional, specific KPIs within the partnership.

- With regard to the relation of partnership specific indicators in the PSIPs to the Key Impact Pathways (KIPs), different partnerships have different activities that will link to different KIPs. The alignment between partnerships indicators and KIPs is encouraged as there should be linkages with the intervention logic proposed at the level of the partnership (which translates into PSIPs). Therefore, in some cases, partnership specific indicators and the indicators mentioned in the KIPs may overlap. In sum, the **KIPs act as a sort of a 'bridge' between activities and impacts of the specific partnerships and the overall Horizon programme for which the KIPs were initially designed, and where the KIPs will be applied to report in an aggregated fashion on the achievement of the entire program.** Throughout the process, it may be observed that interpretation of KIPs at the level of the partnerships (some pilots have already matched their indicators to the KIPs) and use this knowledge for a learning process to potentially allow harmonizing indicators for the different types of activities in later stages (partnership, project).

12   Appendix 5. Partnership reporting requirements

While partnership monitoring used to be somewhat outside of the Framework Programme, they should be now fully integrated in the overall monitoring and reporting system of Horizon Europe, as required in Horizon Europe Regulation, Article 50 and 52 and Annex III. While there are differences in the way the different forms of partnerships (co-programmed, co-funded and institutionalised) are implemented, there has been an effort to harmonise the monitoring and reporting mechanisms to ensure that a common system is in place to collect data and to monitor the implementation of the partnerships and feed into the same single database. **This means that aggregated project-level information is available on CORDA and the Horizon Dashboard to the public as the rest of Horizon Europe.**

12.1 Co-funded European Partnerships (Model Grant Agreement)

- Co-funded partnerships will have a Horizon Europe Grant Agreement signed between the consortium and the Executive Agency ('programme co-fund action'). The classical reporting and evaluation path is followed what is very similar to any framework programme project. After signing a Grant Agreement, a co-funded partnership will have an obligation to submit deliverables agreed in the Grant Agreement which will be followed by a periodic reporting (typically after every 18 months). If the reports are accepted, a payment takes place.

- Most framework programme projects have a mid-term review, i.e., the Commission or Executive Agency hires external experts from the experts' pool to assess the progress of the project. For the ERA-NET Co-funds in Horizon 2020 programme there was an opt out (their main deliverable was a call – once that was organised according to the European Commission rules – the entire cost generated by the Co-fund would be eligible and accepted). It is still under discussion if there will be something similar for the co-funded partnerships under Horizon Europe. It would apply only for the co-funded partnerships where the research activities will be carried out by the partnership itself. If there will be only joint calls to third parties the mid-term review will be still needed.

- Each of the co-funded partnership will have an annual work plan. In this annual work plan will be stated their plans for the next year and it needs to be approved by the Commission or Executive agency.

12.2 Institutionalised partnerships (basic act)

- The monitoring and reporting of institutionalised partnerships is described in their basic act (see e.g. the European Commission proposal of the Single Basic Act[48]).

- The general purpose of monitoring of the joint undertakings is to follow their activities and corresponding expenditures, and to verify compliance with their legal obligations.

- Monitoring is performed both at the top-management level (Governing Board, with a Commission representative) and at the operational level (thematic directorates of the parent DG and horizontal services). The monitoring function is facilitated by the regular reporting obligations of the JUs, which prepares standard reports on its functioning and by the preparation for and participation in the meetings of the Governing Board.

There are three main reporting documents for JUs:

- The Work Programme (WP) for the JUs is part of the budgetary procedure for the adoption of the JUs' budget. The AWP describes the operational and administrative activities of the JU planned and the corresponding expenditure estimates. Planned calls for proposals and actions which need to be implemented through calls for tenders are included. The AWP of the JU can be considered as the equivalent to a financing decision for the activities covered, provided that these activities are well-identified, and the underlying criteria are clearly described. The AWP for the year is adopted by the Governing Board before the end of the previous year, together with the Annual Budget.

- The Annual Activity Report (AAR) presents the progress made by the JU in previous year, in particular in relation to the WP for that particular year. The AAR should include, inter alia, information on the research and innovation actions carried out and corresponding expenditure, the proposals submitted, and indirect actions selected for funding, the breakdown by participant type, country, and the participation of SMEs. It should also report on other activities performed during the year and the corresponding expenditure (additional activities undertaken by partners, and on collaboration and synergies). Finally, it should include information on internal control and risk management, error rates and recoveries. The AARs of the JUs should be the main source of information for the discharge, as requested by the European Parliament.

- JUs will also regularly report on progress towards achieving their objectives, leverage, contributions (the elements listed in the Annex III

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[48] primarily Article 171, but also in Articles 17-19 of the proposal
https://ec.europa.eu/transparency/regdoc/rep/1/2021/EN/COM-2021-87-F1-EN-MAIN-PART-1.PDF

of Horizon Europe) feeding the monitoring and evaluation exercises of Horizon Europe.

12.3 Co-programmed partnerships (Memorandum of Understanding)

- The monitoring and periodic reporting by the partners of the co-programmed partnership should be carried out at least annually for the duration of the Memorandum of Understanding.

- There will be a simplified reporting over one year and a full reporting every second year. The simplified reporting will focus on elements where data can be extracted from the Commission or other databases, while the full reporting would require a more qualitative assessment, including surveys to the members or similar[49]. The reporting includes elements listed in Annex III of Horizon Europe: e.g., progress and qualitative assessment of the KPIs, information on openness, transparency, collaboration and synergies with other European Partnerships and initiative and information on agreed and actual contributions

- Upon request, the partners other than the Union engage to provide the European Commission with additional necessary information for the assessment of the achievements of the European Partnership.

12.4 Overview of reporting financial and in-kind contributions – definition and method

Slightly different definitions are used for accepting contributions in different European partnerships – main differences coming from whether a partnership is with participating states or with industry. **The contributions made by private partners are** largely *in-kind* (made at the level of Horizon Europe actions or in the form of additional activities, not receiving EU funding from Horizon Europe actions). Only for institutionalised partnerships Horizon Europe Annex III requires that a share of the contributions from partners other than the Union will be in the form of financial contributions, which essentially means sharing of the administrative costs.

In the case of **European Partnerships with Member States (all co-funded, some institutionalised), financial contributions** (e.g., national funding paid to applicants resulting in transnational calls for proposals or contributions paid for the administration of the initiative) **constitute a significant part** of the overall contributions. Member States also contribute increasingly in kind, e.g. activities of governmental research organisations included in the annual work programme or any direct expenditure of a partner in the consortium for activities of the partnership (the reported costs of these activities (minus EU funding) count as in-kind contributions).

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[49] Template for a Memorandum of Understanding for a Co-programmed European Partnership (European Commission inner document)

For **co-funded partnerships** – contributions are defined in grant agreement and are calculated using the following model: the national contribution = eligible cost – union funding (the latter is usually 30%)[50].

For **co-programmed partnerships** – defined in the MoU. For the **institutionalised partnerships** – defined in the Single Basic Act (Article 11 of the Commission proposal) or Metrology decision or HPC regulation.

Partners other than the Union can contribute to co-programmed and institutionalised European Partnerships two ways: 1) **In-kind contributions to the Actions funded by the Union** (consisting of eligible costs in accordance with the Horizon Europe rules minus the Union contribution[51]); and 2) **In-kind contributions generated by additional activities**. While in-kind contributions to the actions funded by the Union are captured automatically through European Commission's reporting systems for management of the Horizon Europe programme, a dedicated methodology and tool is being developed for reporting additional activities that do not receive Union funding. The scope of additional activities for each partnership is defined in the basic act or MoU. The foreseen activities must be **agreed on an annual basis** (before the end of the previous year) in the annual Additional Activities Plan (AAP) to ensure that they are linked to the projects and activities of the partnership and have added value.

In addition, in the case of **institutionalised partnerships** (Art 185/7) partners have to contribute **financially** (in all cases: contributions paid for the administration of the initiative; in the case of initiatives with participating states – such as Key Digital Technologies – countries contribute financially also by paying to applicants resulting from transnational calls for proposals.)

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[50] Co-programmed European Partnerships: Methodology for the reporting of the in-kind additional activities (European Commission inner document).
[51] Depending on the funding arrangements possibly also national public funding.

13   Appendix 6. Proposed templates for collecting data for the proposed common indicators

13.1 Template for annual data collection

This should be filled annually by every partnership (via EU Survey or other similar software).

Indicator number	Description	Committed (data from proposal)	Actual (annual partnership level contribution)	Unit
1	**Additionality - Financial and in-kind contributions of partnerships, committed and actual**			
1.1	Cash contribution of public partners (per partnership)?			€
1.2	Cash contribution of private partners (per partnership)?			€
1.3	Cash contribution of a country (Per partnership)?			€
1.4	How much public funding (€) was generated for 1 € of EU contribution?			€
1.5	How much private funding (€) was generated for 1 € of EU contribution?			€
1.6	How much in-kind contributions were generated by 1 € of EU contribution?			€
2	**Additionality/Synergies - Additional investments triggered by EU contribution, including qualitative impacts related to additional activities**			

2.1	Category or type of best practice/success story/added value	no need to fill		Type
2.2	Description of best practice/success story/added value	no need to fill		Free text
2.3	Web page/links to additional materials	no need to fill		Free text
3	**Directionality - Overall (public and private; in-kind and cash)/ Additional investments mobilised towards EU priorities**			
3.1	Overall (public) resources mobilised for a specific area in cash?	no need to fill (after compared with the results of year 1)		€
3.2	Overall (public) resources mobilised for a specific area in in-kind?	no need to fill (after compared with the results of year 1)		PM
3.3	Overall (private) resources mobilised for a specific area in cash?	no need to fill (after compared with the results of year 1)		€
3.4	Overall (private) resources mobilised for a specific area in in-kind?	no need to fill (after compared with the results of year 1)		PM
3.5	Your partnership belongs to cluster?			Cluster
3.1	Overall (public) resources mobilised for a specific area in cash?	no need to fill (after compared with the results of year 1)		€

4	International visibility and positioning - International actors involved			
4.1	No. Of international (outside EU) organisations represented in the partnership (funding organisation level)?			No
4.2	Types of organisations in partnership?			Type
4.3	International countries represented (outside EU)?			Country
4.4	Cash contribution of the countries outside EU (per partnership)?			€
4.5	In-kind contributions of the countries outside EU (per partnership)?			PM
4.6	In-kind contributions of the countries outside EU (shared time in infrastructures)?			PM/hours
10	Coherence and synergies - Complementary and cumulative funding from other Union funds (Horizon Europe, National funding, ERDF, RRF, Other cohesion policy funds, CEF, DEP, LIFE, other.)			
10.1	Horizon Europe?	no need to fill (after compared with the results of year 1)		€ and/or %
10.2	National funding?	no need to fill (after compared with the results of year 1)		€ and/or %

10.3	ERDF?	no need to fill (after compared with the results of year 1)		€ and/or %
10.4	RRF?	no need to fill (after compared with the results of year 1)		€ and/or %
10.5	Other cohesion policy funds?	no need to fill (after compared with the results of year 1)		€ and/or %
10.6	CEF?	no need to fill (after compared with the results of year 1)		€ and/or %
10.7	DEP?	no need to fill (after compared with the results of year 1)		€ and/or %
10.8	LIFE?	no need to fill (after compared with the results of year 1)		€ and/or %
10.9	Other funds?	no need to fill (after compared with the results of year 1)		€ and/or %
11	**International visibility - Visibility of the partnership in national, European, international policy/industry cycles**			

Indicator number	Description	Committed (data from partnership proposal)/project proposal	Actual (data from partnership level reporting at year 1; 3; 7 etc.)	Unit

| 11.1 | Describe visibility/acknowledgement of the partnership in national, European, international policy/industry cycles | no need to fill | | Free text |

13.2 Template for additional data collection in years 3 and 7

Reporting in years 3 and 7 should include additional fields as some of the common indicators are recommended to be collected only years 3 and 7. The template below indicates the additional questions/data requirements for year 3 and 7 data collection. This template should be filled in addition to annual template at year 3 and 7 by every partnership (via EU Survey or other similar software). The biennial monitoring report is planned for end of 2023, 2025, 2027 (to be confirmed).

Indicator number	Description	Committed (data from partnership proposal)/project proposal	Actual (data from partnership level reporting at year 1; 3; 7 etc.)	Unit
5	**Transparency and openness - Share & type of stakeholders and countries invited/engaged**			
5.1	The procedures should be described and assessed in terms of how open, transparent and inclusive they are addressing various types of stakeholders and countries.	no need to fill		Free text
5.2	No of organisations in partnership?			No
5.3	Type of organisation in partnership?			type
5.4	Country?			Country

6	**Transparency and openness - No and types of newcomer partners in partnerships and countries of origin (geographical coverage)**			
6.1	No of newcomer partners?			No
6.2	Type of newcomer partners in partnership?			Type
6.3	Country?			Country
6.4	A name of a partnership previously participated?			A name of a partnership
7	**Transparency and openness - No and types of newcomer organisations in supported projects (in terms of types and countries of origin)**			
7.1	No of organisations?		no need to fill	nr
7.2	Types of newcomer organisations in projects?		no need to fill	type
7.3	Country?		no need to fill	country
8	Coherence and synergies - Number and type of coordinated and joint activities with other European Partnerships			
8.1	No of joint activities?	no need to fill		No
8.2	Type of coordinated joint activities with other R&I partnerships	no need to fill		Type

8.3	Description of coordinated joint activities with other R&I partnerships	no need to fill		Free text
9	**Coherence and synergies - Number and type of coordination and other joint activities with other R&I Initiatives at EU /national/regional/sectorial level**			
9.1	No of activities?	no need to fill		No
9.2	Type of coordination and other joint activities with other R&I Partnerships, and R&I Initiatives	no need to fill		Free text or drop-down menu?
9.3	Description	no need to fill		Free text (in case of drop-down menu free text option for "other" option)

Additional data collection field for an indicator that was identified as important but can and should be developed for future evaluation purposes:

Indicator number	Description	Committed (data from partnership proposal)/project proposal	Actual (data from partnership level reporting at year 1; 3; 7 etc.)	Unit
13	**Directionality - Alignment of national / regional / sectorial policies (strategic level)**			
13.1	Alignment of policies and strategies can be illustrated by the degree	no need to fill		Free text

to which national policies/priorities are reflected in the SRIAs and the degree to which the SRIAs influence national policies and strategies. This is also relevant for SRIAs and sectorial policies/strategies. Any structural impact should also be cited here e.g. creation of coordination structures at national level of participation of the country in Partnerships.			

13.3 Template for collecting data only after the first 5 years[52]

Some common indicators need to be reported only after the first 5 years from the start of a partnership. Whether the appropriate time for reporting begins year 5, 6, or 7 needs to be decided. The following questions/data requirements should be added in the annual reporting template for every partnership (via EU Survey or other similar software).

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[52] These concern possible common indicators that were idenrtified by the expert group as important, but that can and should be developed for future evaluation purposes

Indicator number	Description	Committed (it could be where they plan to provide input)	Actual (actual contribution)	Unit
12	**Directionality - No. and share of projects/actions/results cited in (or contributing to) public policy and strategic documents**			
12.1	No of projects/actions/results cited?			No
12.2	name/description of the citation, contribution			Free text
14	**International visibility - No. and share of projects/actions/results cited in (or contributing to) international public policy and strategic documents**			
14.1	No of project/actions/results cited?			No
14.2	name/description of the citation, contribution			Free text

14 Appendix 7. Data mapping of the proposed common indicators

Data mapping exercise was carried out for all common indicators. The data units of each individual indicators are described in the Excel table. Please see the example of the first two indicators and its related data needs below (Figure 8). Similar information is available for all the common indicators. As the Excel table is too large to add to this deliverable, please contact RTD-EUROPEAN-PARTNERSHIPS@ec.europa.eu to get a copy of of the Annex 7 in Excel format.

Figure 8. – Example of the contents of Annex 7.

No.	Criterion addressed	Indicator Type	Indicator divided according to data needs to smaller units	Committed (data from partnership proposal)	Actual (data from partnership level reporting at year 1; 3; 7 etc)	Quant/Qual	Unit	Survey by EC (via EC interface)/Partnerships insert data	Timeline	Methodology	Data needed at	Data needed to be collected at	Data needs to be collected directly from partnerships
1.1	Additionality	Financial (€) and in-kind contributions, committed and actuals	Cash contribution of public partners (per partnership)	x	x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	Partnership level cash contrbution data is inserted by partnerships per	Partnership level	Partnership level	x
1.2			Cash contribution of private partners (per partnership)	x	x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	Partnership level cash contribution data is inserted by partnerships	Partnership level	Partnership level	x
1.3			Cash contribution of a country (Per partnership)	x	x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	Partnership level cash contribution data is inserted by partnerships	Partnership level	Partnership level	x
1.4			How much public funding (€) was generated for 1 € of EU contribution?	x	x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	SUM total public contribution per partnership divided by SUM EU	Partnership level	Partnership level	x
1.5			How much private funding (€) was generated for 1 € of EU contribution?	x	x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	SUM total private contribution per partnership divided by SUM EU	Partnership level	Partnership level	x
1.6			How much in-kind contributions were generated by 1 € of EU contribution?	x	x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	SUM of in-kind contribution divided by SUM of EU contribution per	Partnership level	Partnership level	x
2.1	Additionality/Synergies	Additional investments triggered by the EU contribution, notably	Category or type of best practice/success story/added value		x	Quant	Type	Survey by EC (via EC interface)/Partnerships insert data	At yr 3 and 7	Drop down menu with options of added value (e.g. (building research networks,	Partnership level	Partnership level	X
2.2			Description of best practice/success story/added value		x	Qual	Free text	Survey by EC (via EC interface)/Partnerships insert data	At yr 3 and 7	Free text (additional activities carried out)	Partnership level	Partnership level	x
2.4			Web page/links to additional materials		x	Qual	Free text	Survey by EC (via EC interface)/Partnerships insert data	At yr 3 and 7		Partnership level	Project level	x
3.1	Directionality	Overall (public and private; in-kind and cash)/ Additional investments	Overall (public) resources mobilised for a specific area in cash		x	Quant	€	Survey by EC (via EC interface)/Partnerships insert data	Annually	Partnership level cash contrbution data is inserted by partnerships and	Cluster level	Partnership level	x

15   Appendix 8. Survey on the common indicators

15.1 Introduction

Following the initial interactions among the expert group, the Expert Group members wished to better understand the acceptability to implement common indicators for the monitoring of the Horizon Europe partnerships. Following an Expert Group meeting on February 24th, 2021, it was decided to design a survey to capture the EU partnership's support for common (partnership-level) indicators and allow all partnerships to express their perceptions and opinions on the proposed indicators in a structured way. The results of the survey were to support the prioritization of indicator implementation towards the biannual reporting and provide through open-ended questions further relevant information and insights towards both the acceptance and implementation feasibility of common indicators.

The two dimensions of acceptability refer to:

1. Indicator relevance: how relevant is a proposed common indicator from the viewpoint of the individual partnerships as well as the monitoring of the entire Horizon Europe partnership program as a whole?

2. Indicator implementation feasibility: this question refers to an overall assessment of data availability (e.g., ease of collection, e.g., automated systems) and data quality (reliability, completeness), influencing the cost of implementation.

1.1.1.   Survey design and questions

The survey is composed of three parts:

1. A limited number of general, closed questions.

2. An evaluation of the proposed common indicators according to the dimensions of relevance and feasibility, through closed questions (with the potential to add comments on every indicator).

3. A limited number of closed and open questions related to IT systems for monitoring.

The survey questions, based on previous, similar research activity on indicator prioritization in the context of EU funded projects, were subject to intensive expert interaction during the first half of March 2021.

The final list of questions is presented here (* marks a compulsory question to answer):

PART 1: GENERAL QUESTIONS

Question 1.1. *Which partnership do you represent (or act as a liaison from the EC side)? ***

(Drop-down list with the 49 candidate European partnerships)

 Question 1.2: *Which role do you currently play within the Horizon Europe partnerships? ***

- *A managerial or coordinator role within a Horizon Europe partnership*

- *A liaison EC officer overseeing a Horizon Europe partnership*

 PART 2: CLOSED QUESTIONS ON EACH INDICATOR

How would you assess the relevance and implementation feasibility of the following indicator?

Name of the indicator: (…)

Definition/description of the indicator: (…)

Q 1a: *Is the indicator relevant to monitor performance at the European Partnership level? (1 = Lowest relevance; 7 = highest relevance with 4 = neutral) **

Q 1b: *Is the indicator relevant to monitor the performance of the European Partnerships as a whole (aggregated at EU level)? (1= Lowest relevance; 7 = highest relevance with 4 = neutral) (Includes No Opinion/Don't know) **

Q 2: *Are the data easy to obtain / collect (i.e., low effort of data collection)? (1 = very difficult/high cost/low feasibility; 7 = very easy/low cost/high feasibility; 4 = neutral) (Includes No Opinion/Don't know) **

Q 3: *"Do you have any other comments regarding this indicator (optional), in particular for low scores provided? These could refer to indicator definition, suggestions for data sources, suggestion for an alternative indicator, data sharing issues, commercial sensitivity, etc."*

(For each indicator: open space for optional comments)

PART 3: OPEN QUESTIONS

3.1. Are there any additional indicators that you would propose as a common indicator for all European Partnerships?

(Open answering space)

3.2. Do you have your own (project or partnership level) monitoring system?

(YES/NO) *

3.3. What is the ability and readiness of your reporting system to exchange data with European Commission database? (1-7 scale, No opinion/Don't Know included) *

3.4. Do you have any final remarks or thoughts?

(Open answering space)

3.5. Please leave your e-mail address should there be a need from the expert group for clarifications.

The survey was expected to take 45 minutes to maximum 1 hour of time.

15.2 Survey population and timing

Both partnership managers/coordinators with experience in monitoring as well as the responsible EC officers were requested to fill out the survey. One unique response on behalf of each entity separately (thus one for the partnership and one from the EC liaison officer) was required, so 2 for each partnership. Partnerships were sensitized to gather the different experts with regard to monitoring to prepare the response on behalf of the partnerships.

In total, 49 partnerships received the invitation, so the maximum number of responses would be 98. Individual partnership or EC officer responses are not reported and kept strictly confidential; results are only reported at certain aggregated levels.

The survey was programmed by the EU Commission services within EU Survey, and was opened on Friday, March 19th, 2021, and the deadline to provide answers was Tuesday March 30th, 2021. The Expert Group members wish to explicitly thank all the respondents for their time investment as well as supporting EU Commission staff for the assistance with the programming.

15.3 Survey results and analysis

Before the closing date for responses, a proposal for a quantitative analysis framework (descriptive statistics only) was provided by the Expert Group to the EU Commission Services to generate automated visualizations of the results, within the possibilities offered by EU Survey. Both the data needs, relevant disaggregation and visualization options were provided. The qualitative data (comments) were analysed separately (see section 4.2).

Quantitative analysis

Response rate

In total, 71 valid and complete responses were recorded (out of 98), which amounts to an overall response rate of ca. 72%, with EC officers having a slightly higher response rate. The high number of responses allows for quantitative descriptive statistical analysis. The response was somewhat higher from the EC Commission officers as evidenced by the figures below, with further figures containing the disaggregation of response rates between the type of partnerships, and the pillars and clusters.

Figure 9. Response rate per type of respondents.

Figure 10. Response rate per type of partnerships and respondents.

Figure 11. Responde rate per cluster and type of respondents.

Co-funded partnership responses account for 35% of the responses followed by 29% for the institutionalized, 27% for the co-programmed partnerships and 10% for the EITs, leading to a balanced representation.
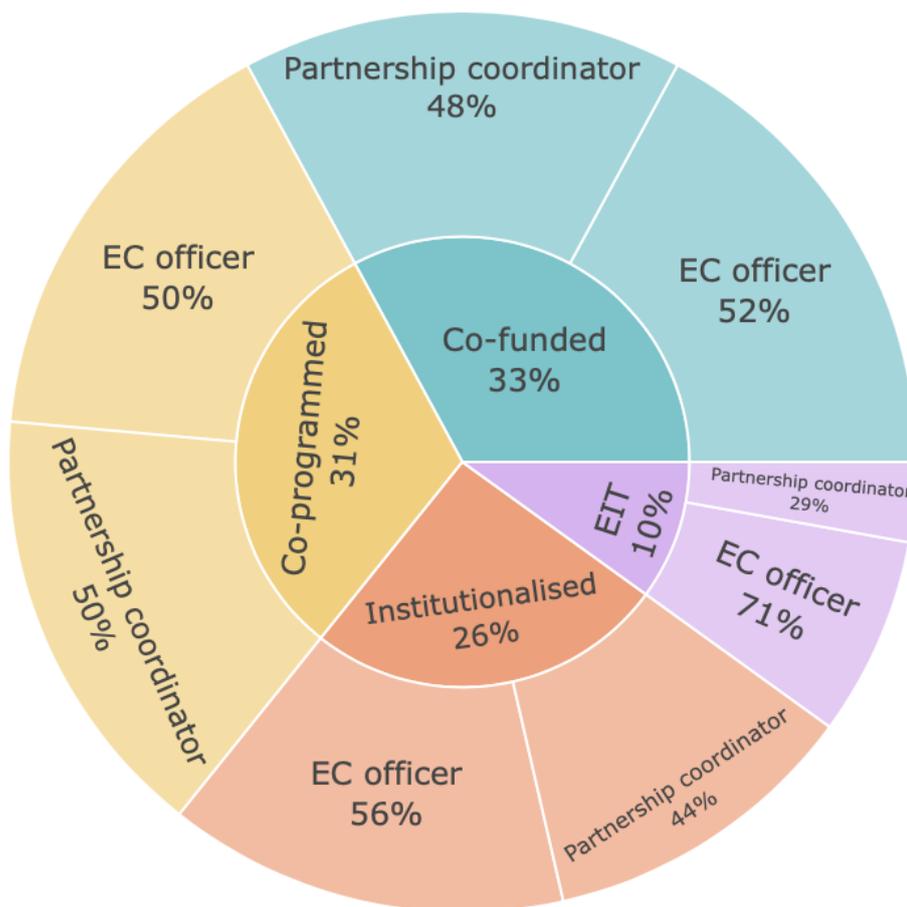
Figure 12. Share of responses per partnership form and type of respondents.

On the level of clusters and pillars, Cluster 5 reports the highest share of responses at 31%, followed by Cluster 4 (24%) and Cluster 6 (16%).
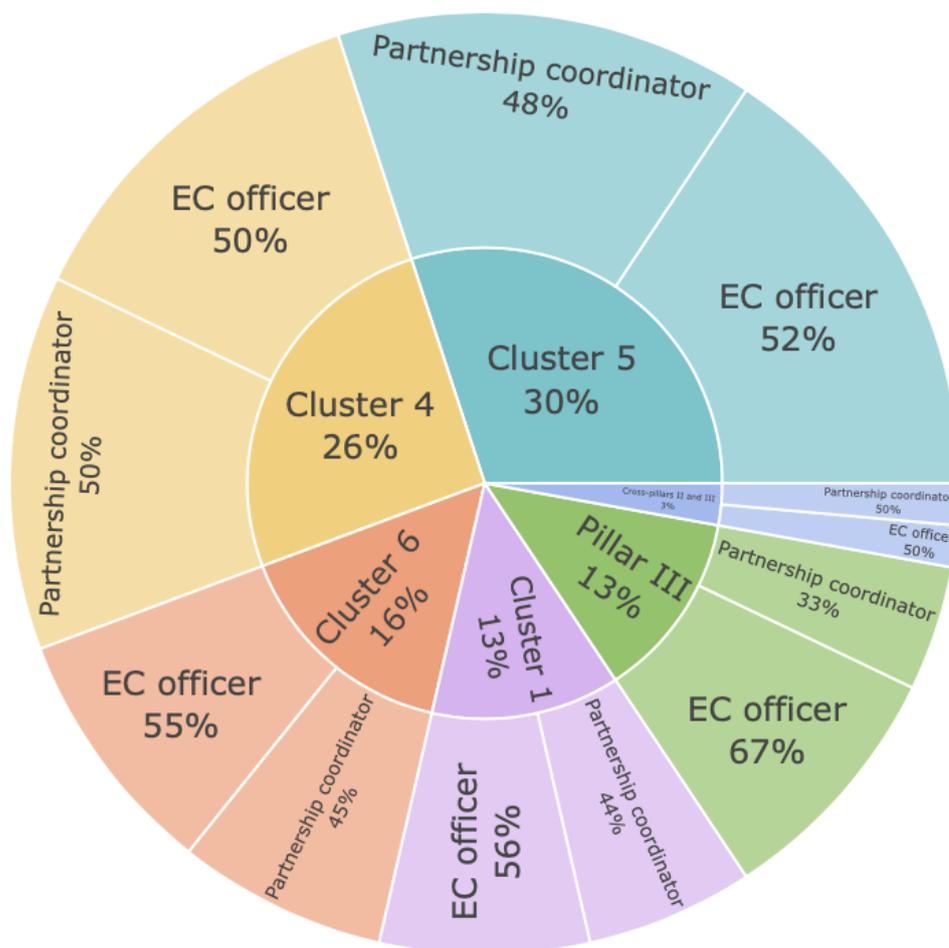
Figure 13. Indicator relevance – Q1a and Q1b

For common indicator relevance, a distinction was made between relevance at the level of the specific partnership (i.e., considering the specific vision and nature of the partnership), and relevance at the level of all partnerships (i.e., considering the overall vision behind EU partnerships).

The responses were, next to the highest level of aggregation (all respondents), visualized at various levels of disaggregation:

- Responses of partnership representatives versus EC officers

- Responses per type of partnership

- Responses per cluster

- Responses for partnerships with a predecessor versus new partnerships

The lines in the figures below represent the range of the values and the box the 1st and 3rd quartiles as well as the median (middle represented by bold vertical line).

Q1a – Relevance at the level of the specific partnership

Question 1a - Is the indicator relevant to monitor performance at the European Partnership level?
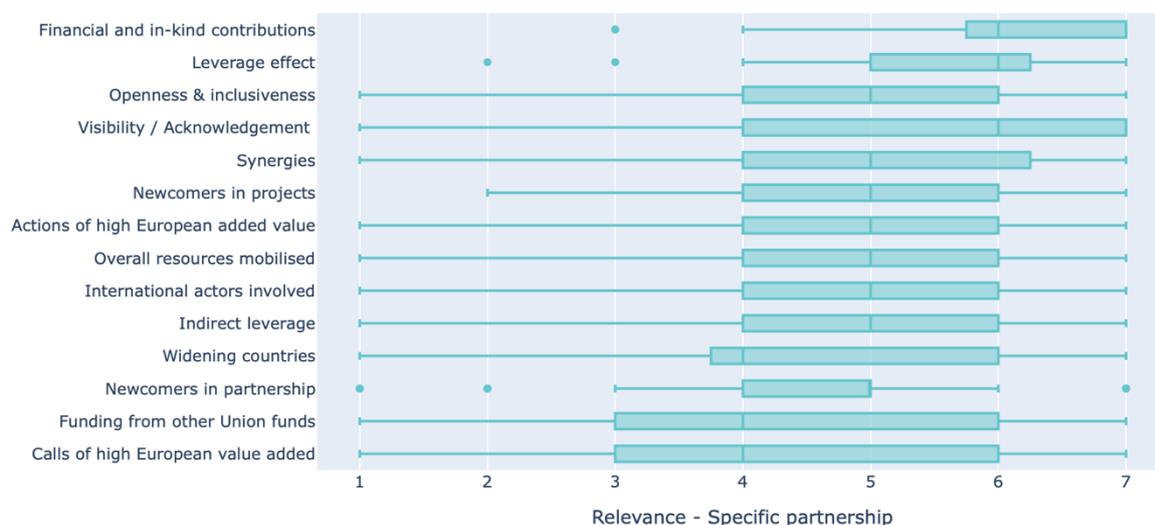
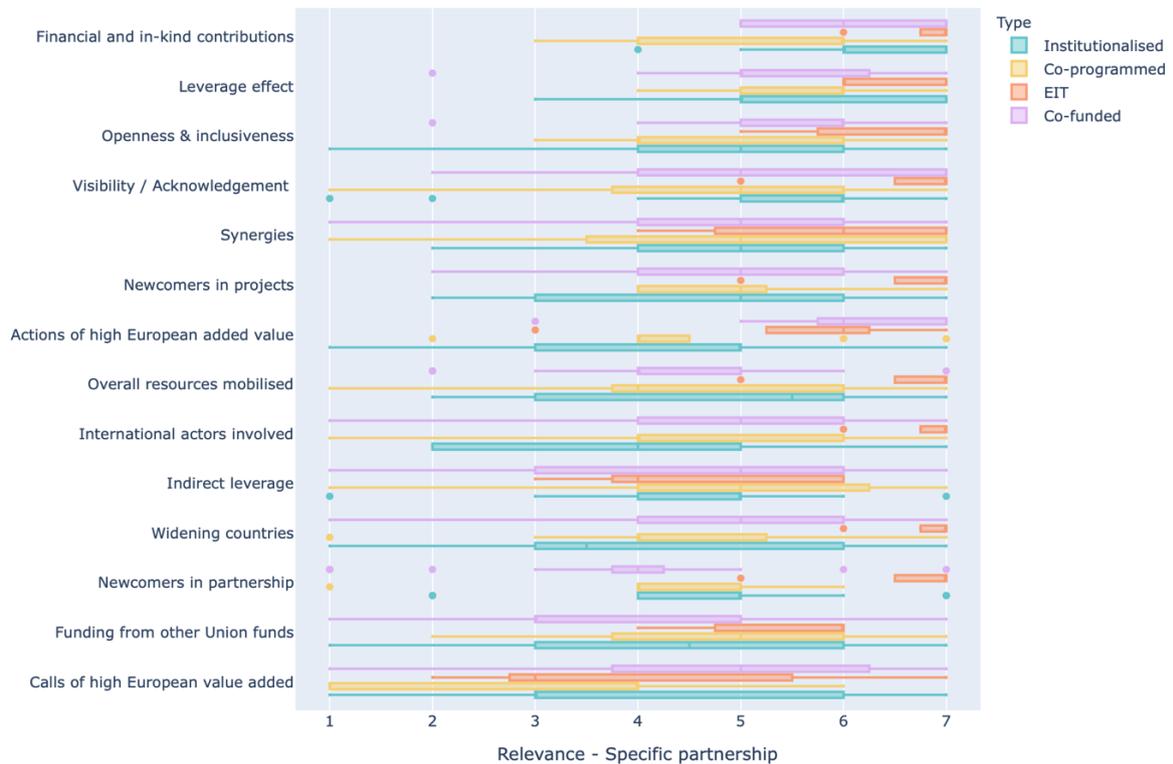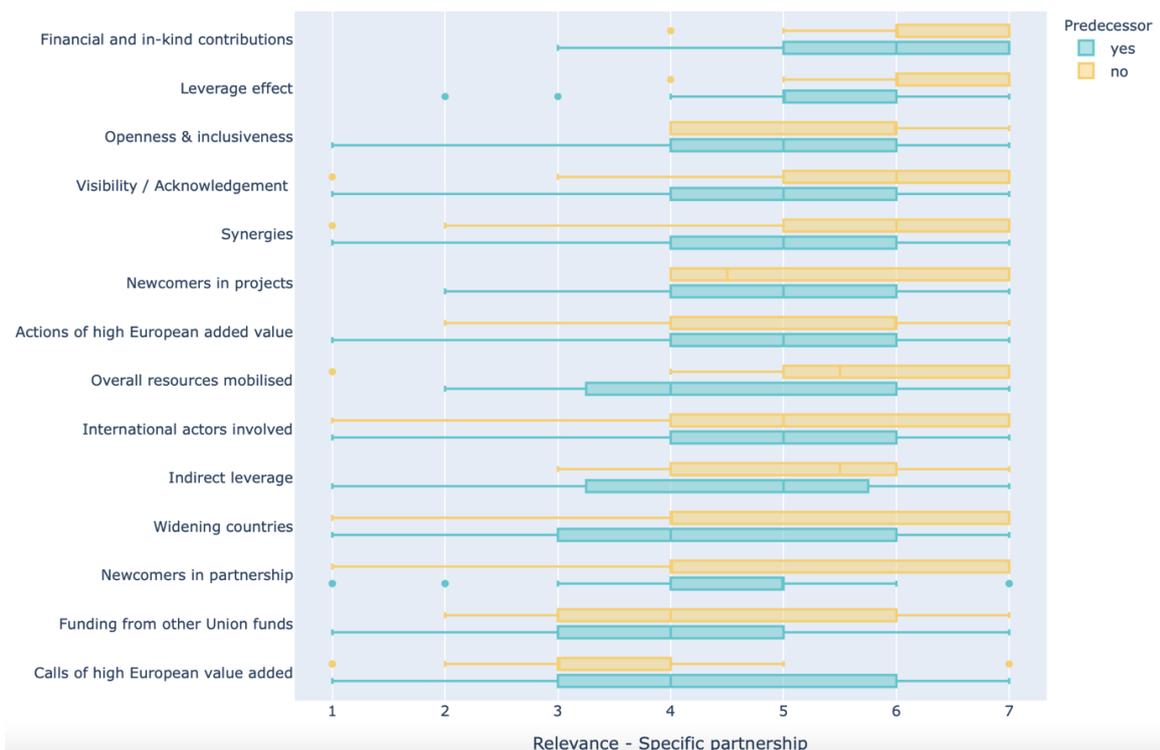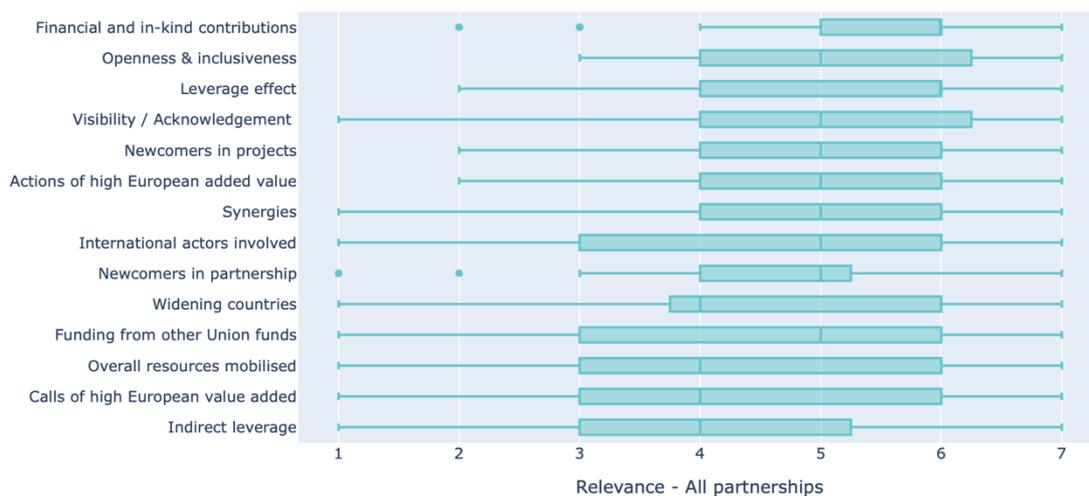Figure 14. Relevance of the proposed common indicators: all partnerships.

Most proposed indicators obtain median scores of 5 and higher on the relevance dimension, except the Widening countries, Funding from other EU funds, and Calls of high EU added value. However, as observed in the disaggregated results per type and cluster of partnerships, there exist significant differences between both type of partnerships and clusters in terms of the assessment of the relevance. This confirms the remarks made at the partnership's hearing of March 17th, 2021, and further insights on the reasons behind for each indicator are found in section 4.3. of this appendix (the qualitative analysis). EU officers on average rate the relevance of most indicators somewhat higher, with overall limited deviation between both respondent groups. The same is valid for partnerships with predecessors and without (i.e. newcomers), where newcomers rate relevance somewhat higher.
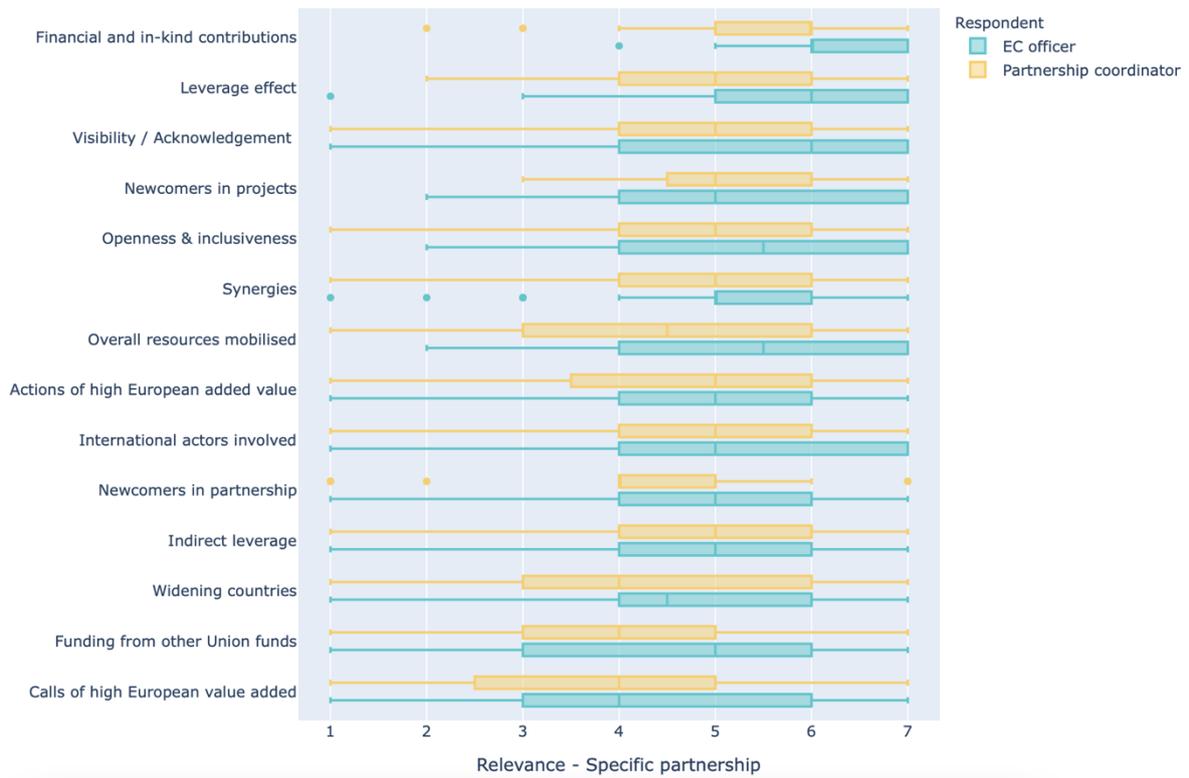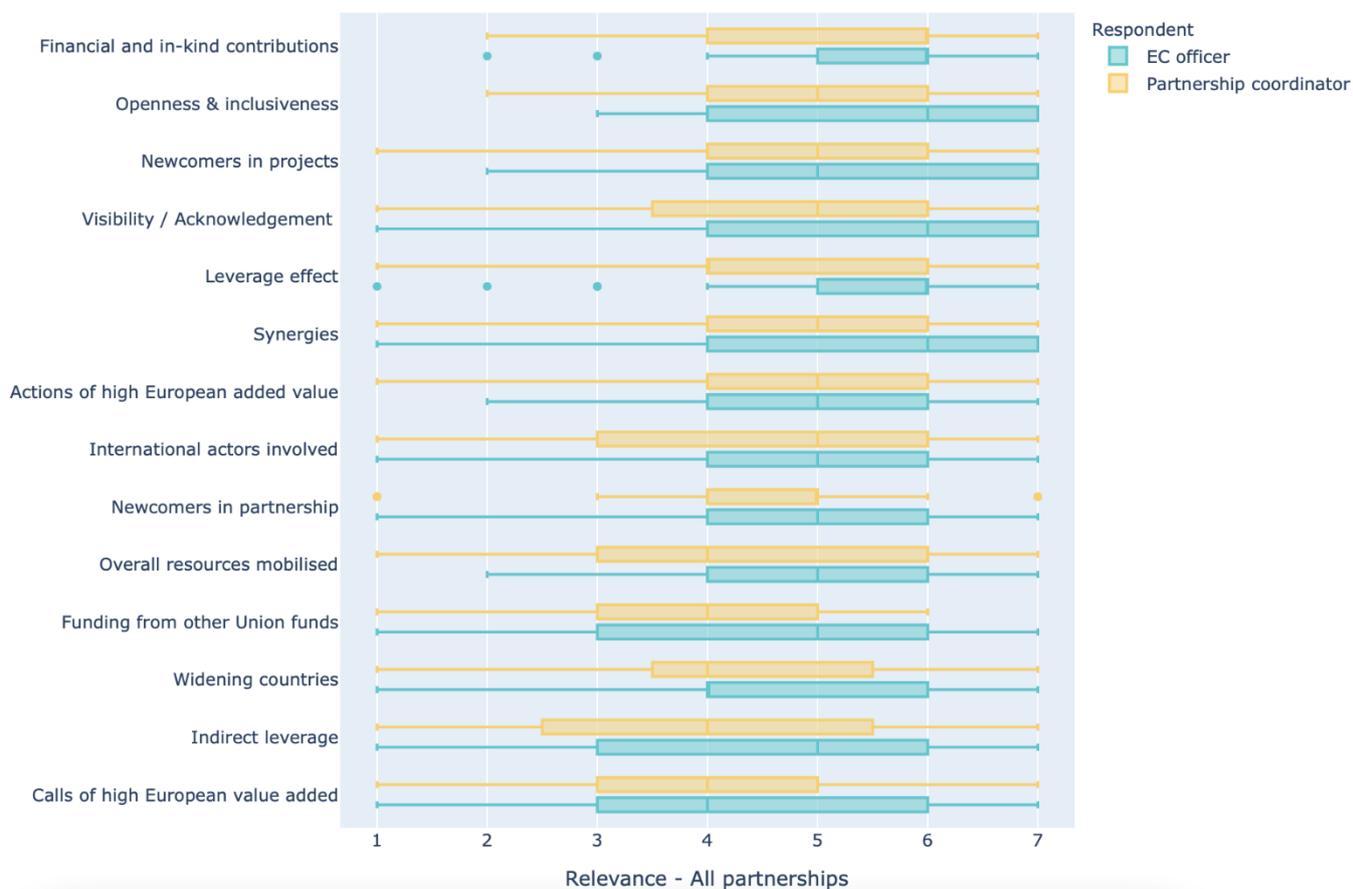
Figure 15. Relevance of the proposed common indicators: partnership representatives versus EC officers.

Question 1a - Is the indicator relevant to monitor performance at the European Partnership level?
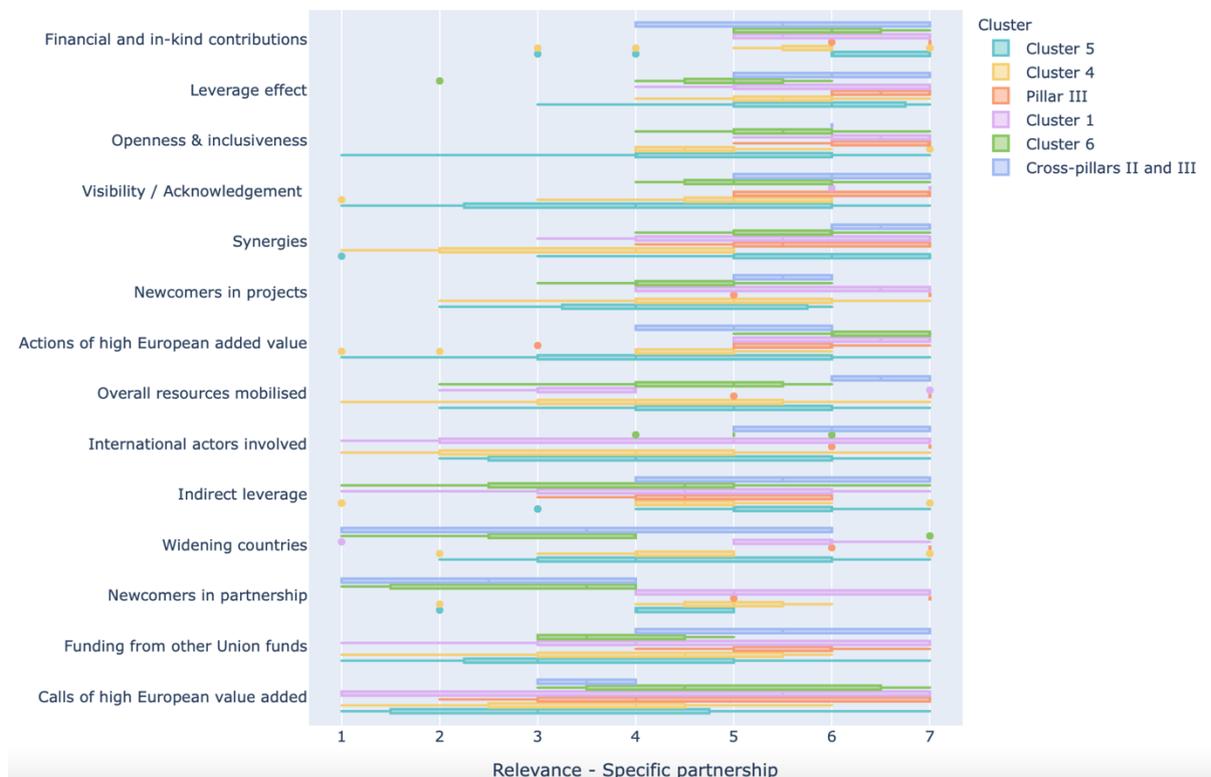
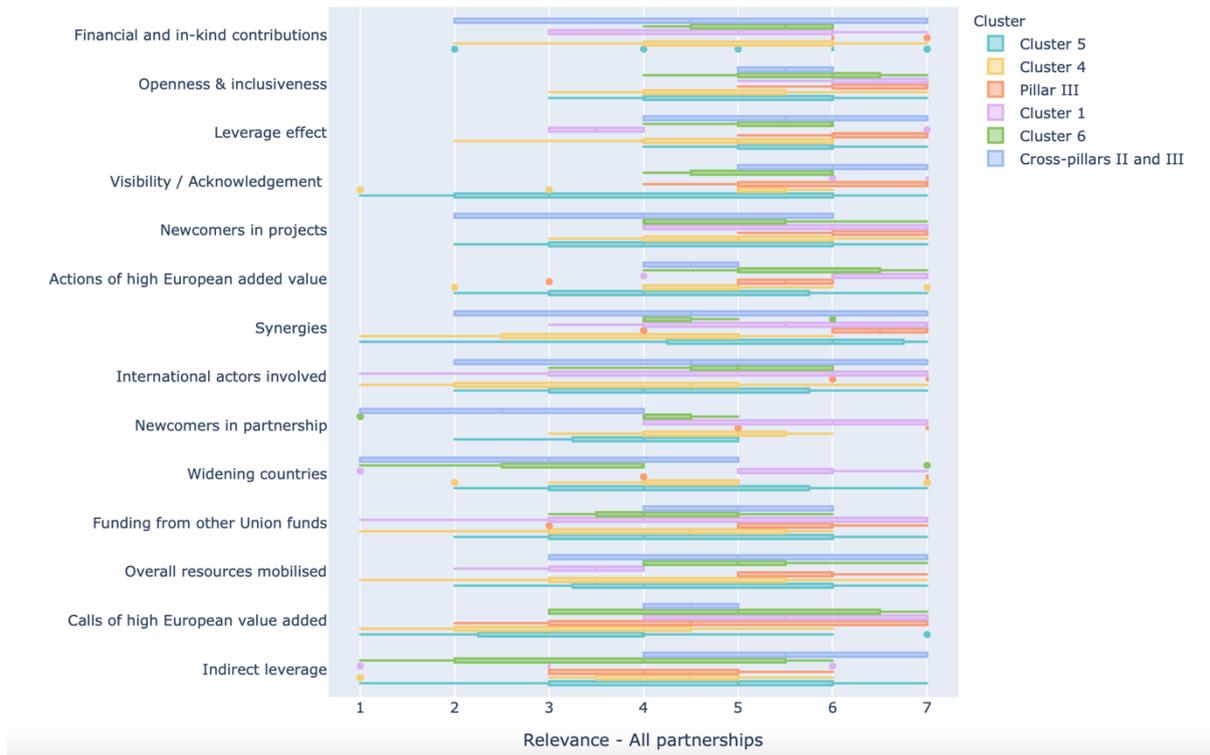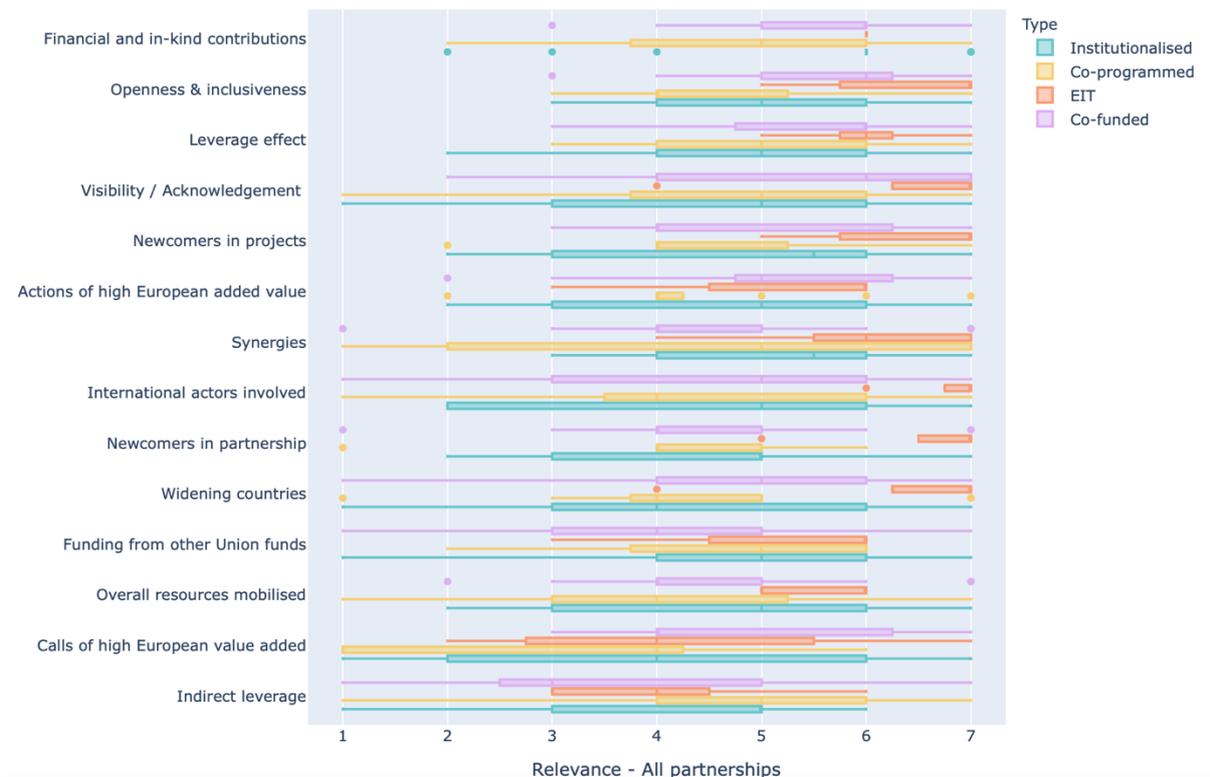Figure 16. Relevance of the proposed common indicators: per cluster.

Figure 17. Relevance of the proposed common indicators: per form of partnership.

Question 1a - Is the indicator relevant to monitor performance at the European Partnership level?

Figure 18. Relevance of the proposed common indicators: with predecessors vs new partnerships.

Q1b – Relevance at the level of all European partnerships

Figure 19. Relevance of the proposed common indicators: all partnerships

Q1b shows a similar picture than Q1a, although relevance is somewhat evaluated lower, as well as the spread of answers as evidenced by the quartiles.

Figure 20. Relevance of the proposed common indicators: partnership representatives versus EC officers.

Figure 21. Relevance of the proposed common indicators: per cluster.

Figure 22. Relevance of the proposed common indicators: per form of partnership.

Question 1b - Is the indicator relevant to monitor the performance of the European Partnerships as a whole?
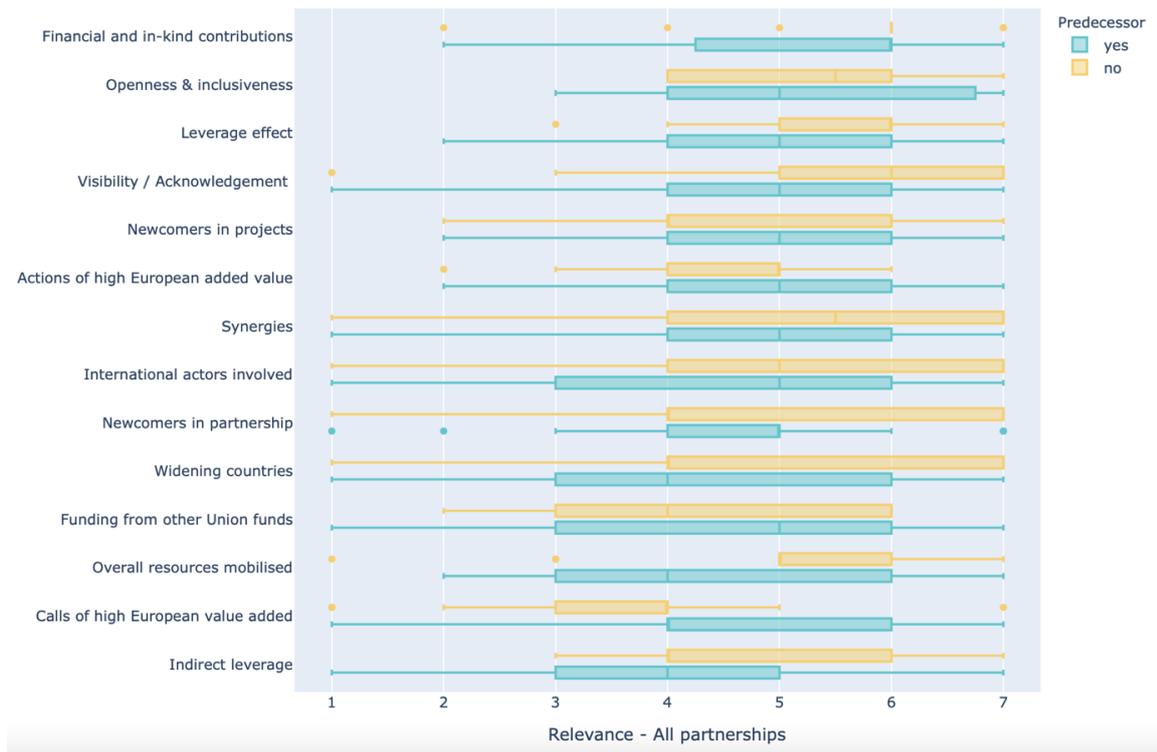
Figure 23. Relevance of the proposed common indicators: with predecessors vs new partnerships.

Indicator implementation feasibility – Q2

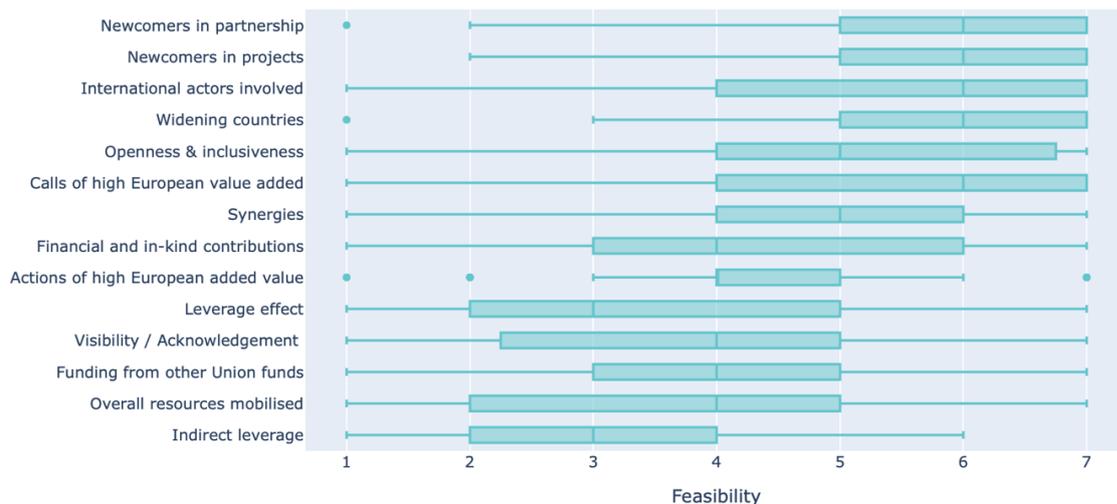
Question 2 - Are the data easy to obtain / collect (i.e. low effort of data collection)

Figure 24. Ease of data collection: all partnerships

Q2 provides a different ranking (see infra for a matrix linking Q1 and Q2). The measurement of financial and in-kind contributions as well as the leverage effect, both evaluated as very relevant indicators, is deemed more difficult, in line with comments received at the hearing. Ease of data collection is generally higher evaluated by EC officers than partnerships. Differences between type and cluster remain remarkable.

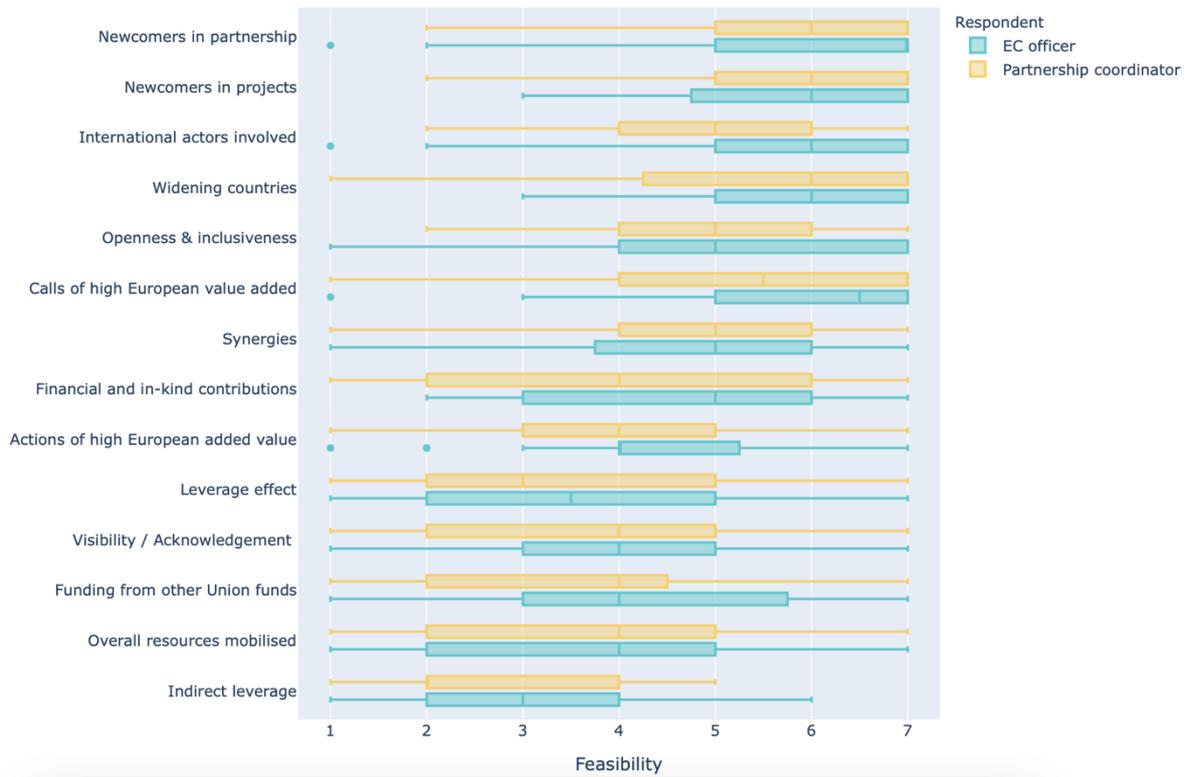Question 2 - Are the data easy to obtain / collect (i.e. low effort of data collection)

Figure 25. Ease of data collection: partnership representatives versus EC officers.

Question 2 - Are the data easy to obtain / collect (i.e. low effort of data collection)
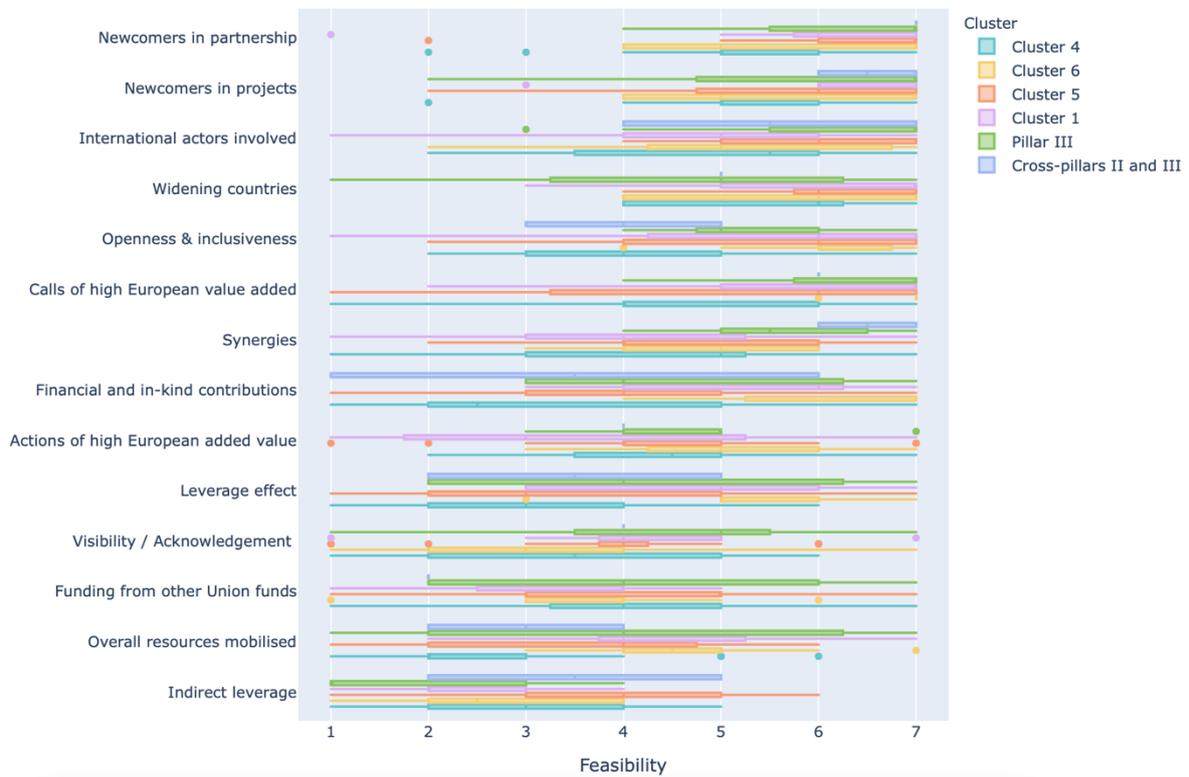
Figure 26. Ease of data collection: per cluster.

Question 2 - Are the data easy to obtain / collect (i.e. low effort of data collection)
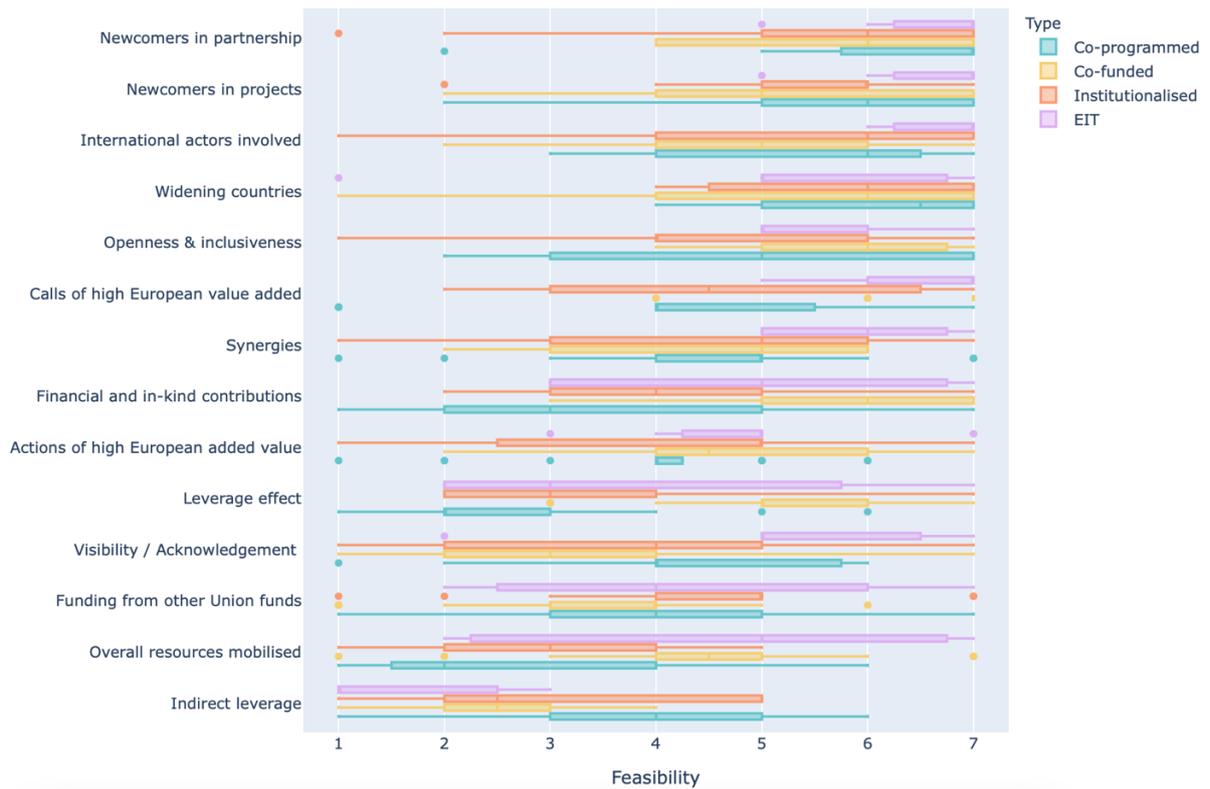

Figure 27. Ease of data collection: per form of partnership.

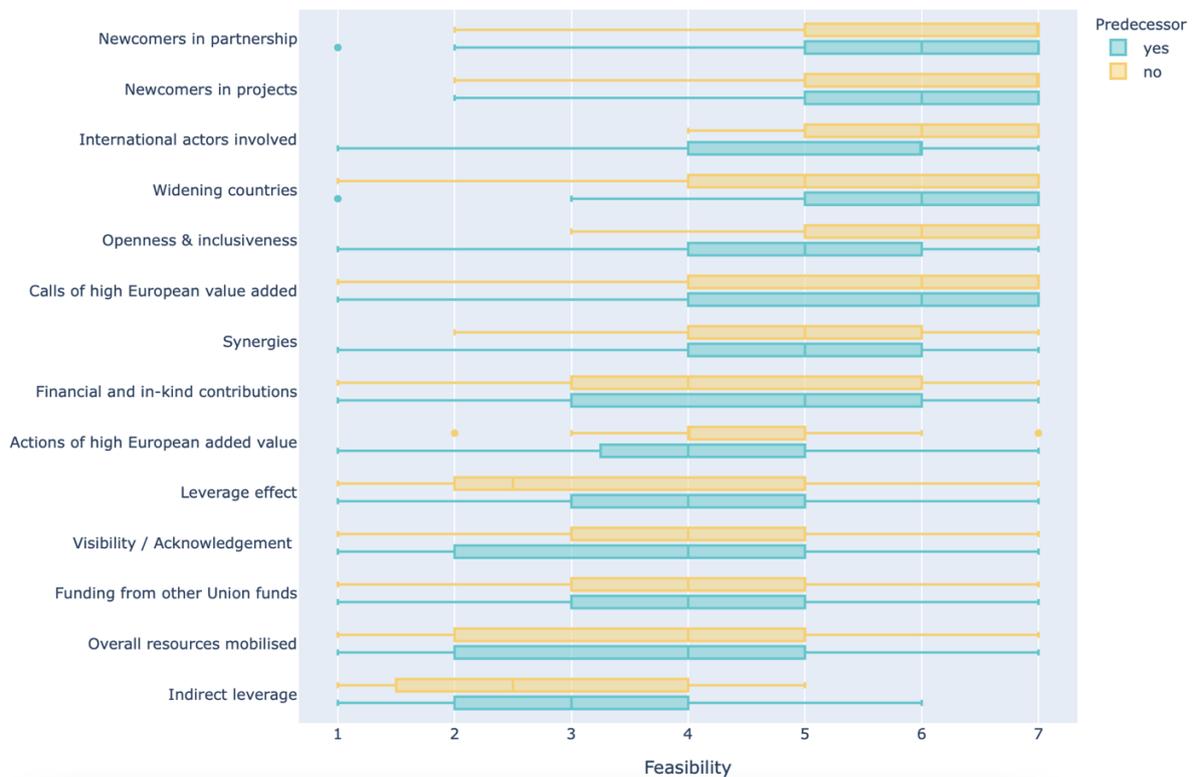Question 2 - Are the data easy to obtain / collect (i.e. low effort of data collection)

Figure 28. Ease of data collection: with predecessors vs new partnerships.

Combined answers according to both dimensions Q1 and Q2 – potential basis for prioritization

Combining the answers on Question 1a and 1b (average) and question 2 (average), a matrix can be constructed showing the indicators with the highest relevance and feasibility scores combined. This allows to group the indicators in 4 groups:

- Indicators for prioritization (high relevance and feasibility)

- Indicators with high relevance but difficult to implement, needing more examination towards methods for easier data collection / calculation

- Indicators with low relevance but (relatively) easy to implement: these require a discussion on the value they provide, potential adaptations needed to increase relevance

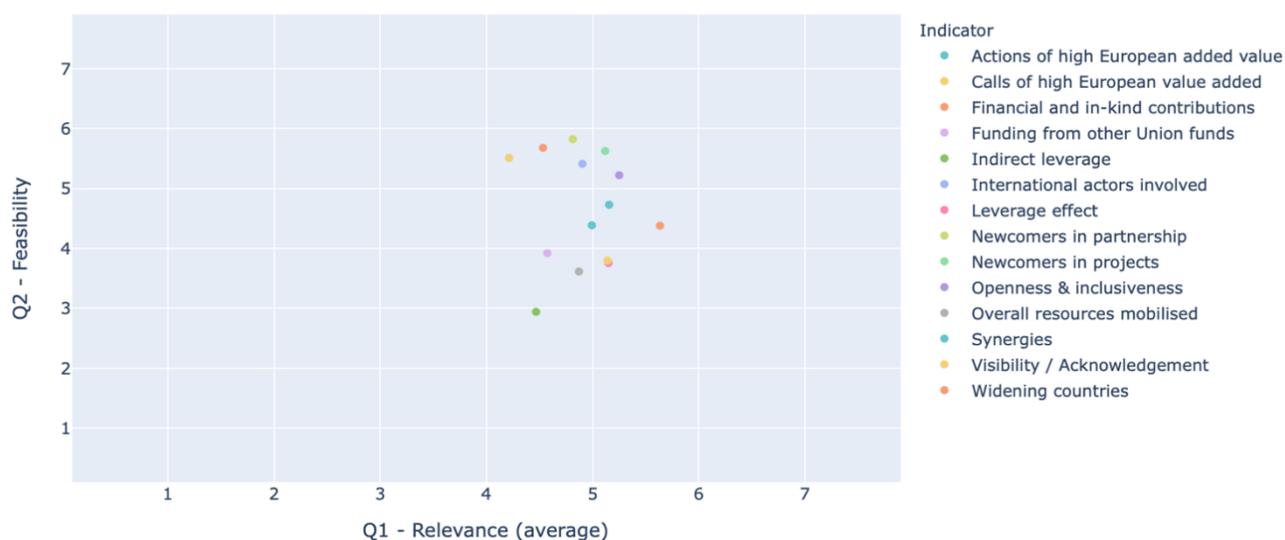- Indicators with low priority (combined low relevance and feasibility)

Figure 29. Combined answers according to both dimensions (survey questions 1 and 2)

The scatterplot, based on average scores of 5 and higher for relevance and 4 and higher for feasibility, highlights 5 priority indicators:

- Newcomers in projects

- Openness and inclusivity

- Synergies

- Actions of high EU added value

- Financial and in-kind contributions

The following indicators merit consideration as they are close to the threshold for priority indicators (ranked from high to low relevance)

- Leverage effect

- Visibility / acknowledgment

- International actors involved

- Widening countries

- Newcomers in partnerships

The following indicators are (relatively) less accepted and less feasible to implement:

- Calls of high EU Added Value

- Funding from other EU funds

- Overall resources mobilized

- Indirect leverage

Questions regarding the use of IT systems for monitoring – questions 3.2 and 3.3

About 1/3 of the partnerships has developed proprietary IT systems for the purpose of monitoring performance. There are no marked differences between the types of partnerships when it comes to the implementation of IT systems for monitoring. This observation merits potential in-depth analysis on whether technology platforms can be shared (or replicated) between partnerships and/or which costs, experiences and added value these systems represent.

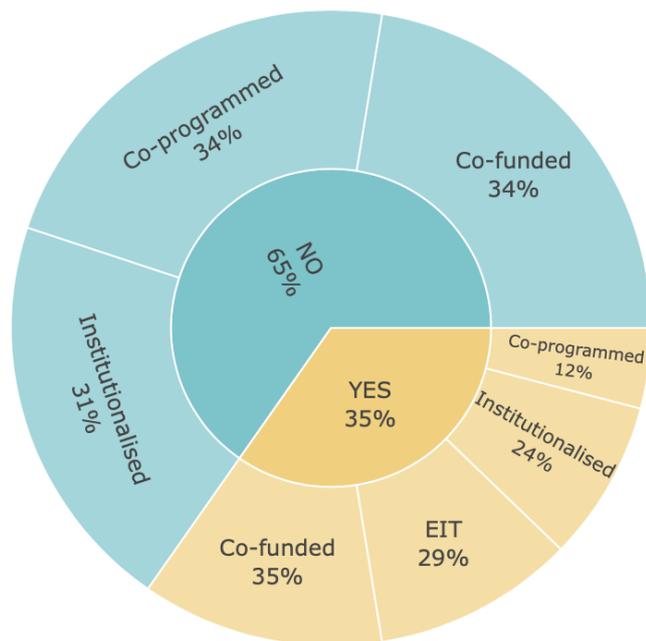## Do you have a proprietary developed IT supported monitoring system?

Figure 30. Existene of IT systems for monitoring at the level of partnership.

Overall, there is limited readiness to exchange with EU Commission databases/systems, although the matter seems to be highly technical as quite some respondents were not able to express themselves on the particular matter.

Ability and readiness of your reporting system to exchange data with European Commission database?
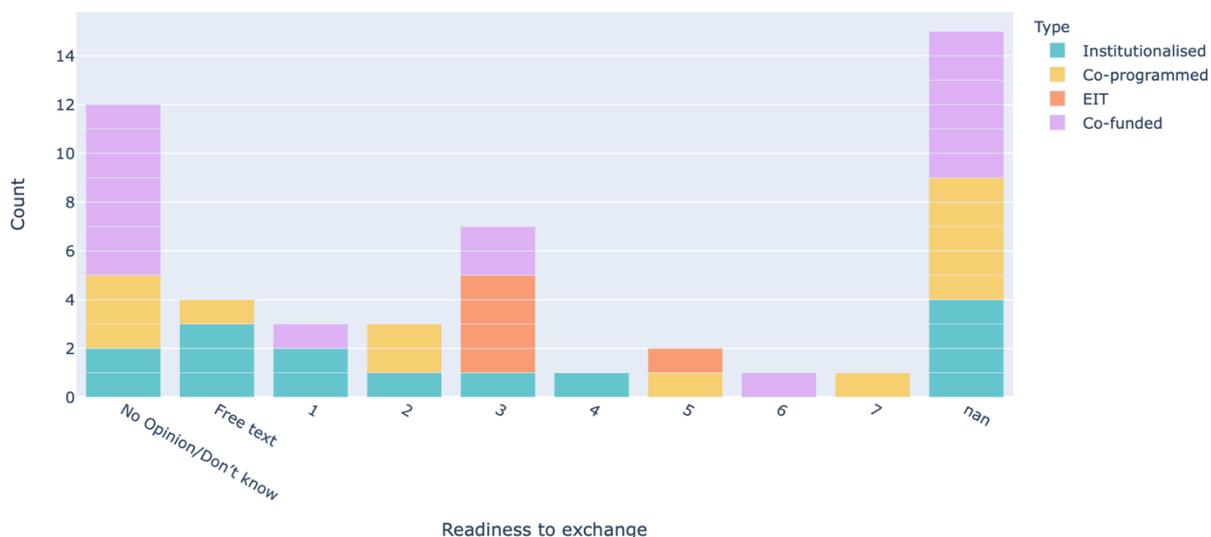

Figure 31. Partnerships' readiness to exchange with EU Commission databases/systems: per form.

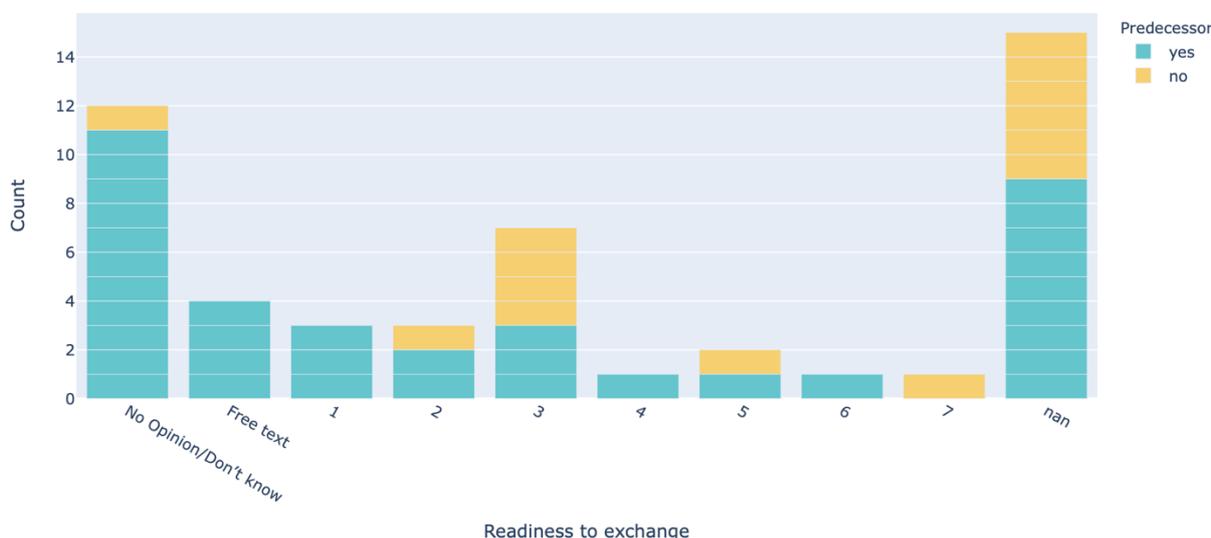Ability and readiness of your reporting system to exchange data with European Commission database?

Figure 32. Partnerships' readiness to exchange with EU Commission databases/systems: with predecessors' vs new partnerships.

Qualitative analysis from comments and open-ended questions

Based on a reading of all the comments received, the main observations per indicator are summarised, as well as the additional questions on potential other indicators and general remarks. Although most of the respondents provided their comments on each indicator, in some cases EPs provided the same or very similar (thus not always relevant) comments on a large number of indicators. Moreover, some respondents provided quite generic comments, which did not always allow for in depth analysis. In consequence, although the total number of comments is very high, the contributions in terms of materiality and depth towards concrete

recommendations for the Expert Group work are filtered. Overall, the efforts of the respondents are truly valued as they undoubtedly contribute towards final recommendations on the indicators proposed. They also contribute to put the answers on the quantitative part in perspective and explain e.g., deviations in relevance and feasibility (see section 4.1).

Analysis per proposed indicator

Proposed indicator #1 - Financial (€) and in-kind contributions of partners (person-months, shared time in infrastructures, other?) committed and actual

While there is an overall consensus for the necessity of monitoring the financial and in-kind contribution of partners, comments differ significantly between the types of Partnership. Full acceptance was reported by EIT KICs as Institutional European Partnerships, as they collect and report on this indicator annually. Similarly, Joint Undertakings presented a positive attitude to the collection of data for this indicator. Both types of partnerships advocate to ensure coherence on the reporting methodology and calculation based on existing systems.

According to other comments, for example from a co-funded European Partnership, knowing contributions by partners is essential to enable calculation of the EU contribution. It also allows to assess how various MS and AC perceive the positive impact of the partnership to their "national" objectives. On the other hand, for co-programmed Partnerships, only the in-kind contribution is expected from the Partners other than the Union.

Some opinions argued that the indicator is relevant across partnerships (in an aggregated way), but less in terms of comparison of partnerships against each other; hence, more to illustrate the overall potential for mobilisation of resources in addition to the Horizon Europe. All Partnerships are different and have different financial resources ecosystems. It was pointed out, that Partnerships may have different demands regarding resources and mere financial volume indicators may not be the key criteria. In addition, the same amount of cash and in-kind contribution has different effects in different MS due to different cost structures across the EU.

The majority of reservations and criticism in comments is related to the following issues:

- For in-kind contributions, the proposed indicator is too vaguely defined and too disconnected from applicable/stringent definitions in the Single Basic Act (SBA). According to comments, the methods for valuing IKAA and IKOP is prescribed in the SBA, so there is a clear suggestion, that the present indicator for financial and in-kind contributions should comply with the above definitions and methodologies. Additionally, Partnerships strongly connect feasibility of that indicator with the use of IT tools.

- Expected high administrative burdens and costs of obtaining relevant precise data, in particular for larger Partnerships, which outweighs the benefits of collection.

- Confidentiality issues, in particular for private partners. Some surveyed argued, that only aggregated, competition compliance data (even on the sector level) should be considered.

- Lack of a central, EC definitive process and practical arrangements for data collection; practical modalities that will be implemented are still unknown.

Proposed indicator #2 – Overall (public and private, in-kind and cash) resources mobilised for a specific area

Comments differ very much between different types of Partnerships. Similar to the previous indicator (#1), Institutionalised partnerships collect and report on this indicator annually and advocate to ensure coherence of new data collection with existing systems. As explained by one of the respondents, public institutions or organisations' contributions to partnerships are expected to differ significantly between co-programmed & co-funded partnerships as opposed to the Institutionalised partnerships, whereby Institutionalised partnerships' resources from public bodies would remain low. The operational model between partnerships also differs significantly, creating a potential barrier for the mobilisation of public resources for non-co-

programmed partnerships. In addition, it should be taken into account that while co-programmed and co-funded partnerships might prioritise research activities, as Institutionalised Partnerships, EIT KICs are created to prioritise and mobilise resources for higher TRL-level activities and innovation, requiring different intensity and modality of resources. As such, this indicator cannot be used for comparative purposes and to monitor performance at the system level.

Additionally, the co-funded partnerships report that for them the present indicator #2 is the same as previous indicator #1, as the co-funded partnerships can only report the private contribution in projects, additionally to indicator #1.

Many co-programmed partnerships commented that this indicator is unclear. In particular, there currently exists a lack of clarity what the meaning is of "overall resources" and "area".

The issue of confidentiality and competition compliance of collected data was raised quite often, in particular for partnerships involving private partners.

Proposed indicator #3 – Leverage effect generated by the EU contribution

There is a wide agreement in many comments that measuring the leverage effect is very important. However, it is seen as very hard to collect relevant data. As for previous indicators, Institutional Partnerships collect and report on this indicator annually and advocate to ensure coherence on the reporting methodology calculation with H2020 system (but some respondents observed that it was not easy to come up with a reliable methodology to capture the leverage effect in H2020 – *"when the H2020 interpretation for leverage factor (presumably similar to "leverage effect") is used, one would take into account the additional investments in down-stream and/or 'related' activities by the private members. These are very difficult to measure; companies are reluctant to share this kind of information, and if they share, data are often 'guestimates'. It would be wise not to fall into the same trap again, so to be used with caution."*)

As for previous indicators, interpretation of indicator #3 differs between different types of Partnerships. Some co-founded partnerships observed that they have a pre-defined and often steep co-funding ratios for participating entities, compared to other types of partnerships, making the indicator not useful for comparison and performance analysis between partnerships and at the ERA-level. On the other hand, some co-Programmed partnerships are questioning relevance of the indicator #3 given their absence of EC co-funding.

One of the Institutional Partnerships commented that significant differences exist between partnerships' R&I financing activities, and even within EIT KICs, whereby contributions from partners (public, private, civil society, other stakeholders) differ per activity type as well as per legal status of the activity/project partner entities. Often, non-cash contributions of particular partners (e.g. NGOs, SMEs, etc.) serve as a multiplier for impact, while not providing financially to the operations of partnerships. This is particularly true for institutionalised partnerships, where testing and deployment of innovations require non-cash contributions and involvement of different public/private partners across Europe.

Assuming that the leverage effect will be expressed on aggregated data for each partnership area (and not at project or activity level), care will need to be taken regarding the confidentiality of proprietary information and the willingness of partners to share information.

The issue of confidentiality and competition compliance of collected data was raised, in particular for private partners.

Proposed indicator #4 – Indirect leverage / additional investments mobilised and qualitative impacts, incl. arising from additional activities = output)

Although rather positive comments on capturing indirect leverage and qualitative impacts were received, a number of issues were raised by respondents. A major observation relates to the dual nature of the indicator. The majority of respondents understood that this indicator combines two different aspects – quantitative and qualitative, but also two different categories: external (additional investments) + internal (additional activities). A good example of this type of comments is the following: *"While the additional investments can be identified as part of #1, the analysis of the impact created is of complete different nature and may not be doable on an*

annual basis (rather mid-term analysis). In many comments, the respondents suggest the need for a better definition of the indicator as it can have different meanings for different partnerships.

Some partnerships suggest in their comments that the present indicator #4 does not comply with their MoU.

In many comments, qualitative data/success stories are seen as relatively easy to harvest, but confidentiality issues and the delay in assessing material successes could form a complication. Thus, monitoring of qualitative impacts on an annual basis is recognized as an unreasonable burden in terms of procurement of studies / assessments, with overall little added value.

Proposed indicator #5 – Number of joint calls of high European value added (=cannot be effectively realised by Member States acting alone)

Although a number of comments for indicator #5 generated similar, generic insights as the previous, the scope of comments was narrower. The majority of comments for indicator #5 presents critical opinions on the concept of the indicator itself as well as the rather unclear terminology used in its definition. For many respondents, measuring activities of Partnerships with the number of calls does not seem relevant. In particular, as reported by one of the EPs, for co-funded partnerships the indicator seems to make little sense, as the number of calls is already predefined in the work plan agreed among MS (usually in the order of 6 calls over the lifetime of the partnership). On the other hand, joint calls (sharing budget) are legally impossible between JU's and co-programmed partnerships as their legal base and comitology is completely different. However, coordinated calls, when the subject justifies them, can be undertaken. Per some opinions, this indicator can only be applied to co-funded partnerships.

Concerning terminology, the vast majority of respondents raised the question on how to understand the terms "joint" (joint between Partnerships, MS, other EU funds?) and "high European value added". In many comments, it was strongly underlined that the purpose of EU Partnerships is to address topics, which cannot be effectively realised by Members States acting alone, so it has little sense to differentiate this particular activity of EPs from others.

Proposed indicator #6 – Number/description of joint actions of high European added value that go beyond joint calls (building research networks, establishing joint living labs, etc.)

Comments for indicator #6 vary a lot. In many comments, a quite positive attitude to capture actions beyond joint calls (whatever there are understood) is expressed, but the majority of them raised an issue of unclear definition and terminology used (similarly to indicator #5). In particular a better explanation of "joint actions" is expected (see comments for #5).

Quite often, criticism is expressed towards the quantitative nature of the indicator, with arguments for qualitative capture of actions (case studies / success stories). A representative example of this group of comments could be the following: "*qualitative description of joint action could indicate the extent that partnerships are seeking synergies and breaking out of their silos which has been a problem in the past. Counting number of actions does not have significant value as a single action can be much more important than multiple actions depending on what is done.*"

In some opinions, it may be relevant to count activities for each type of additional activity (e.g., the number of knowledge hubs or the number of living labs), but aggregating both is much less meaningful. While in other opinions, the use of pre-defined categories will not be helpful and may even decrease the added value of joint activities run by the partnership, but that do not fit into any of the proposed categories.

It was also expressed, that it is unclear how applicable this indicator is to specific Partnerships. Actions beyond joint calls that are related to the Partnership will not be the norm, so this indicator may not be relevant in most cases.

Proposed indicator #7 – Number and type of coordination and other joint activities with other R&I Partnerships, and R&I Initiatives at EU /national/regional/sectorial level

Although many positive comments on capturing synergies between different initiatives were received, a frequently raised major observation is related to the quantitative nature of the indicator. In many comments, measuring the number of actions/initiatives is less informative and does not really measure an impact, while a qualitative indicator is advocated to better serve this purpose. It is repeated several times, that reporting on the quality of implementation of these coordination activities would bring more added value to understand the benefits and outcomes of the partnership. In this context, the interpretation of the indicator is also questioned, as a lower number would certainly mean that the Partnership is working in an isolated way, but a high number could mean that the Partnership is collaborating efficiently, or even that there are many overlaps with other initiatives.

Some criticism is also related to the observation that the feasibility of joint activities between two partnerships of different nature (co-programmed / institutional / Co-funded) is still unknown. Many of the co-programmed and co-financed partnerships are established or are currently being established without having taken due account of the activities of Institutional Partnerships, such as EIT KICs. The inter-operability and connection between partnerships thus needs to be addressed before this indicator can be used at partnership and system levels. The coordination and collaboration between Institutionalised Partnerships and other partnerships would also require dedicated resources, for synergy development as well as the management of financial/in-kind contributions.

Proposed indicator #8 – Complementary and cumulative funding from other Union funds (Horizon Europe, National funding, ERDF, RRF, Other cohesion policy funds, CEF, DEP)

In many comments the indicator #8 is recognised as relevant, but not linked to the actual performance of Partnerships as decisions on other Union funds are taken externally to the Partnerships. There are several suggestions for improvement, like differentiation between funding that is typically used to do more R&I related activity (e.g. RRF, ERDF), and funding that is used for activities other than R&I (e.g. DEP, CEF). An aggregated indicator is recognized by some EPs as a confusing mixture of very different resources lumped together, which may make data collection and meaningful interpretation challenging.

Additionally, while the performance indicator at the partnership level is seen as important, due to the nature of Union funds and the composition of partnerships, in several opinions the indicator cannot be used in a comparative setting at the system level. For instance, the access of KICs as institutionalised partnerships to structural and cohesion funds are prohibitive, whereas co-programmed partnerships are designed to access and leverage these funds. This would not allow for coherent and comparable data between partnerships. This indicator also has limited relevance to the performance of the JUs. Most funding instruments listed are not available to the partners.

Proposed indicator #9 – International actors involved

Comments on the indicator #9 are quite diverging. A major issue, frequently raised, relates to the definition of "international actors". For respondents, it is not clear if international refers to non-EU countries, associated countries etc. On the other hand, the typology of actors is also raised as an issue, because different actors (e.g., individual researchers or international organisations) could bring very different value to the Partnership activity.

There is also group of comments referring to the fact that the geographical location of partners depends on industrial capabilities for a given area or moreover strategic motivations (sovereignty) might strongly affect the international involvement in a given partnership.

Another aspect raised by some partnerships relates to different formal set-up for different types of partnerships in the context of international cooperation. For a co-funded partnership, participating international organisations must bring their own resources. In such case, the actual involvement of international partners means a buy-in of into the partnership's success and of the potential benefits to be part of it.

Proposed indicator #10 – Visibility/Acknowledgement of the partnership in national, European, international policy/industry cycles

Although the indicator #10 is quite often recognised in comments as important to demonstrate the contribution of the Partnership to international, national, regional and even local policy making, many comments raise different reservations and criticism. The issue most often raised in comments refers to complexity and need for significant resources to monitor relevant media/documents and collect data.

It is also recognised in several comments, that not only industry, but wider public awareness of the value of EU actions is important. But on the other hand, quite many comments refer to the fact that this indicator do not reflect the performance of the Partnership per se but just of its communication strategy. In several comments, a collection of both quantitative and qualitative information/data is advocated.

Moreover, several comments underlined that the indicator highly depends on the Partnership and the area addressed. For some areas, it is much easier to attract attention and achieve higher visibility in the media compared to less "popular" areas.

It is also observed that there is a similar Horizon Europe KPI for this type of performance, already included in the Horizon Europe reporting template for the European Partnerships; overlap should be avoided.

Proposed indicator #11 – Number and types of newcomer organisations in partnerships (and countries of origin)

Comments for the indicator #11 vary significantly between different types of Partnerships and their level of maturity. As it is observed, tracking organisations that classically were not active in previous Framework Programmes and that Partnerships succeed to attract is definitely relevant. However, it is not clear how a "newcomer" is defined for new partnerships. According to many comments, the indicator needs to define "newcomers" e.g., as association member or as participant in proposals or projects.

Another aspect often raised in comments is related to the fact that participation in Partnerships and geographical representation depends on industrial capacities and segmentation of involved areas, not directly related to performance of partnerships.

In the context of the different type of Partnership, it is observed that members of co-funded Partnerships should be more or less fixed at the time of the submission of the proposal. Even though adding some members through amendments to the Grant Agreement will be feasible, it is not the intent of this instrument to always ensure welcoming new members. Additionally, many JUs and co-programmed partnerships only have one or a few industry associations that collectively represent the relevant community of R&I actors, leaving no realistic possibility for a high score on this indicator.

On the other hand, the co-programmed Partnerships are fully open (which is very different from Institutionalised) even to 'non-members', unless this refers to the Partnership Forum / Stakeholders group as defined in the governance, but in that case, it overlaps with the previous indicator.

Proposed indicator #12 – Openness – inclusiveness: evolution of participation of widening countries (which partnership activities, cash, and in-kind contributions)

There seems to be a broad agreement in comments on the indicator #12 that broadening the engagement and widening the EU participation is indeed valuable. However, the capability to do this, will depend on the diversity of the sector being addressed by the Partnership and the geographical distribution of (potential) members will again be significantly linked to regional differences in industrial and research capabilities.

According to some comments, this indicator is mixing various levels of information: participation in projects and / or joining the association is not at the same monitoring and reporting level as e.g., in-kind contributions.

There are also suggestions that this indicator should be merged with #11 or that, alternatively, only #14 should be considered instead.

Proposed indicator #13 – No and types of newcomer organisations in supported projects (in terms of types and countries of origin) (quant)

The vast majority of comments on the indicator #13 concentrate on its similarity to the indicator #11. It is unclear for respondents what the difference and purpose of differentiation is between both. Some other comments for #13 are very similar if not the same, as for #11, in particular the issue of the definition of "newcomers".

Proposed indicator #14 – Share of final beneficiaries from widening countries in total beneficiaries and funds allocated as share of total

Comments for the indicator #14 relate strongly to comments for the indicator #12. Some comments suggest the merger of the two mentioned or elimination of one of them.

Some comments refer to rather obvious problems with 'bottom-up' programmes that follow excellence as a criterion, so it is impossible to mandate certain percentages from widening countries.

Additionally, some comments state that the monitoring of participation of all EU Member States, and not only widening countries is necessary.

Suggestions for additional indicators

An important element which repeatedly showed up in response to this question was related to the nature of the proposed indicators. In several opinions, the proposed indicators have a strong focus on various aspects of the input side, while the actual ambition of Horizon Europe and the partnerships is directed towards societal impact of various kinds.

Some comments underlined that the purpose of the partnerships is the achievement of the objectives mentioned in the Single Basic Act. There should be an indicator that specifies the degree of their achievement per partnership as well as overall.

It was also mentioned that the survey proposes too many indicators, and that the indicators should be better defined. There are recommendations to limit the number and focus them on the high-level strategic impact reflecting the reason for why the Partnerships are set up. It is not only about money. Aspects like FAIR data and openness of results have not been addressed, nor the alignment of national/industrial strategies to support the partnerships.

There are also opinions, that it is impossible to have the complete set of same indicators for all the partnerships, and that there is a need to consider a core of indicators common to all Partnerships, but also differentiate those ones which are more relevant for one class of Partnerships only.

Some specific new indicators are also listed:

- Cross-fertilisation over typical economic sectors, scientific disciplines, and political portfolios, recalling that the partnerships usually are charged with addressing complex issues.

- Partnership relevance to EU policies or international goals, could be relevant.

- The SRIA influence on the alignment of national/regional/EU R&I policies in a particular field, creating directionality and avoiding overlaps while creating synergies.

- Transparency and openness – the number of events for dissemination of the projects.

- Maturity of research results in terms of e.g., # of years to possible market deployment.

- "Dissemination", including papers and patents (with a weighted factor).

- Direct indicators on the added value, knowledge gained and applied, the evidence-based, the impact on society/policy (e.g., number of EU countries participating is a relevant indicator).

- Cross-industry collaborations.

- Longevity of created networks/communities/living labs/knowledge hubs etc. in time.

- Efficiency - i.e., cost of administration relative to EU and total funding disbursed.

- Underspending compared to initial commitments.

- Number of patents registered by projects from the partnership.

- Number of referred research journal papers from projects of the partnership.

15.4 General, final remarks or thoughts

Among the many detailed answers to this question, several issues were mentioned more often than others or specific issues seem to have a more universal/general character then others. These are listed below:

- There is a clear need for a better definition of indicators. The vocabulary should be unambiguously defined and used precisely and consistently to eliminate room for interpretation.

- Indicators need to be simple, clear and easily measured. Confidentiality is critical for commercial organisations, including between members of the same partnership.

- The proposed monitoring indicators are mostly quantitative and based on inputs and some short-term outputs. More qualitative indicators would be suitable overall.

- There seems to be little information on what kind of assessment/analysis will be done on the basis of the collected indicators. There is a high risk of benchmarking and comparing partnerships that could be rather different even if using the same model.

- Some proposed indicators on e.g., geographical distribution are interesting to monitor, but not a measure for the success of the partnership (even if the partnership will of course do its best to broaden the membership as much as possible). Also, the questions on composition and geographical distribution of participation should cover both members and non-members.

- All indicators should be automatically generated from an existing (or new to be developed) IT system using data from the projects/proposals (financially & technically), from their beneficiaries and/or their respective project sponsors. All other (not automatically generated) indicators should be avoided as the input data may be subjective/not verifiable and lead to endless discussions on conclusion and interpretation.

- Reporting of the European Partnerships indicators and Horizon Europe KPIs must be aligned, e.g., not annually but as per the Horizon Europe reporting and monitoring mechanism. The European Partnership indicators must be integrated in the Horizon Europe reporting system. This is particularly important for EIT KICs, which are currently discussing transitioning to new IT systems and tools. As the new performance indicators and key impact pathways would put considerable burden on data collection, aggregation, reporting and sharing with relevant bodies and stakeholders, it would be a welcomed development that the European Commission provides a roadmap for data integrity, data sharing as well as a list of metadata that will be asked from partnerships.

16 Appendix 9. Analysis of consultation feedback on data collection

The analysis of the feedback received from the May 2021 survey to European partnerships and Member States can be concluded into the following observations related to further development of partnership-based monitoring/reporting and the identified related needs for the support:

- Support offered at horizontal level, either as common IT tools or common studies,

- Specific services and/or customized help provided at EU level. One good example is the cooperation between JRC and FCH JU on monitoring[53].

- Financial support:

    o to acquire staff to perform the work related with development of a monitoring system

    o a dedicated CSA would be useful for the time of the partnership to support this specific work

- A change in the project reporting template - reporting obligations for partnership related KPIs should be put on project coordinators and therefore these obligations should be part of the Grant Agreement and continue for an extended period even after HE action period end.

- A structured access to the reporting of their related projects.

- A support on conceiving and operationalising the monitoring ecosystem; moreover, this support should help the partnerships to smoothen out any overlaps between the common indicators and partnership's specific ones.

- Incentives for partnerships to convince our members to engage in this process.

- KPIs of projects should be conceived in a way to better support and align with the reporting needs of the partnerships (e.g., this should be encouraged in the topic text in the Work Programme).

- An alignment of partnership based KPIs with developed monitoring system should be further encouraged and stressed.

- Both direction data exchange (from partnerships to EC and vice versa), to avoid replicating data collection. In general, the partnerships would appreciate that the European Commission specialists (e.g., ECFIN / EIB) would support the data collection (e.g., retrieving Macrodata / NACE data)

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[53] https://www.fch.europa.eu/page/fch-ju-jrc-deliverables;
https://www.fch.europa.eu/page/tools-innovation-monitoring-tim

from their systems and by that support the partnerships, which often do not have statistic/economist knowledge in their member and/or secretary base, to save time and get professional results.

- Support in the development of monitoring/reporting systems would be very valuable, exchange of best practices and sharing of formats would be useful. IT support to help Partnerships build a customised system.

- It would be also helpful to have a dedicated EC staff with M&E background that can provide advice during the process.

- It would be very helpful to have common agreed definitions, common agreed metrics, and some well-defined templates provided to partnerships for them to organise the data collection themselves.

Ideas for common reporting IT system for common indicators (could be considered in the future):

- A platform or an interface to exchange data, upload and analyse text reports, or download templates.
- An integration of the reporting tools to be incorporated in the EU Portal IT tool, to make sure partnerships always have access to the latest contact details. It should also provide enough room for customization to help partnerships design their own surveys and data entry pages.
- For the common indicators: having a structured tool where on one hand there is access to EC collected data and at the same time it allows on plugging in the partnership-specific indicators to facilitate further analysis or partnership-specific analysis. The key element would be the underlying methodology that would be standardized and thus allow on real comparison (without subjective interpretation).

One partnership specified that an IT system would be necessary mainly for project level:

- IT systems need to be there for reporting on project-level indicators. For partnership-specific indicators that are independent from project-level information, there should be no dependence on IT systems. The partnership-based information (indicators) should be collected by partnerships.

Based on the feedback, interface-type of solutions seem to be sufficient for partnerships (at least in the beginning of the process), only both ways data exchange (from partnerships to EC and vice versa) should be further enhanced. It was also brought out that developing a specific IT tool for partnership level data monitoring would require significant amount of time and resources and would not be ready for implementation on time of the first reporting period.

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The purpose of this first interim report of the Expert Group was to develop and propose a set of common indicators that could be adopted and used across all European Partnerships to monitor their progress as a policy approach, as well as provide guidance for the partnerships in developing partnership specific indicators for monitoring their contributions towards European objectives. The Expert Group was also tasked to analyse and provide recommendations related to practical data collection concerns and issues. In the second interim report (planned for early 2022), the group will focus on the biennial monitoring report of partnerships. The final report with policy recommendations is planned for mid-2022.

Studies and reports