EC2U R&I Agenda

Report

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I.   Executive summary

This report describes a comprehensive and participative process initiated in April 2023, intended to be a consensus-building initiative, and expected to deliver a common Research and Innovation agenda for the next 10 years, together with the tools for its implementation within the EC2U Alliance (4 Virtual Institutes as defined in the RI4C2 Project Proposal). The process involved Vice-Rectors for Research and Innovation, Research Managers, and Support Officers, aiming at drawing up a common EC2U Research and Innovation (R&I) Agenda. The initiation of this R&I agenda represents our Alliance's efforts towards the achievement of one of the SwafS transformation modules established by the European Commission for convergent R&I actions of European University Alliances.

The proactive design of the agenda is directly influenced by policy recommendations from the European Research Area (ERA) and the European Higher Education Area. The agenda outlines a common strategy for EC2U partners that extends well beyond temporal horizon of the SwafS RI4C2 project, integrating this outcome directly into the Erasmus+ EC2U consortium. The task of consensus-building is fundamentally political, and the bottom-up design of the agenda is fully legitimised and endorsed by the universities' governing teams. It is understood that researchers cannot be directed, but indeed can be guided and oriented. The overarching aim is to avoid interference with regional, national, or even individual strategic plans while catalysing a strong additional framework for developing attractive academic careers in cross-cutting themes that align with selected United Nations Sustainable Development Goals (UNSDGs).

In the initial phase of this RI4C2 Work package 2 (WP2), efforts focused on consulting academic communities within partner institutions to gather insights into relevant R&I topics (D.2.1). Subsequently, a mapping of partners' infrastructures was conducted (D.2.2). From the beginning, the EC2U Alliance R&I Agenda has been structured around Virtual Institutes, as a long-term framework for the Alliance consortium. Those should be developed as independent, competitive research entities able to secure funding to ensure their sustainability.

Complementary tools, including bibliometric evaluation and analysis of published scientific articles, were employed to identify new common themes to establish this agenda. The design process coincided with a phase transition for the EC2U Alliance, the end of the pilot and the beginning of the consolidation phase, facilitating efforts to build consensus and commitment from

governance teams, especially considering the challenges and forecast on ear-marked resource allocation for newly created Alliance research entities under the Horizon Europe framework.

The specific challenge for EC2U involved unifying already established research entities, particularly pre-existing Virtual Institutes, around a common strategy for the future. This included the creation of up to four new Virtual Institutes aligned with the UN's sustainable development goals, as defined in the project proposal. Transparency and open dialogue were prioritised from the outset, involving bilateral meetings with each university, and culminating in a major meeting where crucial agreements were reached.

The harmonisation of the Agenda and Action Plan into this common document will guide the entire Alliance in its strategy on the development of common R&I activities. Agreements have been made on interdisciplinary themes and topics for structuring new Virtual Institutes, and it has been agreed with higher management, meaning the Vice-Rectors for research that in some cases had little prior contact with the Erasmus+ project, to collaborate for the integration (invitation) of talented researchers into these entities. There is also a commitment to seeking funding for future Virtual Institute R&I activities that lack assigned resources.

II.   Challenges and goals

A.   Building up the Research and Innovation dimension of EC2U

Developing an R&I Agenda stands as a crucial mandate for European University Alliances, aligning with the ecosystem's inception in 2019. It serves as a key objective to promote research and innovation within Alliance-affiliated universities, connecting both the Erasmus+ and Horizon 2020 programmes. This initiative is in coherence with the policies of the European Research Area (ERA) and European Higher Education Area.

The transformation of universities in the R&I dimension is a multi-faceted process, encompassed by seven transformation modules (TMs). The initial module, aptly named "Developing a Common Research and Innovation Agenda," corresponds to the foundational step in this transformative journey.

The group spearheading this task within the SwafS RI4C2 project, specifically WP2, acknowledges the complexity of this goal. A formal and centralised approach from governance teams across the Alliance is deemed essential to effectively coordinate efforts. Recognising the long-term nature of this endeavour, the group emphasises the critical need for support and collaboration. Additionally, adhering to recommendations from the European Commission through the European Research Executive Agency (REA), the group has prioritised transparency, collaboration, and a realistic approach in implementing the agenda. Still, several challenges have been identified:

1. **Diversity in how research is organised at each university:** Differences are observable in the management structure, the organisation of research groups, and the implementation of research activities at each university. These specificities are shaped by local organisational cultures and pose challenges in the identification of commonalities and the creation of links around them within the Alliance.

2. **Alignment of Interests and Priorities:** Aligning the specific interests and priorities of partners across the Alliance, considering ongoing or upcoming research framework plans at each partner university, can be seen as external interference. The implementation of joint R&I activities can be directly discarded based on operating against academic research freedom, which is a pillar of the European Research Area and European Universities.

3. **Motivating Researchers for Alliance Collaboration:** Competitive researchers are already fully engaged in their pre-established networks, and under severe time constraints. Creating scenarios to motivate these researchers to collaborate at the Alliance level under considered "more risky/new" scenarios is very challenging.

4. **Financial Constraints:** There is no secured and dedicated funding for research activities or follow-up on competitive calls foreseen to implement the R&I Agenda. Therefore, it may appear difficult to secure long-term commitment from the researchers within the framework of the Alliance. Furthermore, national/regional financing schemes determine the university's capacity for action at the Alliance level, and different financial constraints across countries based on these regulations pose severe challenges for equal participation. Government bodies express growing concerns about funding actions required for R&I agenda implementation.

Designing the R&I Agenda for EC2U presents a unique challenge, coinciding with the conclusion of the EC2U pilot phase in October 2023 and the commencement of the Alliance's consolidation phase in November 2023 (see figure 1 below).

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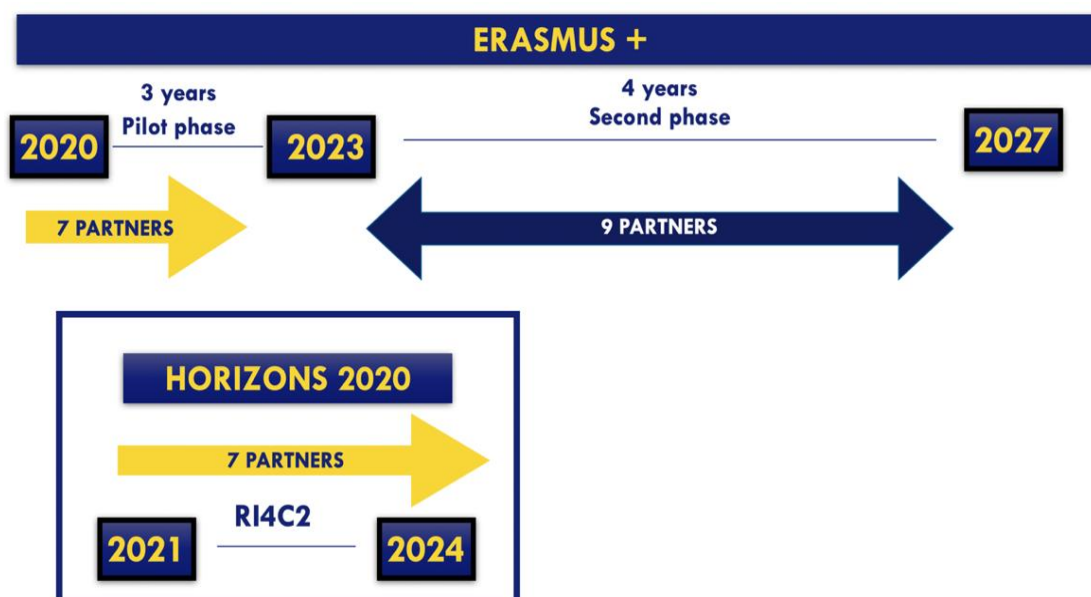
Figure 1: Timeline of the EC2U E+ and H2020 projects.

Of note, the recently incorporated University of Linz already participated in the last steps of the process with both Rector and Vice-Rector for Research present in the meeting held in Poitiers in October 2023.

B.   Previous deliverables

The overarching goal, as outlined in the project Grant Agreement, is the formulation of a unified EC2U R&I Agenda. This agenda is envisioned to evolve through a gradual alignment process, guided by principles of transparency and inclusive interdisciplinarity, where innovation plays a pivotal role.

In the preceding deliverables, D2.1 (M12) and D2.2 (M18), significant technical groundwork has been accomplished, drawing on the following components:

1. **Survey on R&I needs:** A comprehensive survey was conducted during the summer of 2022 to gather both quantitative and qualitative insights into R&I preferences. This survey was directed towards the university communities of the seven partners, encompassing managers, researchers, PhD students, students, and staff.

2. **Mapping of R&I Activities and Infrastructures:** Collaborative efforts with the Research Offices of the seven partners resulted in the mapping of R&I activities and infrastructures. This process aimed to create a detailed overview of the research landscape within each partner institution.

These foundational elements serve as critical inputs for the ongoing development of the EC2U R&I Agenda. The data gathered from the survey and the collaborative mapping exercise provide valuable perspectives from diverse stakeholders within the university communities. The emphasis on transparency and interdisciplinary collaboration underscores the commitment to creating an inclusive and innovative R&I framework within the EC2U Alliance.

C.   Main goals

The concrete objectives of this deliverable are as follows:

1. **Develop a Common and Meaningful R&I Strategy:** Shape a consensus over a shared and purposeful R&I strategy that resonates with already established capacities. This strategy should be crafted in a way that respects and integrates with the internal development plans of individual partners.

2. **Expand R&I Activities within EC2U:** Broaden the scope of R&I activities within the EC2U Alliance by introducing new entities like Virtual Institutes. These entities will have specific applications aligned with selected SDGs.

3. **Paving the Path towards Implementation of the Common R&I Agenda:** The implementation of the common R&I Agenda outlined in this deliverable will serve as a guiding framework up to the project's conclusion. This includes:

    i. The creation of four new Virtual Institutes (D.2.6) and the identification of priority research groups within these new entities (D.2.7).

    ii. The creation of a framework for the support and identification of priority research groups under the existing and already active Virtual Institutes launched during the pilot phase of EC2U, namely Virtual Institute for Good Health and Well-Being (GLADE) led by the University of Iasi, Virtual Institute for Quality Education (VIQE) led by the University of Salamanca, and Virtual Institute for Sustainable Cities and Communities (VISCC) led by the University of Coimbra (D.2.4).

    iii. The submission of joint Horizon Europe applications (D.2.5).

III. Roadmap towards an EC2U R&I Agenda

A. Strategy and impact

The leading team of WP2 has outlined three strategic lines of action to expand the scope of R&I activities within the EC2U Alliance:

1. **Establish an Institutional Decision-Making Level:** Formulate an institutional decision-making level dedicated to R&I activities. This involves creating a structured mechanism or forum at the Alliance level that facilitates strategic decisions related to research and innovation. This institutional level ensures that R&I efforts are coordinated, aligned with broader objectives, and supported by the collective decision-making process of the Alliance.

2. **Integrate Existing Virtual Institute Work:** Integrate and synchronise the work developed by the existing Virtual Institutes into the broader R&I agenda. This includes aligning the objectives, activities, and outcomes of these institutes with the overarching goals of the EC2U Alliance's R&I strategy. By doing so, the Alliance can leverage the expertise and initiatives already underway within the Virtual Institutes to contribute to the common R&I agenda.

3. **Promote Bottom-Up Consensus Agreement:** Encourage and facilitate a bottom-up consensus agreement on relevant topics within the Virtual Institutes to be created. This involves engaging researchers and stakeholders at the grassroots level to identify and prioritise areas of R&I that are deemed impactful and aligned with the Alliance's goals. By fostering consensus from the bottom-up, the EC2U Alliance ensures that the R&I activities reflect the diverse expertise and perspectives within the academic community.

These strategic lines of action aim to establish a comprehensive and inclusive framework for expanding R&I activities within the EC2U Alliance, ensuring an effective coordination, the integration of existing initiatives, and a consensus-driven approach to new endeavours.

B.   Institutional decision-making level

The establishment of a truly common R&I agenda recognises the importance of incorporating relevant actors in the decision-making process. To ensure effective representation and collaboration, each partner was initially tasked with identifying a key individual within their respective universities, preferably the corresponding Vice-Rector for Research, along with their research office or equivalent.

It is noteworthy that both the research offices and the Vice-Rectors for Research had previously collaborated actively, particularly during the elaboration of the mapping of R&I resources in earlier phases of the project. Therefore, the seven partners identified the following initial valid interlocutors to participate in the decision-making process:

	COIMBRA	POITIERS	JENA	SALAMANCA	IASI	TURKU	PAVIA
	Portugal	France	Germany	Spain	Romania	Finland	Italy
VICE RECTOR OR EQUIVALENT							
Name	João	Yves	Georg	José Miguel	Ionel	Kalle-Antti	Antonella Forlino/Federico Forneris
Last name	Ramalho	Gervais	Pohnert	Mateos Roco	Mangalagiu	Suominen	
Position	Vice-Rector for Research	Vice-Rector for Research	Vice President for Research	Vice-Rector for Research	Vice-Rector for Research	Vice-Rector for Research	Vice-Rector for Internazionalization/Vice-Rector for Research
Other		Thomas Rogaume (Vice-Rector for Innovation)					
UNIT/DEPARTMENT							
Name	Vice-Rector Office		Vizepräsident für Forschung	Vice-rectorate of Research	Office of Scientific Research Activities		Research Office: Andrea Carini/Donato Gualtieri
Website	https://www.uc.pt/governo/reitoria/		https://www.uni-jena.de/vpforschung	https://www.usal.es/vicerrectorado-de-investigacion-y-transferencia	https://www.uaic.ro/cercetare/		
Other	Institute of Interdisciplinary Research, Jorge Noro				Institute of Interdisciplinary Research, Mihaela Mocanu		

Figure 2: Vice-Rector for Research information for each partner university.

C.   Integrating the existing EC2U Virtual Institutes

The Virtual Institutes within the EC2U Alliance are collaborative entities that transcend physical boundaries, bringing together international, interdisciplinary teams comprising students, teachers, researchers, and innovators from the seven partner universities. These institutes engage in a diverse array of short-term training activities, including internships, summer/winter schools, workshops, and contribute innovative solutions to both local and global challenges.

In the first phase of the EC2U project, three Virtual Institutes were established, each aligned with specific UNSDGs:

1. **Virtual Institute for Good Health and Well-being** (GLADE)**:**
   - Led by the University of Iasi.
2. **Virtual Institute for Quality Education** (VIQE)**:**
   - Led by the University of Salamanca.
3. **Virtual Institute for Sustainable Cities and Communities** (VISCC)
   - Led by the University of Coimbra.

In the second phase of the EC2U Alliance, starting in November 2023, a new Virtual Institute is set to be created focusing on SDG#16 Peace, Justice, and Strong Institutions. The specific content, focus, and scope are currently being defined. The addition of this Virtual Institute further demonstrates the commitment of the EC2U Alliance to addressing a diverse range of societal challenges through collaborative and interdisciplinary efforts. This is one of the new Virtual Institutes created under current efforts and the present R&I agenda.

D.   Towards an agreement on topics in the new Virtual Institutes

The results of the extensive survey conducted during the Summer of 2022 have revealed distinct and prominent new trends favoured by the university community for development in the upcoming Virtual Institutes. In response, the WP2 team has conceived the idea of linking these identified topics (see Figure 3), assessing their institutional legitimacy, ensuring competitiveness, and evaluating their potential for financial sustainability.

Teaching
A broad interest was detected in the development of digital activities related to education.

Technology
Topic of high common interest for managers, researchers and students of all 7 partners.

Environment
It is a cross-cutting topic for the 7 university communities analysed.

Health Sciences
It was the most chosen topic overall in all the questionnaires analysed.

Climatology
There is a demand for climate-related studies and their impact.

Modern Languages
Of great interest to university managers, stakeholders and socio-economic actors.

Figure 3: Prominent trends revealed within the survey conducted in the Summer of 2022.

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The key considerations include verifying whether these emerging research areas align with the strategic goals and priorities of the partner institutions. It is essential to gauge the institutional support and willingness of the partners to endorse and contribute to the establishment of new research entities within the framework of the EC2U Alliance.

By scrutinising the institutional legitimacy, competitiveness, and financial sustainability of these identified trends, the WP2 team aims to ensure that the proposed Virtual Institutes not only address the preferences of the university community but also align with the overall objectives and capabilities of the EC2U Alliance. This strategic approach helps in shaping research entities that are not only responsive to emerging trends but are also well-positioned for success and long-term impact within the Alliance.

E.   Initial proposal and iterative discussion

Based on the conclusions of the RI4C2 Mid-Term meeting in Coimbra, where all Vice-Rectors for research spoke, common research themes were identified: environment, sustainability, and climate. This formed the basis for an initial consensual proposal to create a Virtual Institute on the identified research capabilities and actions across the Alliance. This also served as an entry point to all the bilateral meeting discussions held after that and introduced the challenge of constructing four new Virtual Institutes. At this point, it was already obvious the focus of the first two of them.

- Peace, Justice and Strong Institutions (SDG#16)

- Environmental/sustainability/climate, that later became "Life on Land" (SDG#15)

Based on the above scenario, the WP2 team followed the recommendations of the Vice-Rector for Research of the University of Salamanca, José Miguel Mateos Roco, and the Vice-Rector for International Relations, Raúl Sánchez Prieto, and decided to initiate a process of debate with the other partners to further outline a complete proposal for the identification of the remaining Virtual Institutes. The original idea was to develop this during the bilateral discussions with the partner universities, exploring possibilities of alignment. The proposal focused on three key elements that remained open to suggestions from individual partner institutions:

1. **Split of an Existing Virtual Institute:** The team proposes dividing the Virtual Institute on Quality Education to better focus on specific areas or topics, in particular Modern Languages and Digital Pedagogies, themes that are not necessarily linked.

2. **Creation of a New Virtual Institute:** The establishment of a new Virtual Institute to address emerging areas of interest or research needs of the partners, perhaps under the environment/sustainability/climate theme.

3. **Identifying a Topic for the Fourth Virtual Institute:** Presented as a fully open option.

The initial proposal is summarised in the graph below:

Splitting VI
Divide the Virtual Institute for Quality Education into two VIs: Modern Languages and Teaching.

VI under SDG#15
Create a new Virtual Institute on the topic of Environment under the SDG#15 umbrella.

New theme for a new VI
Identify the theme for the creation of the fourh Virtual Institute after debate and discussions.

Figure 4: Initial working proposal to shape the EC2U R&I Agenda.

In addition to the initial proposal, a series of interviews with various partners took place throughout the summer of 2023, conducted through both on site and online working meetings. These interviews involved discussions with the Vice-Rectors of Research identified by each university, the RI4C2 project team, and, in some cases, representatives from Research Offices. The goal was to gather first-hand and individual insights into the needs, opinions, and expectations regarding the construction of the R&I agenda.

The designed schedule of actions was structured as follows:

1. **RI4C2 Mid-Term Meeting in Coimbra (17-19 April, 2023):** A specific session focused on the R&I Agenda was organised during the RI4C2 Mid-Term Event in Coimbra, which involved the participation of all Alliance Vice-Rectors of Research, both online and on site. This session aimed to provide an overview of the technical work accomplished within the framework of WP2, initiating the first approach and gaining perspectives on the work process for developing the EC2U R&I Agenda.

2. **6th EC2U Forum Jena (22-25 May 2023):** The EC2U Closed Council meeting (one of the EC2U governing bodies, composed of the EC2U Rectors) on May 23rd served as a platform to update the Rectors on the imperative need to collaboratively construct a R&I agenda. From this meeting, a consensus emerged on the importance of addressing environmental challenges and working towards a sustainable future, which, ultimately, is connected to SDG#15 Life on Land.

3. **Bilateral Meetings with the Vice-Rectors for Research (June-September, 2023):** A series of bilateral meetings occurred between the RI4C2 WP2 members and the Vice-Rectors designated by each partner. The outcomes and discussions of these meetings are detailed in a specific section of this document.

4. **7th EC2U Forum Poitiers (17-19 October, 2023):** The seven Vice-Rectors for Research within the EC2U Alliance gathered in Poitiers for a conclusive collaboration during a meeting on October 19th, with a specific focus on the R&I Agenda. A detailed report on the conclusions drawn from this meeting is included in this deliverable.

These efforts at the political level with the Rectors and Vice-Rectors were complemented by regular and ongoing reporting from WP2, occurring during the WP2 Board Meetings held on April 24th, May 29th, and September 12th. All actions and decisions received validation from the RI4C2 Management Committee, which also received detailed information on all the work accomplished.

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6th EC2U Forum Jena
Closed council reporting
Verbal report to the rectors and vice-rectors on the need for the construction of an R&I Agenda.

2 MAY 2023

7th EC2U Forum Poitiers
Closed door meeting with VRs
Final working meeting where conclusions are finalized, and a common agreement is reached.

4 OCT 2023

1 APR 2023

RI4C2 Mid-Term Coimbra
First contact with Vice-Rectors
Summary and update of the work carried out to date

3 JUN-SEPT 2023

Bilateral meetings
Working meetings with each partner to understand on-site needs. A report with the conclusions is sent to all partners.

5 2024

Signing of agreements
Formal establishment of agreements, potential amendments to the grant agreement, and searching for funding.

Figure 5: Schedule and steps to prepare the EC2U R&I agenda.

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IV.   Report on bilateral meetings with EC2U partners

The series of bilateral meetings between the WP2 working team and various partners took place throughout the summer of 2023, spanning from June to September, thanks to the collaboration of RI4C2 Local Coordinators and their respective local teams.

These meetings were primarily held with Vice-Rectors for Research (and in some cases, innovation) and representatives from the corresponding Research Offices. The objective was to work on the initial proposal described earlier and identify new topics for the creation of new Virtual Institutes.

The calendar of R&I Agenda Bilateral Meetings was as follows:

PARTNER	INTERVIEW	VICE-RECTOR	DATE
SALAMANCA	On site	Prof. Dr. José Miguel Mateos	June 1
PAVÍA	On site	Prof. Dr. Federico Forneris Prof. Dr. Antonella Forlino	June 7
POITIERS	On site	Prof. Dr. Yves Gervais Prof. Dr. Ludovic Thilly Prof. Dr. Thomas Rogaume	June 12
IASI	On site	Prof. Dr. Ionel Mangalagiu	July 4
JENA	On line	Prof. Dr. George Pohnert	July 14
COIMBRA	On line	Prof. Dr. Joao Ramalho-Santos	July 20
TURKU	On site	Prof. Dr. Kalle-Antti Suominen	September 6

Figure 6: Schedule for meetings with the EC2U Vice-Rectors for Research.

A.   University of Pavia (UNIPV)

R&I Office Meeting

Date: 6 June 2023

Attendees: Donato Gualtieri (UNIPV) on site, Valentina Gritti (UNIPV) on site, Jorge Hernández (USAL) on site, Daniela Ovadia (UNIPV) on site, Gaia Garancini (UNIPV) on site.

In the case of the University of Pavia, it was decided to organise a first meeting with the Research Office and touch upon some preparatory subjects before the main meeting, this served to better connect the teams of both Vice-Rectors involved in Pavia regarding these RI4C2 objectives.

- The Research Support Office considers it critical to have a suitable profile of the required skills in order to maximise accuracy when collecting expressions of interest to involve researchers in the new VIs.
- Daniela Ovadia explained how the mapping conducted within the RI4C2 WP4, related to knowledge transfer, can be helpful.
- The Office suggests the submission of a concept note for the new VIs to proceed effectively when selecting prominent PIs (Principal Investigators) in the following fields: Environment, Physics, Climate Modelling, Nutrition, and Life Sciences.
- Once the concept notes are received, the Office will work on the process of selecting PIs and provide a list of emails to RI4C2 to facilitate this intermediation work. However, it was agreed that one of the best methods for identifying candidates is "peer reference".

Meeting with the Vice-Rector for Research Prof. Federico Forneris and Vice-Rector for International Relations, Prof. Antonella Forlino

Date: 7 June 2023

Attendees: Federico Forneris (UNIPV) on site, Antonella Forlino (UNIPV) on site, Ricardo Costa (USAL) online, Jorge Hernández (USAL) on site, Daniela Ovadia (UNIPV) on site, Gaia Garancini (UNIPV) on site.

Both Vice-Rectors Federico Forneris and Antonella Forlino expressed their willingness to collaborate in whatever means necessary on the RI4C2 project. They see the development of RI4C2 as an opportunity to implement research activities during the second phase of EC2U, and their commitment is full-blown. They also consider the work carried out by the existing VIs as a success and wish to further involve the University of Pavia as an institution.

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- Vice-Rector for Research Federico Forneris and Vice-Rector Antonella Forlino emphasised the importance of the profile of the PIs (age, experience, tenure and diversity) because it is their wish not to just simply selecting the best individuals, but also to ensure that those selected are highly motivated, can build or be part of effective teams.

- Full-blown support for the creation of a VI around the theme of Environment and/or Sustainability.

- Creation of new VIs does not affect the current research strategy of the University of Pavia. It is deemed convenient to integrate them into ongoing research lines.

- The existence of good collaboration with the local hospital (national reference) makes feasible the creation of a VI in the Medical Field, Life Sciences and linked to Technology.

- From Federico Forneris' perspective, the current funding situation within the Horizon Europe framework makes it perfectly possible to apply but not necessarily to achieve success. This is something that must be considered when seeking further funding. He requested utmost care in the development of potential grant applications in the future.

- Writing a detailed concept note is critical to move the idea within institutional walls.

B.   University of Poitiers (UP)

Meeting with Yves Gervais, Vice-Rector for Research, Thomas Rogaume, Delegate Vice-Rector for Innovation and Economic partnerships and Ludovic Thilly, Executive Vice-Rector for the EC2U Alliance and European Networks.

Date: 13 June 2023

Attendees: Yves Gervais (UP) on site, Thomas Rogaume (UP) on site, Ludovic Thilly on site, Ricardo Costa (USAL) online, Jorge Hernández (USAL) on site, Carolina Liore (UP) on site, Pauline Bordiec (UP) on site.

The meeting at the University of Poitiers (the institution coordinating the EC2U Alliance), served for both Vice-Rectors Yves Gervais and Thomas Rogaume as a means to receive detailed

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information about the technical work carried out by WP2 on the two previous deliverables, as well as a source of information on the characteristics of the new four VIs that need to be created.

At this meeting, four fundamental ideas were brought forward:

- The formal scheduling of the creation of a Virtual Institute based on SDG#16 Peace, Justice, and Strong Institutions, for the EC2U second phase.
- The initial proposal from the University of Salamanca approved by the WP2 board for the creation of a new VI by dividing the already existing VI on Quality Education into two VIs: one focused on Multilingualism and Intercultural Studies/Modern Languages, and the other on Education and Innovative Pedagogies/Digital Teaching.
- Further discussion about the creation of a Virtual Institute on Environment and/or Sustainability and/or Climate.
- The WP2 leading team informed Vice-Rectors in Poitiers that when it comes to finding a theme for new Virtual Institutes, the University of Pavia has shown interest in creating one centred around Life Sciences.

The three Vice-Rectors made initial suggestions based on the following arguments:

- The University of Poitiers is interested in working on the issue of Energy and could be involved in a new VI created under SDG#7 Affordable and Clean Energy.

- If a VI is established on climatology, they suggested to consider the possibility of incorporating research on the social impact of climate change, as there is cutting-edge research on this topic in Poitiers.

- The Vice-Rectors of Poitiers propose these working scenarios:

  1) A new VI created on the topic of environmental science, including water and the study of ecosystems.

  2) A new VI on the topic of Sustainable Energy.

  3) One realistic possibility that was considered is to split the VI on Sustainable Cities & Communities into two:

     3a. One VI focusing on policies implemented in cities regarding climate change and sustainable development.

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3b. Another VI concentrating on transportation and energy within cities & territories.

The Vice-Rectors were finally informed of the work schedule outlined by WP2 in this task, which will include a panel discussion involving all Vice-Rectors of Research to finalise the content of the new VIs at the 7ᵗʰ EC2U Forum in Poitiers.

C.   University of Iasi (UAIC)

Meeting with the Vice-Rector for Research Ionel Mangalagiu

Date: 4 July 2023

Attendees: Ionel Mangalagiu (UAIC) on site, Ricardo Costa (USAL) online, Jorge Hernández (USAL) on site, Elena Felice (UAIC) on site, Miriam López (USAL) on site.

Vice-Rector Ionel Mangalagiu received detailed information about the work being conducted with all Vice-Rectors of the EC2U Alliance. He expressed strong support for both the creation of new Virtual Institutes and expediting the work processes in RI4C2. He also uttered willingness to collaborate from the outset in identifying potential new researchers to work in the new entities to be established.

The Vice-Rector explained that he has individuals in mind who can collaborate, but it is necessary to provide them with a good reason to do so, or otherwise select individuals from the doctoral or master´s programmes.

Once we have received the information regarding the decisions to be made in the realm of the Virtual Institutes, the vision for the University of Iasi is as follows:

-   The University of Iasi turns out to be very strong in climate change and environmental science research, which can be leveraged for Virtual Institutes. This expertise is already implemented in doctoral and master courses. At present, there are two leaders with a team of over 20 individuals working in this field within pan-European organisations.

- Another option that can be considered is to work in the field of artificial intelligence and computing, where Iasi has been excelling recently. Iasi also has very good researchers in automation processes.

- The possibility of creating a Virtual Institute in the field of life sciences is absolutely feasible, considering the excellent progress made by Iasi in cancer treatments, research on diseases like tuberculosis, and microbial diseases.

The University of Iasi also proposes a serious work approach that translates into tangible and objective results. This can be summarised in the following critical points:

- Identifying the people/leaders involved that can interact with the other universities smoothly.

- Having the assistance of research officers and innovation hubs is crucial for long-term sustainability. The feedback received so far indicates that this is a concern from a university strategic perspective. Point being, it is not sufficient to identify researchers with potential, but also research support structures as well.

- The university of Iasi received information on the steps to follow, as well as on the meeting that will take place in Poitiers in October with all the Vice-Rectors for Research and the need to apply for joint projects starting from 2024.

- The Vice-Rector for Research provided the WP2 team with specific names of researchers who can already be contacted to work on the development of the new Virtual Institutes and to whom the future concept notes for the Virtual Institute on environment/sustainability/climate can be sent.

D.   University of Jena (FSU)

Meeting with the Vice-Rector for Research George Pohnert and International Office Head Claudia Hillinger

Date: 12 July 2023

Attendees: Georg Pohnert (FSU) online, Claudia Hillinger (FSU) online, Eleonore Roderfeld (FSU) online, Ricardo Costa (USAL) online, Jorge Hernández (USAL) online.

The university of Jena sees the creation of Virtual Institutes, not as an end in itself, but as a "trigger process" with two strong pillars: 1) connecting promising researchers from master's programmes and 2) seeking funding for their support. The prospect is therefore that they can be designed as a research option for junior researchers. The initial overall view is as follows:

- It is necessary to build a solid platform that provides continuity for all researchers at the master's level. They should view the Virtual Institutes as a motivating and attractive platform, perhaps using Blended Intensive Programmes (BIPs) as initial tools.

- Ideally, Virtual Institutes should be organised if there is a minimum of 6 to 10 researchers with competitive funding.

- The profile of selected researchers should include active individuals who think strategically and who must also have management skills to be able to act as research coordinators.

- It is proposed that there should be a minimum of 3 universities collaborating in the Virtual Institutes.

- The content of the Virtual Institutes should be enriched with robust material that can be used in initiatives such as Summer Schools or BIPs.

- Funding solutions come from a separate Erasmus agreement or from an academic exchange.

- The importance of diversity between young and tenured researchers (working in tandems) moving these initiatives forward.

Once the information from the previous meetings (Pavia, Poitiers, and Iasi) has been received up to the point of the meeting, the scenario that the university of Jena is considering is the following:

- A new Virtual Institute on the topic on environment is more than suitable and can be connected to ongoing developments in the field of Water Innovation.

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- The Vice-Rector for research also sees as acceptable the split of the existing Virtual Institute for Quality Education into two: one related to multiculturalism and modern languages and the other on education sciences.

- The fourth Virtual Institute, given the strong connection that the university of Jena has with the medical industry and institutions like local/regional hospitals, could focus on classical biomedical topics or biomedical technology. Additionally, EU funding could potentially be obtained by partners.

- Besides an initial concept note describing the boundaries of the Virtual Institute, an idea similar to the "Coalition of the Willing" to promote the VI was also put forward.

The University of Jena also suggested the possibility of conducting a benchmarking analysis of publications from the EC2U universities to gain first-hand knowledge of which topics are strong at each university and to collect data about research performance. They proposed to carry out this analysis using the SciVal platform.

Important Note: This initially proposed analysis will not be performed, by consensus and agreement at the RI4C2 Management Committee meeting held on September 21, 2023, after the SIRISLAB results were made available.

E. University of Coimbra (UC)

Meeting with the Vice-Rector for Research João Ramalho and Executive Coordinator of the Institute of Interdisciplinary Research Jorge Noro.

Date: 20 July 2023

Attendees: João Ramalho (UC) online, Jorge Noro (UC) online, Rita Martins dos Santos (UC) online, Ricardo Costa (USAL) online, Jorge Hernández (USAL) online.

Prof. João Ramalho at the time of the interview had been recently appointed as Vice-Rector for Research at the University of Coimbra and planning to commence his strategic research plan review soon. WP2, in alignment with the other partners, explained that the initial intent in constructing the EC2U R&I agenda is not to make substantial modifications to the partners'

strategic plans. This suggests a collaborative approach that respects each institution's individual research strategies.

The initial position of the University of Coimbra was as follows:

- The Virtual Institutes need to have an easy pitch to engage the right researchers. Additionally, specific Key Performance Indicators (KPIs) need to be proposed to measure performance effectively.

- If the Virtual Institutes are interdisciplinary, ensuring proper collaboration and team aggregation is essential to achieve meaningful results. Units like the Institute of Interdisciplinary Research (IIIUC) itself are institutions that can serve as catalysts and identifiers of researchers.

- Being realistic, Virtual Institutes cannot be created without a proper funding scheme. This point is critical when approaching researchers.

Regarding the initial proposal presented by the WP2 leading team, the scenario proposed by the University of Coimbra aligns with that of the majority of interviewed Vice-Rectors:

- The creation of a Virtual Institute in the environment field seems reasonable. The Vice-Rector identified researchers as key persons to contact for working on the topic.

- There is no opposition to the division of the existing Virtual Institutes, and if the decision is made to split the Virtual Institute on Quality Education, it is an idea that the University of Coimbra supports.

- The Vice-Rector for Research proposed specific researchers who might be interested in being part of the new Virtual Institutes to be created.

- In the area of sustainability, the university of Coimbra also proposed specific researchers.

- The Vice-Rector for Research supports the creation of a Virtual Institute on the topic of life sciences and highlights the potential of the University of Coimbra in specific areas of medical processes such as medical imaging, medical tomography, and pharmacology. He also mentioned the development of research on natural products as a current expanding research area at the university and in the Coimbra region.

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F.   University of Turku (UTU)

Meeting with the Vice-Rector for Research Kalle-Antti Suominen

Date: 6 September 2023

Attendees: Kalle-Antti Suominen (UTU) on site, Mari Riipinen (UTU) on site, Laura Niemi (UTU) on site, Jaakko Kuha (UTU) on site, Ricardo Costa (USAL) online, Jorge Hernández (USAL) on site.

As this is the last bilateral meeting, the Vice-Rector for Research, Prof. Suominen, received a summary of the previous meetings held before the summer. The University of Turku focused the meeting on aspects related to future funding schemes and the need to achieve tangible results as a top priority when creating new research entities. A strong focus was placed on "supporting research structures" to enable the attainment of competitive funding, and effectively push forward the initiative.

The initial position in the case of the University of Turku is as follows:

- The creation of new research entities requires strong motivation. The question that should be asked within the EC2U Alliance is what we can expect from the VIs that are going to be created to design them with a focus on measurable and tangible results, and to never lose sight of the long-term vision of achieving measurable objectives.

- It is necessary to distinguish between the Virtual Institutes that already have funding and those that are not funded and need to secure funding. In the case where funding needs to be found, if funding is not available at the EU level, seeking funding from partners participating in research projects is an alternative option.

- When it comes to finding funding mechanisms, and as it is already known that funding under the SwafS scheme in the future will not be feasible, there is no doubt that the WIDERA scheme will need to be utilised. Additionally, the University of Turku has national funding and is entering Horizon Europe Pillar 4, which is focused on developing tighter cooperation and disseminating excellence.

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- A good option for the Virtual Institutes that need to be created is to establish a clear connection with educational profiles.

- The existing Virtual Institutes within the Alliance do not seem to have had good visibility so far, at least at the University of Turku. This aspect needs to be enhanced in the new entities to achieve a true impact and high-quality scientific content.

- The existing flagships at the University of Turku were created with the primary goal of producing innovation.

The Vice-Rector for Research received detailed information about the initial proposal that has been developed in the bilateral meetings. The scenario he is currently considering is as follows:

- Splitting some of the existing Virtual Institutes is pragmatic and makes sense.

- The University of Turku is currently very interested in the issue of biodiversity linked to climate and sustainability, in aspects that are also connected to Citizen Science.

- The topic of food security, particularly the development of plant science, is a theme that is currently booming in Turku.

- Full support for the creation of a Virtual Institute on life sciences, although Turku believes it could be specifically oriented towards the area of mental health, where significant innovations are occurring. For example, a programme on protection against bullying has been sold to several countries in Asia and Latin America.

G.   University of Salamanca (USAL)

Meeting with the Vice-Rector for Research José Miguel Mateos Roco and Vice-Rector for International Relations Raúl Sanchez

Date: Unspecified dates, as the team is in regular contact with leadership team.

The Vice-Rector for Research and Knowledge Transfer, Prof. Roco is happy with the outcome of his initial proposal on developing these rounds of bilateral meetings and contacts as a prelude for meaningful change. It is the opinion of both Vice-Rectors that this is the first step to break the ice and both are very happy that the colleagues at the University of Poitiers have agreed to

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reserve some dedicated time during the 7th EC2U Forum for discussing this topic of the EC2U R&I Agenda and giving it further steps towards its creation.

Prof. Dr. Roco noted that the new Environmental Campus being built and excellence research units recognised by the autonomous government such as AGRIENVIRONMENT or GECOS ("Gestión para la Sostenibilidad") a good entry point to the Virtual Institute on Environment, Sustainability or Climate being proposed.
Vice-Rectors agreed with the pragmatic views on the splitting of existing Virtual Institutes.

H.   Conclusions after bilateral meetings

The WP2, once the round of bilateral meetings with the Vice-Rectors concluded, established the following general conclusions:

- **THREATS:**

    Creating the joint EC2U R&I agenda is a long-term task and is not intended to alter research strategies underway at individual universities. The process aims at creating complementary opportunities for research activities. These joint activities can be seen as an opportunity or a threat, depending mainly on communication, on human resources (researchers and research managers) and their timeline for implementation.

- **WEAKNESSES:**

    I.   The objectives of the RI4C2 project should be made more visible to the EC2U communities, in full coherence with the goals of the EC2U Alliance.

    II.   After the formal creation of the new VIs, it will be needed to identify funding mechanisms, some being already available (short-term), some being more prospective (mid-to-long term).

    III.   The selection of researchers; It is deemed necessary to involve dedicated staff with a comprehensive view of each institution´s research capabilities (Research Office Support Structures) to make the right decisions on resource allocation.

- **STRENGTHS:**

  I. Researchers must be given strong incentives to get involved in the (new) Virtual Institutes. There is availability, but some partners report huge workloads, and ultimately this engagement will rely on researchers themselves and possible support from Research Managers and Research Offices. Expertise and capacity are already/easily identified within the Alliance.

  II. There is consensus from EC2U Rectors and Presidents on the creation of a new VI on Environment/Sustainability/Climate subject (as concluded at the EC2U Closed Council at the 6th Forum in Jena in May 2023). The goal is now to identify researchers interested in working on those topics within the framework of the new VI.

  III. There is no opposition to the initial proposal for splitting the existing VI on Quality of Education into two separate VIs (e.g., Modern languages and Cultures / Education Sciences).

- **OPPORTUNITIES:**

  I. The EC2U R&I Agenda requires collaboration that must be realistic and compatible with the objectives of each partner. Its success will ultimately rely on the capacity to enrol top researchers as well as to secure funding (collaborative research projects and capacity-building projects).

  II. There is a consensus for the support and the creation of new Virtual Institutes, and strong belief that this is indeed an opportunity to bring partner institutions closer together.

V. Evidence basis for R&I cooperation

A. Consolidated analysis

It was the intention of the WP2 team to offer a consolidated analysis to support and complement the existing sources of information, such as the previous survey addressed to the seven university communities and the mapping of R&I capacities, employing two additional tools:

- The analysis of the "Wheels of Science" performed in 2020 for the EC2U pilot proposal and its update in 2023 for the EC2U consolidation proposal.
- Recent SDG-related analysis of strengths regarding research outputs of the European Alliances made by Sirislab (2023).

Further to this dedicated contact and engagement with Vice-Rectors of Research reveals a hands-on knowledge of the research capabilities and different researchers' motivations. This was fundament to comment on the paths taken.

B. The Wheels of Science

SciVal is the renowned research evaluation platform developed by Elsevier that leverages data from Scopus, a comprehensive database of abstracts and citations in scientific literature. SciVal offers analytical and visual tools designed to assess research performance across institutional, regional, and thematic dimensions.

The platform provides three visualisation modes for presenting generated information:

1. **Wheel of Science:** This circular map highlights 14 disciplines through distinct colours on the outer part, with smaller circles within representing various competencies.
2. **Matrix or Boston Graph:** A visual representation that aids in analysing and understanding the relationships between different competencies.
3. **Traditional Table Format:** A conventional table format for a detailed and systematic view of competencies.

Among these, the "Wheel of Science" (see Figure 7) stands out as the primary focus and the most intriguing option. This bibliometric evaluation tool played a crucial role in technically supporting the work of the EC2U Alliance, particularly in the context of the initial SDGs selected, namely 3,

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4, and 11. During the pilot phase of EC2U, SciVal was instrumental in informing the establishment of the first Virtual Institutes. Moreover, it played a key role in justifying the development of a new Virtual Institute based on SDG 16, which is planned for establishment during the second phase of EC2U (Figure 8).
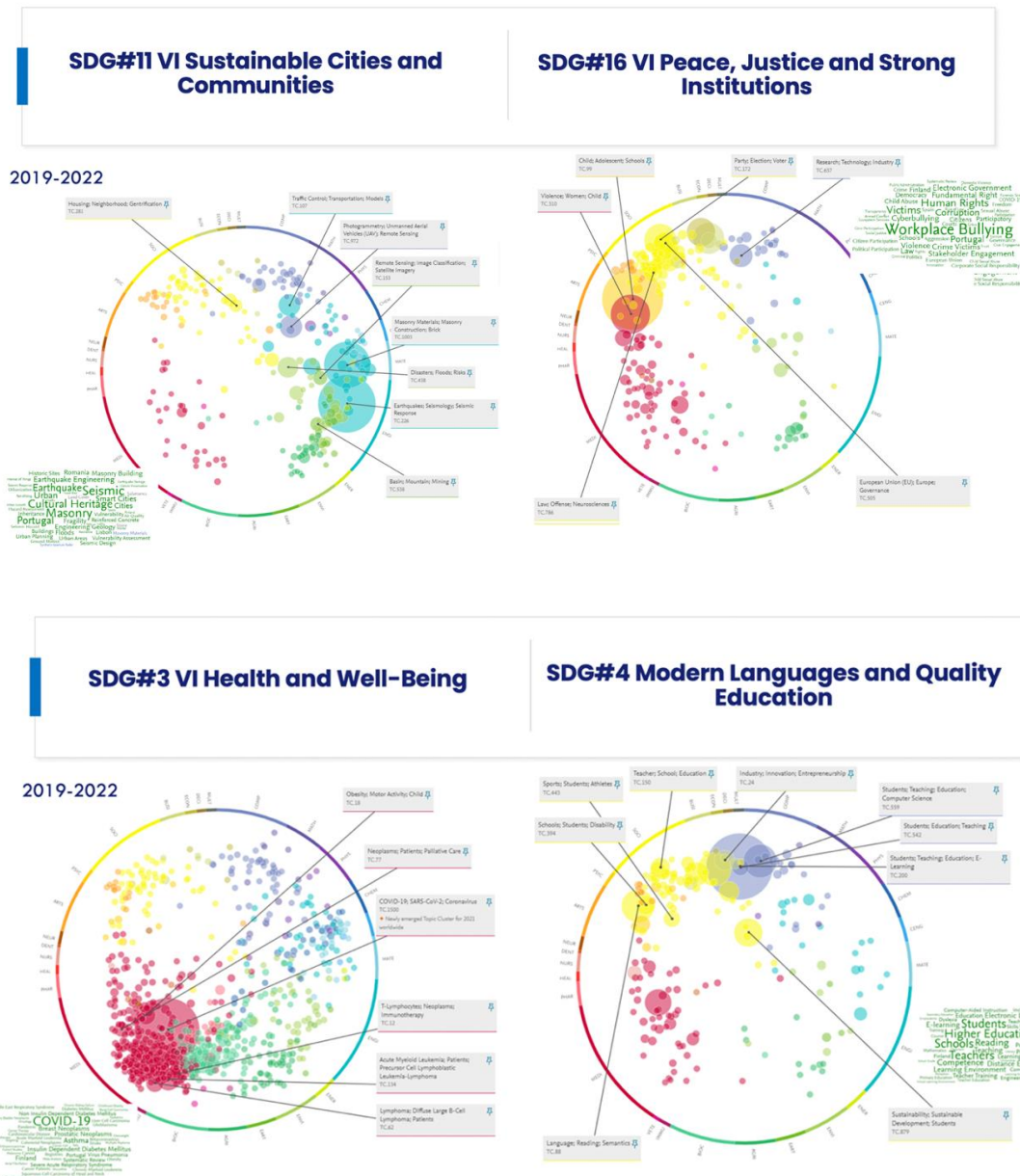
Figure 7: Wheel of Science for each SDG selected for the Virtual Institutes.

Figure 8: SDGs selected for the creation of the EC2U Virtual Institutes.

C.   Observatory of European Alliances

The additional tool to complement the information package is a novel concept developed by Siris Academic, presented during the II Forum of Universities for the Future of Europe in Barcelona in September 2023. This tool is known as the "Observatory of European Alliances". It entails mapping out the research potential of consortiums and aligning it with the Sustainable Development Goals (SDGs).

The database relies predominantly on publicly available datasets, primarily:

1. **Project Data:** Information extracted from ongoing and completed projects within the consortiums.

2. **Scientific Publications:** Analysis of scientific publications produced by researchers associated with the consortiums.

3. **Collaboration Networks:** Examination of collaboration networks within and outside the consortiums.

By utilising these data sets, the Observatory of European Alliances provides a comprehensive visualisation of the research potential of the individual universities and their Alliances. This tool adds valuable insights to the analysis conducted by the EC2U Alliance, contributing to a more holistic understanding of research capacities and thematic focus areas. The current limitations of the Sirislab solution are clearly recognised, with not yet fully reliable datasets, however there is a true potential with the developed tools focused on monitoring the progress of University Alliances. These are, some, but not all, of the sources Sirislab uses:

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- ETER: data for staff, students and revenue. Values for these categories might be from different years.
- UNICS (CORDIS - European projects)
- OpenAlex: data for publications
- Publicly available data on EUAs (word clouds)
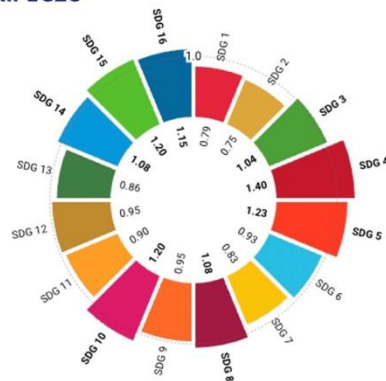- Rankings

Figure 9: Publications by SDGs for EC2U partner universities (SirisLab).
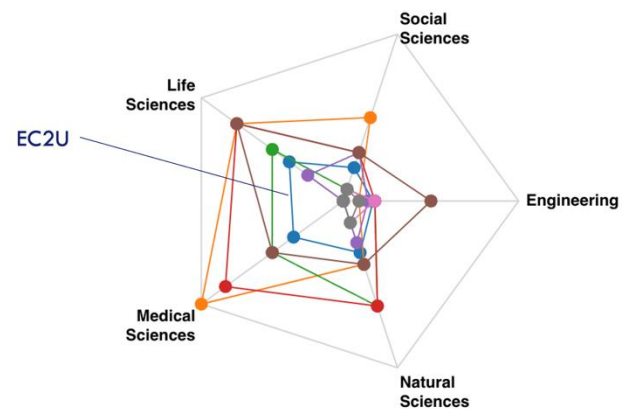

Figure 10: Overall results for the EC2U Alliance (SirisLab).

The SIRISLAB tool also allows, among other things, to explore the interplay of the universities in various R&I topics (for each university) and provides an overview (composition, geographical reach, academic orientation) of every European Alliance and their university members.

VI. Final on site meeting with the partners

A. Attendees and agenda

The now eight Vice-Rectors of Research from the EC2U Alliance, with the incorporation of representatives from JKU, Linz were convened during the 7th edition of the EC2U Forum in Poitiers to a meeting in which they would discuss the EC2U R&I Agenda and the need to implement the associated Virtual Institutes.

This gathering marks a significant milestone in the EC2U Alliance, representing the first occasion where the Vice Rectors of Research have assembled in person to engage in discussions on driving institutional transformations and promoting collaboration in Research and Innovation.

The meeting agenda included the following elements:

1. Context of the RI4C2 WP2 and steps towards an EC2U R&I Agenda.

2. Evidence bases for EC2U R&I Cooperation.

3. Advancing with the EC2U R&I Agenda and the establishment of new EC2U Virtual Institutes.

The list of attendees was as follows:

PARTNER	PARTICIPATION	REPRESENTATIVES
SALAMANCA (USAL)	On site	Prof. Dr. José Miguel Mateos, Vice-Rector For Research Raúl Sánchez, Vice-Rector For International Relations Ricardo Costa, Strategy & Impact Unit Head Jorge Hernández, EC2U USAL Alliance Manager
PAVÍA (UNIPV)	On site	Prof. Dr. Federico Forneris, Vice-Rector For Research
POITIERS (UP) (Coord.)	On site	Ludovic Thilly, EC2U General Coordinator Yves Gervais, Vice-Rector For Research Pauline Bordiec, RI4C2 Global Project Manager
IASI (UAIC)	On site	Prof. Dr. Ionel Mangalagiu, Vice-Rector For Research
JENA (FSU)	On site	Prof. Dr. George Pohnert, Vice-Rector For Research
COIMBRA (UC)	On site	Prof. Dr. Joao Ramalho-Santos, Vice-Rector For Research
TURKU (UTU)	On line	Prof. Dr. Kalle-Antti Suominen, Vice-Rector For Research
LINZ (JKU) (New)	On site	Stefan Koch, Rector Alberta Bonanni, Vice-Rector For Research

Figure 11: List of attendees to the meeting at the 7th EC2U Forum in Poitiers, 19th October, 2023.

It was decided to extend an invitation to representatives from EC2U's new partner, the University of Linz, for this meeting that saw the participation of both the Rector of the University of Linz, Stefan Koch, and the Vice-Rector for Research, Alberta Bonanni. This was done to ensure that they are informed about the ongoing activities within the framework of RI4C2. Despite the University of Linz not being a part of the RI4C2 project, this clearly will impact on their integration in the consolidation phase of the Alliance. This meeting was purposefully arranged as a closed door-meeting with senior managers and facilitators of the discussion to enable the best possible feedback and sense of belonging among participants.

B.   Summary of the meeting

The partners initiated discussions on the interconnection between the Erasmus+ EC2U project and the Horizon 2020 RI4C2 project, emphasising how the latter serves as a crucial instrument for ensuring the long-term sustainability of the entire Alliance. While the timing of RI4C2 poses challenges in devising mechanisms for action in the realm of R&I, the alignment of the Horizon 2020 phase with the commencement of EC2U's second phase is viewed as an opportunity for convergence.

During the pilot phase of EC2U, R&I activities started with the launch of the first three Virtual Institutes. However, it is acknowledged that actual funding for research activities has been limited, with budget primarily allocated to research training activities such as workshops, summer schools, and mobilities for researchers rather than directly to research processes. Compounding this, the absence of future funding under the Science with and for Society (SwafS) scheme adds an additional challenge. Given this context, there is a strategic imperative to maximise current activities and develop tools within the Horizon 2020 framework—such as joint policy tools and the creation of new entities—to ensure the Alliance's long-term sustainability.

Despite a myriad of ongoing activities in other work packages within the RI4C2 project, addressing many R&I aspects like Open Science or Citizen Science, the partners recognise the significance of focusing on formulating a meaningful agenda. Such an agenda holds substantial importance as it will shape the Alliance's activities in the coming years. Following the presentation

of analysis tools such as the Wheel of Science and the Observatory of European Alliances, the discussion homed in on the following topics:

Funding

The rationale behind the creation of four new Virtual Institutes stems from the intrinsic logic tied to project timelines and the initial ambiguity regarding the eventual number of participating universities in the Alliance. When designing RI4C2, the definitive count of universities for future Alliance participation was unknown. Originally, each university within the Alliance, comprising seven partners, was intended to operate a Virtual Institute. Only three were initiated during EC2U's initial phase. Consequently, the need emerged to establish the fourth additional Virtual Institutes planned in the project proposal, for a total of seven Virtual Institutes. It is recognised that although that logic is not the prevalent one anymore for the creation of Virtual Institutes, their number and operations have to be established on the basis of a strategy aligned with the United Nations SDG´s and possible alignments of capabilities and interest to conform to competitive joint research projects.

This circumstance presents a challenge due to the potential lack of proactive engagement by some universities in seeking funding. As a result, universities may grapple with financial uncertainty within their portfolios. Consequently, there is a pressing need to secure funding through alternative projects and pursue additional funding opportunities. This strategic approach becomes imperative to address potential financial shortfalls and ensure the viability of the Virtual Institutes. To enable this, the Vice-Rectors stated that joint or coordinated research support structures are key to address the issue, not only researchers.

Splitting of the Virtual Institute for Quality Education

The initial proposal put forth by WP2, which was shared with all Vice-Rectors during the bilateral meetings, has sparked discussions regarding the potential division of the Virtual Institute for Quality Education. The consensus reached was to proceed with the split, driven by technical considerations. The existing topic was deemed overly broad, and it was anticipated that a dedicated work package in the second phase of EC2U would focus on Education Sciences and in particular on Digital Pedagogies. As a result, the decision to split the Virtual Institute aims to enhance focus and address the specific needs and nuances associated with these distinct components.

New Virtual Institute - Life on Land

It was noted that, overall, the thematic work of both the existing Virtual Institutes and the forthcoming ones exhibits a strong alignment with the SDGs. A unanimous consensus emerged in favour of establishing a new Virtual Institute characterised by strong interdisciplinary collaboration, specifically centred around SDG#15 - Life on Land. This institute will focus on the environmental aspect connected with climate change. This decision resonates seamlessly with the findings from both the survey directed at university communities and the mapping of Research and Innovation infrastructures, affirming the commitment to addressing and contributing to SDGs through collaborative efforts.

Fourth Virtual Institute – Materials and Methods for a Sustainable Future

A deliberation took place on the imperative of identifying a topic that garners consensus among all partners, acknowledging the coverage of subjects such as medicine, biology, and social sciences, while recognising the need to include areas like mathematics and information technology that currently lack representation. To incentivise and motivate researchers effectively, there is a recognised necessity to incorporate topics within the realm of basic science.

A specific focus on physics and chemistry in the portfolio was also discussed, emphasizing the importance of selecting topics that exhibit clear connections with sustainability. This approach ensures engagement with researchers and establishes a portfolio that aligns with the fundamental tenets of basic science.

The proposal that garnered the highest level of consensus was the creation of a new Virtual Institute centred in disciplines of the natural sciences, such as chemistry and physics that are currently underrepresented in the portfolios of the Virtual Institutes. This Virtual Institute would also be focused on the theme of materials and methods for a sustainable future. It would aim at establishing the basis for Alliance capacity building on addressing societal challenges. This Virtual Institute could explore how the EC2U research base can contribute to a sustainable future. A suggested name for this Virtual Institute, **"Materials and Methods for a Sustainable Future,"** emerged during the discussion. The word "Technology" was purposefully not incorporated into that title to provide the broadest scope of interdisciplinarity at the onset of this Virtual Institute. The name strongly resonates with the SDGs and encapsulates the Institute's commitment to fostering advancements in basic science for a sustainable future.

Splitting of another of the already existing Virtual Institutes

During the meeting, the possibility of splitting one of the other existing Virtual Institutes, either GLADE or VISCC, was touched upon. During the one-to-one debates between May and September, the creation of a Virtual Institute in Medical technology had been brought up several times, and this is a theme that is encompassed by GLADE – Health and Well Being. There are capacities within our universities to enable this, and the scope of GLADE is sufficiently broad. During the summer, the same occurred with VISCC with the split between a Sustainable City Development focus and Sustainable Energy Production. A consensus emerged that it was not the appropriate moment to implement such splits, as the existing VIs are still at an early stage. Indeed, they have just welcomed their first Master's students and their joint research activities have just begun giving their first results. Pushing for such a split at this moment in GLADE or VISCC was not deemed to be a productive decision to be taken.

Governance and design of the Virtual Institutes

It is noteworthy that while there were genuine concerns and uncertainties surrounding the implementation of activities within the Virtual Institutes, there was a consensus to initially focus on programme agreement before proceeding with the development process.

The creation and management of Virtual Institutes were acknowledged to involve a blend of governance and design elements, emphasising the importance of establishing a clear governance structure that assigns specific responsibilities and roles. Addressing aspects such as decision-making, member participation, and resource management was recognised as crucial, extending beyond the leadership of the university overseeing the corresponding work package. This collective approach will be an ongoing discussion in subsequent meetings and will be a focal point in the months ahead.

Regarding design, it was highlighted that themes or areas for Virtual Institutes can be derived from research needs, institutional strengths, and emerging opportunities to encourage interdisciplinary collaboration. Further discussions will explore budget structures and the number of project proposals to maximise the likelihood of acceptance, with a focus on delving deeper into proposals with the highest percentage of success. This strategic approach aims to optimise the effectiveness and impact of the proposed initiatives.

Commitment of the partners

All partners are aware of the constraints posed by limited resources, but there is a collective recognition that training-related strategies can help navigate uncertainties in funding, particularly in the operationalisation of the new Virtual Institutes.

Strategically, universities are urged to identify common ground to advance in the design phase, recognising that the creation of new entities will occur during the consolidation phase of the EC2U Alliance, with a guaranteed minimum level of funding. Additionally, each partner will endeavour to pinpoint funding opportunities within their respective national systems as needed.

There is a widespread consensus to kickstart minimal activities within the Virtual Institutes from the outset, gradually bringing them to fruition and then exploring funding strategies. Fundamental activities for a typical Virtual Institute include initiatives such as researcher mobility, PhD training, and workshops.

To ensure transparency and alignment, a concise document outlining the financing mechanisms for the Virtual Institutes will be communicated to the partners by the RI4C2 Coordination team. This document will serve as a reference point as the Alliance progresses with the establishment and operation of the Virtual Institutes.

Need for establishing KPIs and monitoring

Finally, several Vice-Rectors reiterated the need of implementing a robust system to support research, with a particular emphasis on establishing KPIs and implementing monitoring mechanisms for quality checks. This approach is seen as instrumental in enhancing competitiveness and ensuring the effectiveness and impact of research initiatives within the Alliance.

VII. Formalisation of the agreements reached

Regarding the establishment of a shared R&I agenda, the RI4C2 project team recommends that all partners of the EC2U Alliance engage in:

1. **The Establishment of the four new Virtual Institutes:** Create Virtual Institutes dedicated to each identified SDG. These Institutes will function as collaborative platforms where experts and researchers from various universities work collectively on R&I projects related to specific goals, expanding the scope of the R&I dimension for the partners. "Education Sciences; "Life on Land"; "Peace, Justice and Strong Institutions"; "Materials and Methods for a Sustainable Future".

2. **Document these Virtual Institutes** through a series of supplements to the Consortium Agreement of the EC2U Alliance during its consolidation phase. This documentation will define various characteristics, such as scope, temporal duration, concept, objectives, governance, and activities to be developed.

3. **Restructuring of one existing Virtual Institute:** The existing Virtual Institute for Quality Education (VIQE) will be divided into two entities: the Virtual Institute for Modern Languages linked to Work Package 5 of EC2U's second phase, and the Virtual Institute for Education Sciences directly related to the activities of Work Package 3 focused on digital pedagogies. Both are associated with SDG#4 on Quality Education.

4. **Materials and Methods for a Sustainable Future:** Develop this new Virtual Institute with a specific focus on Natural sciences, including chemistry and physics, that are currently underrepresented in the portfolios of the Virtual Institutes.

5. **Implement a robust monitoring and evaluation system** to track the progress of R&I activities within the Virtual Institutes. Regular assessments will help ensure that the projects contribute effectively to the selected SDGs.

6. **Development of a Dissemination Strategy:** Develop a strategy for disseminating the results and findings of the R&I activities. This could involve publishing research papers, participating in conferences, and engaging with relevant stakeholders to maximise the impact of the Alliance's contributions.

Graphically, the adoption of these agreements is shown as follows, where the design of the final entities can be seen according to the project of origin:
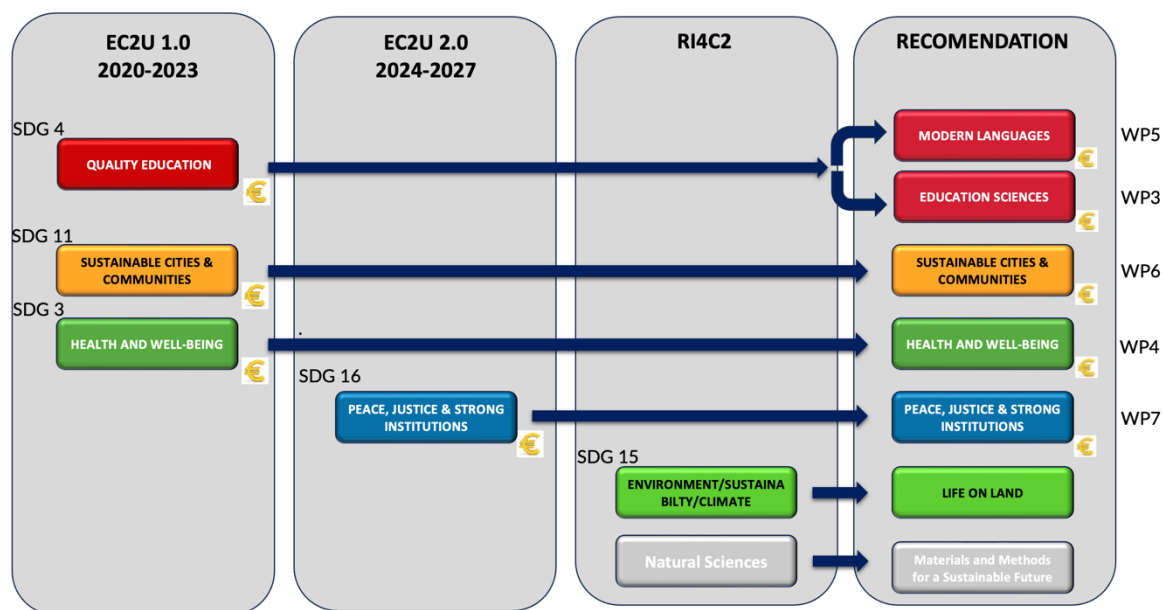

Figure 12: Way forward for the establishment of the EC2U R&I agenda via the creation of new Virtual Institutes.

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VIII. Next steps

The timeline for WP2 in the upcoming months is outlined as follows:

D2.3
EC2U R&I Agenda

D2.6
Creation of four new Virtual Institutes

D2.4
ID of Research Groups (VIs)

D2.7
ID of Research Groups (new VIs)

D2.5
Submission of Common Horizons Applications

Concept notes
Identifying researchers
Support structures
Seeking for funding

Concept notes
Identifying researchers
Support structures
Seeking for funding

Identifying researchers
Seeking funding

Identifying researchers
Seeking funding

Debate Phase

M.28
(Dec 23)

M.30
(Feb 24)

M.32
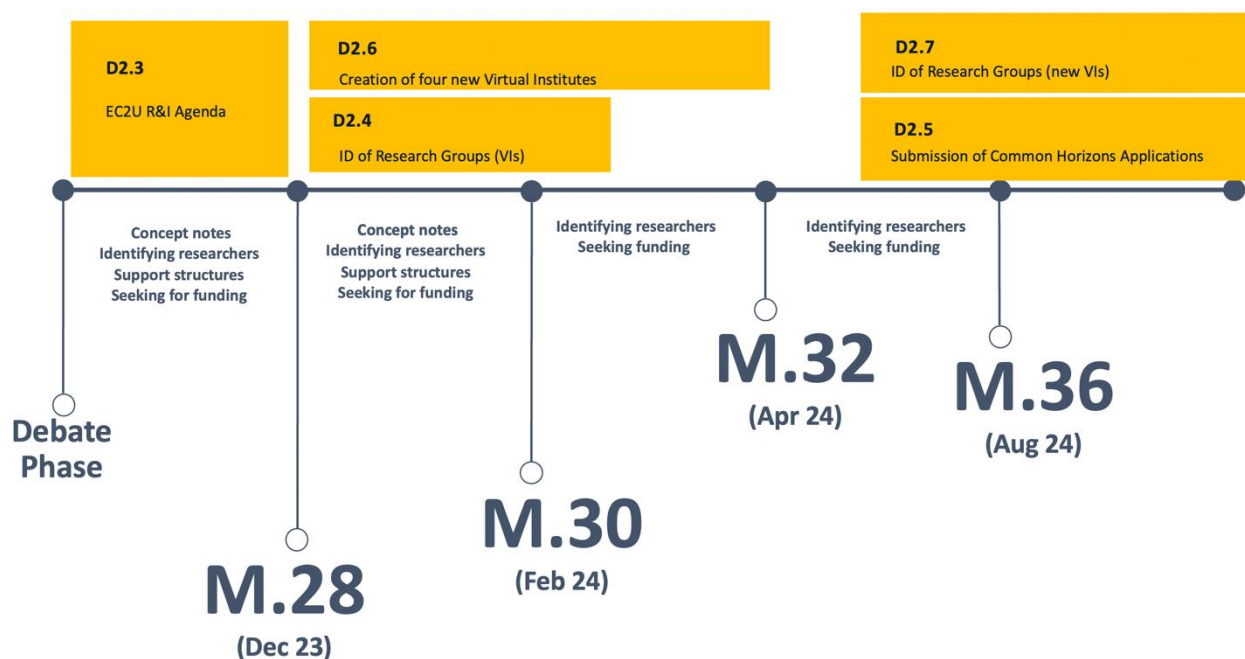(Apr 24)

M.36
(Aug 24)

Figure 13: Work Package 2 timeline until the end of the project.

Over the past several months, through bilateral meetings and previous collaborations with research offices, it has become apparent that there is a need to encourage researchers to actively participate in the Virtual Institutes. In essence, there is a demand for clarification regarding the objectives and tangible outcomes of the research activities undertaken by these entities. The emphasis should not solely be on designing new entities and their implementation, but also on articulating the specific goals and measurable results of the research endeavours.

As of today, this document outlines a path that must be concretised through actions within the framework of the Alliance. This path is subject to two determining factors: time and the need for funding.

The next deliverables, which will complement the actions of this working group in building the EC2U R&I agenda, therefore include three types of activities:

Development of concept notes for the new VIs

It is imperative to establish and communicate the objectives of the Virtual Institutes clearly and concisely. The goal is to provide a transparent vision of the pursued direction, enabling researchers to understand how their contributions can align with those objectives.

This working group proposes the inclusion of the following precise elements:

- **Clear and Descriptive Title:** Summarising the purpose of the Virtual Institute, explaining the need or context motivating its creation.

- **Specific Objectives:** Clearly stating the objectives the Virtual Institute aims to achieve, including a description of the scope and specific thematic areas or disciplines it will focus on.

- **Collaboration Profile:** Providing a brief description of the links proposed between research groups.

- **Expected Benefits:** Enumerating the benefits for the research community and other stakeholders and outlining the added value that the Virtual Institute will bring to the research landscape. This should include information on potential collaborations with other institutions, researchers, or relevant entities.

- **Investment Pathway:** Providing an estimate of the financial and logistical resources needed, along with information on how the project will be funded and whether external support will be sought.

- **Monitoring Tools:** Offering a rough outline of key phases and milestones expected to be achieved during the implementation of the Virtual Institute, and Key Performance Indicators to be used to monitor its implementation.

Identification of researchers

This working group has been collaborating with researchers identified by various partners for some time, and we have recognised the need to enhance forthcoming actions. Here are key strategies to strengthen researcher engagement:

1. **Highlighting Benefits:** Emphasise the advantages researchers gain by joining Virtual Institutes, such as access to shared resources, collaboration opportunities with experts from diverse disciplines, funding prospects, increased visibility in the scientific community, among other benefits.

2. **Informational Meetings and Workshops:** Conduct detailed informational meetings and workshops to clarify the structure and objectives of the Virtual Institutes. Provide a platform for researchers to ask questions and discuss any concerns they may have.

3. **Tangible Incentives:** Create tangible incentives for researchers actively participating in Virtual Institutes. This could encompass public recognition, awards, preferential access to resources, or leadership opportunities.

4. **Highlight Collaboration Opportunities:** Highlight the unique opportunity for researchers to collaborate across different disciplines within the framework of the European Alliances Initiative.

5. **Establish Feedback Mechanism:** Implement a system to receive ongoing feedback from researchers. This will enable continuous adjustment and improvement of institute initiatives to align with the evolving needs and expectations of the research community.

Allocation of support infrastructures

Throughout these months of collaborative efforts, a strong commitment from the partners has been evident in the implementation of a common agenda. It is clear that this task necessitates not only financial support but also the allocation of local resources by each partner. More than just funding, the focus is on developing mechanisms within research-intensive institutions to foster bottom-up collaboration among faculties or researchers with diverse disciplinary backgrounds.

The objective, therefore, should be to coordinate institutional transformation efforts at the R&I level. This includes enhancing research infrastructure, fortifying human capital, and promoting a robust commitment to equality, as well as reinforcing co-creation initiatives with non-academic sectors. The goal is to create a comprehensive and integrated approach to research and innovation that goes beyond financial investment and encourages a culture of collaboration and interdisciplinary engagement.

IX. Graphic materials

Picture 1: RI4C2 Mid-Term Meeting in Coimbra, April 2023

Picture 2: RI4C2 MaCo Meeting in Jena, May 2023

Picture 3: Bilateral Meeting with UNIPV, June 2023

Picture 4: R&I Agenda Session with Vice-Rectors, Oct. 2023

RI4C2

Research & Innovation
For Cities & Citizens

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