



## Deliverable 3.1 EPICUR analysis report and recommendations

EPICUR value propositions to partners from other sectors to be involved in research on EPIChallenges

European Partnership for an Innovative Campus Unifying Regions  
**EPICUR Research Agenda**  
Shaping European Society in Transition

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## 1. Definitions

**Civil society:** refers collectively to voluntary civic and social organisations, associations and institutions, for example registered charities, non-governmental organisations, community groups, women's organisations, faith-based organisations, professional associations, trade unions, self-help groups and advocacy groups that form the basis of a functioning democratic society. Civil society is seen as distinct from the state and commercial institutions of the market.

**Civil society organisations (CSOs)** are (whether formal or informal) non-state, non-profit and non-compulsory entities, and active in different fields, such as poverty reduction, emergency aid, human rights, environment etc. CSOs include e.g. NGOs, welfare associations, political and church organisations, theatres, cultural organisations, emerging initiatives, foundations, environmental agencies and social enterprises.

**Enterprise:** Any undertaking engaged in an economic activity, irrespective of its size, legal form or of the economic sector in which it operates.

**Entrepreneurship:** Any attempt at new business or new venture creation, such as self-employment, a new business organisation, or the expansion of an existing business, by an individual, a team of individuals, or an established business (GEM online).

**Entrepreneurial Ecosystem** is a combination of social, political, economic, and cultural elements within a region that support the development and growth of innovative start-ups and encourage nascent entrepreneurs and other actors to take the risks of starting, funding, and otherwise assisting high-risk ventures (Spigel 2017a, p. 50).

**Intergovernmental organisations (IGOs):** organisations sponsored by several governments that seek to coordinate their efforts. The United Nations is an international IGO. Some IGOs are regional e.g. the Council of Europe, the Organisation of African Unity; some are alliances e.g., the North Atlantic Treaty Organisation, (NATO) and some are dedicated to a specific purpose e.g., the International Organisation for Migration (IOM).

**EPICUR local stakeholder:** EPICUR local external stakeholders are individuals, social groups, or legal entities based within the local ecosystem of the partner university who hold an interest in the outcomes of a single member of the alliance or who wish to take a more active role in certain implemented activities.

**Member States:** countries that are members of an intergovernmental organisation (e.g., of the United Nations, the Council of Europe).

**Non-governmental Organisations (NGOs):** organisations set up to be independent of government, normally with a lobbying, charitable, or activist role. Some are large and international e.g., the Red Cross, Amnesty International, the Scout movement, Human Rights Watch, the European Youth Forum. Others may be small and local e.g., an organisation to advocate for people with disabilities in a particular city; a coalition to promote women's rights in one refugee camp. NGOs for any country is available in the Council of Europe database (<https://www.coe.int/en/web/ingo/database>).

**Regional network:** The term region can be at a micro- or macroscale and irrespective of political or national borders. The unique characteristics of a region (e.g., culture, history, geographic location, landscape, language, ethnic affiliation, ...), accumulated or in singularity, define the specific needs or objectives of the region. Europe is not related to as a region in a geographical context. The term region within the context of EPICUR relates rather to a specific European region, be it a macro-region that is transnational or a smaller region (national or even transnational, e.g., Upper Rhine region, Danube region).

**Small and Medium-sized Enterprises (SMEs):** Enterprises (see definition above) which employ fewer than 250 people and which have an annual turnover not exceeding 50 million EUR, and/or an annual balance sheet total not exceeding 43 million EUR. (Erasmus+)

**Spin Off:** A firm formed specifically to commercialize university-owned and / or university researcher's technology (Cooper, 2001, p. 3).

**Start Up:** A start-up is a human institution designed to create a new product or service under conditions of extreme uncertainty (Ries 2011).

**Technology transfer (TT)** refers to the process of conveying results stemming from scientific and technological research to the market place and to wider society, along with associated skills and procedures, and is as such an intrinsic part of the technological innovation process. (European Commission, online)

**Knowledge transfer (KT)** refers to the exchange of knowledge between science and members and organisations of society, addressing all groups of society (including representatives of politics, administration, business, civil society, education, media)

## 2. Introduction

In synergy with the education dimension, the EPICUR Alliance with its eight diverse and complementary universities:

- Karlsruhe Institute of Technology (KIT), Germany
- University of Strasbourg (UNISTRA), France
- Adam Mickiewicz University in Poznan (AMU), Poland
- Aristotle University of Thessaloniki (AUTH), Greece
- University of Natural Resources and Life Sciences in Vienna (BOKU), Austria
- University of Haute-Alsace (UHA), France
- University of Freiburg (UFR), Germany
- University of Amsterdam (UvA), The Netherlands

is developing a joint long-term research strategy for the consortium and its ecosystem. The eight founding partners coming from the Western, Eastern and Southern European geographic regions were in 2022 joined by the University of Southern Denmark University (SDU).

The Horizon 2020 project roadmap unfolds on several levels of collaborations. One of them is the inclusion of partners outside academia in research projects through testing an open format, the EPICCluster. As part of the Work Package 3 “testing EPICClusters as a new format of collaboration with (partners from) other sectors and sharing research infrastructures and respective resources”, **the task 3.1.a** consists of analysing the needs, interests and potentials of partners outside academia with the aim of involving them in research and including them into the design and implementation of joint research projects with the alliance.

Alongside this activity, EPICUR-Research has been conducted an analysis (led by UFR) on the preconditions and requirements for sharing research infrastructures within EPICUR and is developing an overall concept and action plan for the establishment of EPICClusters (led by UNISTRA).

*EPICClusters are collaborative projects furthering international cooperation among researchers and professionals outside of academia meant to tackle scientific and societal challenges and designed to support early career researchers in putting new ideas into action.*

Thus, by providing a thorough analysis, we should offer value propositions for integrating non-academic prospective partners in the various EPICUR-Research outputs such as the EPICUR Pathway to Research (incl. EPICClusters) and the EPICCommunity.

### 2.1 Objective of deliverable D3.1

The main objective of this deliverable 3.1 is to generate a better understanding of the needs, interests and potentials of partners from other sectors to be involved in research on EPICChallenges as well as possible value propositions of EPICUR for them to systematically include actors from outside academia into the design and implementation of joint research projects.

An inventory of the (existing) cooperation and actions between EPICUR's partner universities and partners from outside academia was carried out. Based on this work analysis, the formulation of recommendations will build up the development of a common EPICUR strategy for the involvement of non-academic partners in joint research projects, referring to the task 3.2.a of the Grant agreement.

## 2.2 Relevance/Background information

One of our long-term objectives is to connect regions and to eventually build a “region Europe”. To achieve this, we undertake pilot activities aiming at four directions that correspond to the knowledge square: research, education, innovation and interaction with society.

The key objectives are to develop activities which:

- Bring the European regions closer together
- Enhance the visibility of EPICUR within the regions and transcend the EPICUR spirit to actors outside of the university (the feeling of belonging to the community)
- Exploit the potential of the regional networks for EPICUR
- Strengthen collaboration and dialogue between academia and society as well as between academia and businesses
- Enable students, researchers and staff as well as actors external to the university to experience cultural diversity and raise awareness for diversity in their (current and future) living environment.

The present analysis complements various tasks and activities from both EPICUR projects (Erasmus+ and Horizon 2020). An overview of the work carried out by the WP1-Research, WP3, WP5, and WP6 of the Erasmus+ Education project, as these work packages have done (are doing) cross-cutting work on partnerships is presented in the following paragraphs.

### *2.2.1 WP1-R “Developing a common research agenda” (led by UFR)*

WP1-R is investigating the complementarities and synergies in research between the EPICUR partners. It includes looking at the existing joint research projects and trying to find more relevant topics for the future research matching the interest of the EPICUR partners. For this analysis, WP1-R based its results - the research strengths of the alliance through several indicators such as co-publications, dissertations, third-party funding among others (reference to deliverable 1.1).

A second activity of WP1-R is to develop and test new collaborative formats for Early Career Researchers (ECRs). Five EPICamps, virtual events took place between October 2021 and April 2022. EPICradles are taking place from September 2022 till end of November 2022. These formats will be evaluated in December 2022 (reference to deliverable 1.2). These formats aim to provide networking space for young scientists, enabling them to find similarities, build teams, develop and apply for joint research projects.

### *2.2.2 WP3 “Innovative learning & teaching formats for European Citizens of the future” (led by UFR)*

Addressing the call to incorporate the notion of challenge-based learning in international and interdisciplinary knowledge-creation teams, EPICUR has developed a new and ground-breaking educational format: EPIC Missions. EPIC Missions are group projects in which students from across Europe come together to solve real-world problems set by real-world stakeholders with the academic support of mission guides.

The 2022-23 EPIC Missions have started with an in-person kick-off event in Vienna (22-26 August 2022). Here, participants meet their team members, academic mission guides and, briefly, the external stakeholders. Afterwards, the teams have until January 2023 to work on their stakeholder’s challenge as a team with the support of their mission guides.

The final group deliverable is due in January 2023 and consists of a written report with a problem analysis and recommendations for the stakeholder as well as an oral presentation with the opportunity for questions

and answers. During the mission period, students may participate in other learning offers (e.g. university courses) related to the theme of the mission in order to arrive at informed recommendations for the stakeholders.

### *2.2.3 WP5 “Strengthening and connecting Regions through a European University: Regional development within and between European regions” (led by KIT)*

WP5 addresses not only internal but also external stakeholders, such as entrepreneurs, research institutes, civil society organisations, local stakeholders, etc. It encompasses the most research-oriented activities.

As part of WP5, KIT is working on connecting regions through entrepreneurship and intrapreneurship (conduction of a survey on the current status of the entrepreneurial ecosystems of the partners’ regions) and on linking regions through research internships at academic and civil society partners e.g., development of the Master labs and PhD exchange program.

- The EPICUR Master Labs offer a unique research-oriented blended mobility programme for highly motivated master’s students interested in pursuing a career in research. Following both a challenge- and competence-based approach, the Master Labs programme addresses current societal challenges facing the world today and supports the development of research competencies in future junior researchers.
- The EPICUR PhD Exchange Programme offers PhD candidates a flexible mobility programme that fosters cross-border exchanges, connects the regions of the European University and enables future academic generations to jointly work towards finding solutions to societal challenges that Europe and the world are currently facing. With its emphasis on interdisciplinarity and skills development, the programme gives participants the opportunity to collaborate on interdisciplinary research projects at other EPICUR universities or in their regions while receiving the latest methods of training.

BOKU conducted a mapping of the existing (regional) networks and provided insights into practices of collaboration with external and internal stakeholders which have been a basis for discussions to define criteria for collaboration of regional partners with EPICUR<sup>1</sup>. With the mapping, BOKU identified regional networks that can be embedded in a meta-network map on our website and will share good practice on regional outstanding activities (such as regular events, programmes, projects, etc...). With the careful selection of our networks and the publicly visible interactive map, we are creating awareness for our regions within the context of university networks.

### *2.2.4 WP6 “Dissemination and Sustainability” (led by UNISTRA)*

As stated in the vision for partner cooperation of the EPICUR Erasmus+ project, EPICUR will serve as testbeds in building new synergies between European policies and funding instruments for research and education, as well as regional and social development and recovery plan e.g., to foster green, digital and inclusive goals.

Within the framework of WP6, EPICUR has conducted a thorough selection of the future associated partners of the Alliance and has identified their added value and relevance. Following this process, EPICUR formally selected 6 associated partners:

- 3 regional academic networks: ICA Casee, Black Sea University Network & EUCOR

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<sup>1</sup> Deliverable 5.1.1: Report on cooperation networks & database on cooperation networks of each partner.



- 3 European associated partners: Assembly of European Regions, Erasmus Student Network Europe & ECOLAS. In the pilot phase, the EPICUR members have also targeted and engaged with local stakeholders<sup>2</sup> from research institutions, public authorities and policymakers, businesses, and industries, as well as civil society organisations in direct relation to the piloted activities.

For the second phase, EPICUR is defining an implementation strategy in order to deepen and structure its cooperation with local stakeholders. The objective of this strategy is twofold:

- Reinforce the links with its local stakeholders towards further deployment of EPICUR's activities,
- Facilitate contact between local stakeholders and their counterparts in other locations and areas for future cooperation within and beyond EPICUR.

The Knowledge Transfer Upper Rhine ([KTUR](#)) network, with its twelve institutions of higher education from Germany, France, and Switzerland, taps regional knowledge and technology transfer across borders. In addition to a large number of highly capable companies—both start-ups and established businesses—the Upper Rhine metropolitan region is home to numerous universities that conduct top-level research in a wide range of disciplines. Thousands of the brightest minds are generating high-quality fundamental research and innovative inventions and discoveries on a daily basis. This special diversity and international quality distinguish KTUR, furnishing valuable opportunities for the exchange, further development, and application of new knowledge at the intersection of scientific endeavour, the business world, and society at large.

The declared goal of the twelve partner institutions is to establish and expand a [transnational network](#) in which all relevant actors from the transfer sector – from research and science to intermediaries (such as economic development agencies), start-ups and companies – are involved, learn from each other and initiate new impulses for the Trinational Metropolitan Region Upper Rhine ([TMO](#)).

The University of Freiburg is in charge of the working group “Gründen am Oberrhein” (Starting a Business in the Upper Rhine Region) and focuses on several sub-projects. These aim at establishing a regional exchange platform and networking projects (e.g. between SME and start-ups or with the respective student groups), as well as linking continuing education formats.

EPICUR-Research considers that it is necessary to harmonize the processes and the messages conveyed outside the Alliance in order to maximize the potential of these partnerships. Taking into account the contextual elements, the current analysis will complement the data on within EPICUR research collaborations with non-academic partners.

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<sup>2</sup> List and description of EPICUR's pilot phase local stakeholders are outlined in Deliverable 6.2.2: Drawing an expertise to enrich the long-term model: Documents and minutes of the local stakeholder meetings.

### 3. Methodological approach of the analysis

With regard to the methodological approach of the analysis, the task leaders of WP3-Research initially agreed on a common understanding of the term: “non-academic partners” and its categorisation.

According to the Erasmus+ Executive Agency (EACEA), “the category of associated partners includes various types of organisations and entities from different fields. They mobilise a variety of stakeholders in close cooperation with research, business, civil society and academia”. For the purposes of the document “Alliance Membership: Facts and Figures for the 2019 and 2020 Pilot Calls”, six overarching categories of organisations have been identified. EPICUR refers to this categorisation. For the current work, we consider the following four categories<sup>3</sup>:

- **Science, Technology, Innovation and Health:** hubs, innovation spaces, external research institutes/organisations
- **Business, Industry & Entrepreneurship:** Start-ups, SMEs, large companies, industrial clusters
- **Government & Public Administration,** incl. local, regional and national bodies, intergovernmental organisations (IGOs)
- **Civil Society, Media & Culture:** CSOs, media, foundations

A glossary of the terms used in this report has been produced to ensure a common understanding within the Alliance (see definitions page 4).

We then defined a common framework of the inventory which takes consideration of

- the extent of cooperation of EPICUR universities with non-academic partners in the above-mentioned categories,
- the existence of partnerships and actions,
- the forms of cooperation,
- the approach to the establishment of new partnerships,
- the motivation of EPICUR and non-academic partners to cooperate in research, as well as
- the untapped potential for cooperation with non-academic partners.

A survey was developed by the task leader KIT (see annex 1), then conducted between February and April 2022 and filled in by representatives of each EPICUR partner university. Discussions were also held with the heads of the relevant organisational units to obtain additional information and data. Databases with third-party funded projects and contract databases were used to feed into the analysis.

In addition, experiences and lessons learned from EPICUR Erasmus+ project activities and their needs in terms of cooperation with external actors (including university networks) were examined in order to formulate the recommendations.

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<sup>3</sup> EPICUR-Research excludes the following categories: Students Organisations and Education and Training. No such definition has been provided in the H2020 framework.

## 4. Main findings

### 4.1 Approaches for building partnerships

The approach adopted by EPICUR's partner universities to establish partnerships shows very similar patterns.

- External stakeholders may approach the relevant research department, researchers and professors directly, or they may contact the university's technology transfer office.
- The majority of partnerships occur at the working level due to researchers' personal contacts with civil society.
- "Multipliers" such as professional associations, chambers and technology transfer networks often play a role in bringing non-academic partners into contact with the university.
- Participation of researchers, professors and non-academic actors in scientific conferences or networking events organised by universities, in some cases also sector-specific networking events, is successful in creating new partnerships.
- Numerous collaborations with all types of external/non-academic stakeholders already exist in each EPICUR partner university.
- EPICUR universities organise various actions /initiatives to bring university and non-university actors in dialogue.

#### Organisational structure at institutional level

EPICUR member universities have set up centralised entry points that are clearly visible to the outside world and are therefore used for initial contact.

- The [Innovation and Relations Management](#) as well as the [Business Club](#) at **Karlsruhe Institute of Technology**

The service unit Innovation and Relations Management (IRM) is the central partner for industry, alumni, and sponsors at KIT and, supports KIT students and employees. The services include career service, technology transfer of research results to industry, start-up consulting, support of KIT alumni, private sponsors, foundations, and awards for students and sponsoring.

From initial contact to strategic partnership, KIT offers a broad spectrum of cooperation opportunities for business partners. It ranges from specific services and joint research to sponsoring partnerships at events to supporting companies in their search for employees or cooperation as sponsors of KIT. The Industry Relations and Sponsoring department coordinates and channels the offers and sees itself as an information and contact hub between industry and science.

The Entry Point Industry is the central contact point for research and innovation questions for small, medium-sized and large companies, for example on research competencies at KIT, sponsoring and advertising or recruiting.

- The [Technology Transfer Office \(TTO\)](#) at the **Aristotle University of Thessaloniki**

The Aristotle University of Thessaloniki (AUTH) is an active member of the knowledge triangle and supports the utilisation of research results for the advancement of the national economy as well as for addressing societal needs. The Technology Transfer Office (TTO), since 2012, is the mechanism that **facilitates this process and acts as the contact point between the academic community and the market**. In this context the

TTO offers services like commercialization assessment of research results, business development guidance, preparation for access to finance (i.e. from competitions, angel investors, VCs), IPR management procedures as well as the creation of spin-off companies. The TTO applies an open-door policy and networks with public, private institutions and enterprises to expand the valorisation prospects of the research output of AUTH.

AUTH TTO also organizes sector-specific matchmaking events between businesses and AUTH Research Laboratories. TTO staff also participates tactically in technology transfer and innovation events organised by strategic partner from the market in order to present the university's mechanisms for solving R&D problems of small, medium and large companies/industries.

- The Directorate for Research and [SATT Conectus](#) at the **University of Haute-Alsace** and **University of Strasbourg**

SATT Conectus brings Alsatian public research laboratories and companies together to multiply the collaborations between these two worlds and thus to boost French innovation. First SATT was created in France in 2012, with Conectus bringing researchers' inventions to market and promoting all forms of collaboration between researchers and companies.

- The [Technology Transfer Office \(ZFT\)](#) at the **University of Freiburg**

The Technology Transfer Office of the Freiburg University (ZFT) is the interface between the university medical centre and the University of Freiburg and the economy. Their responsibility is to make the results of the research of the university medical centre and the University of Freiburg available and are interested in an active partnership with the companies. The ZFT is organized into the four organisation units: Patent office; Contract office; Founders office and Technology Marketing.

- The [AMU Business Cooperation Committee](#) and the [Office of the Vice-Rector for Digitisation and Business Cooperation](#) at **Adam Mickiewicz University, Poznan**

Business Council of Adam Mickiewicz University, Poznan (AMU) is aimed to build lasting relations between the academic community and the socio-economic environment. The Council is an advisory body to the Rector, and supports AMU in the areas of cooperation with the economic environment, research, and joint projects. It contributes to organising internships for students and doctoral candidates, as well as helps in creating new study majors, as triggered by the current needs in business and industry.

- [Research Support, Innovation & Technology Transfer \(FoS\)](#) at the **University of natural resources and life sciences, Vienna**

The service unit "Research Support, Innovation & Technology Transfer" is assigned to the Vice-rector for Research and Innovation, counsels BOKU scientists, acts as a partner and agent for science, economy, politics and administration and provides information for BOKU scientists, to the media and the public interested.

- The **University of Amsterdam** and three other universities in Amsterdam join forces of their so-called knowledge transfer offices (KTO) under the name [Innovation Exchange Amsterdam](#) (IXA) since 2014.

Innovation Exchange Amsterdam (IXA) is the expert interface between Amsterdam-based academic institutions and parties interested in their research findings and knowledge, such as companies, educational institutions, investors, health care providers, entrepreneurs, government bodies and societal organisations. Being an interface, IXA deploys its expertise in both directions: assisting researchers in generating societal and economic impact from their work and assisting external parties in navigating the academic landscape to find a solution or spot an opportunity.

## 4.2 Forms of cooperation

In terms of research and innovation strategies, these are specific to each university. The types of partnerships can be long or short term, strategic, political, specific, or flexible depending on the needs and objectives of the cooperation between universities and external stakeholders.

With regard to the forms of cooperation, the survey revealed the most common forms of cooperation for the relationships with non-academic partners:

- **Research support** which embodies financial and equipment contributions made to universities by industry. These contributions can be unrestricted gifts of endowment trust funds that the university uses to upgrade laboratories, provide fellowships to students, or provide seed money for promising new projects. Nowadays, the support for university research is more targeted and often tied to specific research projects, which, in return, provides knowledge and new technologies to industry.
- **Cooperative research** includes contract research with individual investigators, consulting by faculty, and certain group arrangements specifically for addressing immediate industry problems. In the case of individual investigators or a consultancy there is usually only one faculty member involved who is working with a single firm on a targeted research project. Group arrangements involve more than just one faculty member and more than just one industrial firm.
- **Knowledge transfer** encompasses highly interactive activities that include on-going formal and informal personal interactions, cooperative education, curriculum development, and personnel exchanges. Knowledge transfer mechanisms are the recruitment of recent university graduates and employing student interns, co-authoring of research papers by university and industrial firm members, industry-university consortia and, for example, also trade associations.
- **Technology transfer** also involves highly interactive activities. Compared to knowledge transfer the focus here is on addressing immediate and more specific industry issues. In technology transfer the university-driven research and industry expertise make complementary contributions into commercialised technologies needed by market. Often the university provides basic and technical knowledge along with technology patent or licensing services. Industry members provide knowledge in a specific applied area along with a clear problem statement related to market demand. Technology transfer takes place through technological consulting arrangements, the firm's use of university's extension services, jointly owned or operated ventures.

Considering the concept of knowledge transfer, this kind of distinction is a rather limited one. Knowledge transfer can take place in all relationship types mentioned above. Polt et al. (2001) considered the following channels of knowledge transfer and university-industry cooperation in their research:

- collaborative research,
- contract research and technology-related consulting,
- staff mobility between firms and public science institutions,
- co-operation in the education of graduate students,

- vocational training for employees,
- use of intellectual property rights (IPR) by public scientific organisations,
- spin-offs,
- informal contacts and personal networks.

### 4.3 Sectors of cooperation

Examples of collaborations and actions from the EPICUR partners that bring all actors into dialogue and enable new partnerships are highlighted in this section.

#### 4.3.1 Cooperation with Business, Industry & Entrepreneurship

The analysis showed that the universities involved in EPICUR cooperate with a large number of very different companies, and so-called strategic partnerships have been developed over the years with a smaller number of companies.

“Strategic partnerships” are characterised by the fact that the cooperation of the respective company with the university usually goes beyond a single research project, that a mutual engagement with the goals and context of the respective other partner has taken place, and that on this basis the cooperation has also been adapted in a certain way to the partner in order to make the cooperation as efficient as possible and also to give the cooperation a longer-term perspective.

Below is a non-exhaustive list of existing university-industry partnerships for several EPICUR universities:

KIT	UFR
<ul style="list-style-type: none"> <li>• Bosch</li> <li>• SAP</li> <li>• ABB</li> <li>• Zeiss</li> <li>• BASF</li> </ul>	<ul style="list-style-type: none"> <li>• Stryker (together with university medical centre)</li> <li>• BASF</li> <li>• BOSCH (Bosch Center for Artificial Intelligence)</li> <li>• Endress + Hauser</li> </ul>
AUTH	AMU
<ul style="list-style-type: none"> <li>• Cisco (Digital Transformation &amp; Digital Skills Center in Thessaloniki)</li> <li>• Pfizer (Pfizer Center for Digital Innovation (CDI) in Thessaloniki)</li> <li>• Hellenic Aerospace Industry</li> <li>• AbbVie</li> <li>• Amgen</li> <li>• Bayer</li> <li>• IQVIA RDS Eastern Holdings GmbH</li> <li>• Lilly</li> <li>• Medtronic Bakken Research Center (BRC)</li> <li>• Merck Sharp &amp; Dohme (MSD)</li> <li>• Novartis</li> <li>• Novo Nordisk</li> <li>• Ppd Global Limited</li> <li>• Roche</li> </ul>	<ul style="list-style-type: none"> <li>• Volkswagen Poznań</li> <li>• Samsung Electronics</li> <li>• Solaris Bus &amp; Coach</li> <li>• Microsoft</li> <li>• Sonalake</li> <li>• Wunderman Thompson Technology</li> <li>• Beyond.pl</li> <li>• Kinguin</li> <li>• Mobic</li> <li>• Pearson IOKI</li> <li>• McKinsey EMEA Shared Services</li> <li>• CIECH R&amp;D</li> <li>• Sivantos</li> <li>• IKEA Retail</li> </ul>

<ul style="list-style-type: none"> <li>• Sanofi Adventis</li> <li>• Exothermia</li> <li>• OK!Thess (Innovation Ecosystem of Thessaloniki)</li> </ul>	
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UHA has strategic partnerships in the form of an Industrial Chair and joint laboratories<sup>4</sup>.

#### *4.3.2 Cooperation with Science, Technology, Innovation and Health*

Examples of potential research institutes or faculties at the EPICUR universities or in their regions that focus on topics related to the EPIChallenges include:

- In Karlsruhe (outside KIT):
  - [Fraunhofer Institute for Systems and Innovation Research \(ISI\)](#)
  - [European Institute for Energy Research \(EIFER\)](#)
- In Vienna (outside BOKU):
  - [Environment Agency Austria](#) (Umweltbundesamt)
- At UFR:
  - [Sustainability Center Freiburg](#) (joint initiative of the Fraunhofer-Gesellschaft and the University of Freiburg)
- In Freiburg (outside UFR):
  - [Hahn Schickard](#)
- In Strasbourg (outside UNISTRA):
  - [National Center for Scientific Research \(CNRS\)](#)
  - [Institut Carnot MICA](#)
  - [INSERM](#)
- At AMU:
  - [NanoBioMedical Center](#)
  - [Center for Advanced Technologies](#)
- At AUTH:
  - [AUTH Center for Interdisciplinary Research and Innovation \(CIRI\)](#)
  - [Centre for Integrated Water Resources Management](#)
  - [Centre for Research & Technology Hellas \(CERTH\)](#) (Outside AUTH)

#### *4.3.3 Cooperation with Government and Public Administration*

Governments in many countries directly support scientific and technical research. Universities are often participating in project tenders. To create our European University, design and implement our diverse educational and research actions, EPICUR takes consideration of national strategies, policies and regulations on R&I in France, Germany, Greece, Poland, Austria, and in the Netherlands.

Example at UFR: To initiate research partnerships at the regional level, the University of Freiburg uses the regular meetings between the university management, the university medical centre management and the management of the city administration ("Stadt-Uni-Gespräch"). For example, the framework for the

<sup>4</sup> <https://www.uha.fr/fr/recherche.html>

research partnership in the competition "City of the Future for Sustainable Development" ("Zukunftsstadt für nachhaltige Entwicklung"), a cooperation project funded by the BMBF, was created here.

#### 4.3.4 Cooperation with Civil Society, Media & Culture

Examples of cooperations with CSOs within EPICUR partner universities:

- The "Museum of Muße and literature Baden-Baden"<sup>5</sup> - a cooperation between the Collaborative Research Centre 1015 "Otium" of the University of Freiburg and the City Library of Baden-Baden.
- The „Ha-fra-ah project“<sup>6</sup> on movement with dancers, scientists, and people with Parkinson's disease – a cooperation with the Theatre Freiburg.
- New partnerships with clubs and associations with a scientific focus are also created within the "Studium generale" which brings the university, non-university and urban public into conversation with each other, especially in the field of humanities and natural sciences. The interdisciplinary events complement the range of courses offered by the university and offer the interested public the opportunity to deal with topics in the humanities and natural sciences.
- Kulczyk Foundation, Dr. Jan Kulczyk's Scholarship<sup>7</sup>: The scholarships are granted to students as well as PhD candidates of Adam Mickiewicz University, Poznań for excellent academic, research, and organizational achievements. The financial situation of a candidate is also considered.
- Kulczyk Foundation, Dr. Jan Kulczyk's Scholarship for AMU students who are citizens of Ukraine<sup>8</sup>.
- The Gesellschaft zur Pflege wissenschaftlicher Kontakte im Hause "Heinrich Hertz" e.V.<sup>9</sup>, or Heinrich-Hertz-Gesellschaft, is an association that wants to promote the dialogue between science, economy, and government and to harness the respective knowledge and experience of these domains for general public. The objectives of the Heinrich-Hertz-Gesellschaft, among other things, include the support of young Karlsruhe academics by scholarships and the promotion of study or research stays in Germany or abroad. Besides, the association supports the operation of the house for KIT's guest lecturers, the "Gastdozentenhaus". Members of the Heinrich-Hertz-Gesellschaft are offered a varied program of lectures and visits to museums, scientific institutions, and business organisations.

Examples of initiatives within EPICUR partner universities:

- In order to initiate contacts with potential industrial partners, the University of Freiburg has held numerous "**Science Days**" with industrial companies in recent years (including Merck, Sick AG, Bosch, Pfizer). The aim is to promote cooperation between industry and science, to initiate joint projects, but also to receive new impulses for research. The starting point are topics/questions that are introduced by the companies. The university then identifies suitable experts and organises a joint thematic workshop.
- The "**Freiburger Wissenschaftsmarkt**" is a proven format of science communication which have been using it for many years to present the spectrum of the research landscape in Freiburg to the citizens.

<sup>5</sup> <https://www.sfb1015.uni-freiburg.de/de/transferprojekt/transferprojekt>

<sup>6</sup> <https://www.brainlinks-braintools.uni-freiburg.de/de/forschung/projekte/wissenschaftsvermittlung-public-outreach/stoerung-ha-fra-ah/>

<sup>7</sup> <https://fuam.pl/en/jan-kulczyk-scholarships-for-students-and-ph-d-candidates/>

<sup>8</sup> <https://fuam.pl/en/jan-kulczyk-scholarships-for-students-from-ukraine/>

<sup>9</sup> <http://hhg.gdh.kit.edu/>



- [KIT Science Week](#) is one of the measures to foster KIT's interaction with society. As a large research and education institution, KIT is in permanent dialog with its stakeholders in politics, science, industry, and the public. During the KIT Science Week, keynote speeches, TED talks, panel discussions, an exhibition, a citizens' dialog platform, or guided tours provided citizens interested in science and cultural work with exclusive insight into research activities relating to learning systems.
- [TRIANGEL Open Space](#) at KIT, the new innovation, start-up, and transfer center offers room for workshops, lectures, readings, panel discussions as well as exhibitions where everybody can dive into scientific topics. Innovation teams and start-ups have the opportunity to obtain direct feedback for their ideas and prototypes in exchange with citizens.
- A new [Real-world Lab "Robotic Artificial Intelligence"](#) will be established at KIT where citizens will experience AI embodied by humanoid robots in several scenarios.
- The [Sustainability Center](#) (a joint initiative of the Fraunhofer-Gesellschaft and the University of Freiburg) actively recruits sustainability-oriented companies for so-called "**anchor projects**". In our anchor projects, business companies, Fraunhofer and the University of Freiburg pool their expertise. The Sustainability Center and the respective anchor partner develop a joint research road map and implement it in application-oriented and scientifically excellent ways. The current anchor partners of the Sustainability Center include Daimler, Bosch and VDE Renewables.
- The **seminar series "Academia Meets Industry"** at UFR aims to stimulate transdisciplinary discussions between university members and high-profile industry managers. In the seminars, the practical perspective of the guest speakers encounters the education and research priorities of the university. This enables a dialogue on current and future research developments in the life sciences and, in some cases, leads to new collaborations.
- BOKU has a long tradition to include citizen in research projects<sup>10</sup>. BOKU supports the platform [Österreich forscht](#) and the [Citizen Science Network Austria](#).
- [Bilingualism Matters @ Poznan](#) at AMU: aims to increase general awareness concerning bi/multilingualism, encourage bi/multilingual schooling policies, make research findings accessible to general public, help make informed decisions on language learning and use, promote knowledge concerning linguistic diversity in Poland and beyond, and to encourage minority language maintenance. BM@Poznań strives to promote linguistic and cultural diversity by means of organising regular open lectures, workshops, and individual consultations – all aimed at promoting knowledge, increasing general awareness, and encouraging new schooling policies.

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<sup>10</sup> <https://boku.ac.at/en/citizen-science>

BM@Poznań cooperates with parents, teachers, health professionals, policy makers, and employers.

#### 4.4 Motivations for cooperation

EPICUR includes different types of higher education institutions ranging from specialised universities such as the University of Natural Sciences and Life Sciences, Vienna and Karlsruhe Institute of Technology to comprehensive universities such the University of Strasbourg. More than 39,000 researchers, pursuing research in more than 150 disciplinary and interdisciplinary fields, are affiliated with EPICUR universities, many with the ambition to share and expand their work, to direct it towards solutions to societal problems.

Part of EPICUR-Research's work programme is to strengthen collaboration and dialogue by building bridges between researchers, researchers and industry, researchers and policy makers, researchers and civil society. EPICUR partners are collectively developing new ways of connecting, sharing resources and infrastructure, developing and evaluating academic careers, and defining mission-oriented research questions relevant to society at large in this pilot project. As written above in the introduction, the analysis for the foundations of the common research agenda developed by Freiburg (D1.1) enables us to take stock of our research strengths and interests as well as our potential as a consortium.

Below is a list of value propositions and potentials for joint research projects with universities and non-academic actors (regardless of the categories):

- Push innovation and make new discoveries
- Collaborative research helps to identify research gaps and to address needs that are not taken into account by more conventional research & knowledge exchange
- Benefit from each other's networks: have access to investors, corporate entities, technical or market experts
- Boost visibility and credibility through results over time & stay on top of innovation
- Enlarge dissemination of results
- Benefit from resources and data's access
- Influence policy and practice
- Enhance the employability of students/researchers

Synergies with non-academic partners can be stimulated through:

- Permanent communication channels with associations, enterprises and entrepreneurship support entities,
- Cooperation between Universities' Technology Transfer Offices, European Programs Departments and Public Relations Departments
- Bridging the gap between the university and the market (industry) in terms of valorisation of research outcome, R&D&I cooperation and service provision.
- Establishment of relations with venture capital companies, technology brokers, business/ start-up incubators and institutional actors in order to accelerate valorisation of research outcome.

## 5. Recommendations

The survey and discussions with colleagues have given a good picture of the quantity, nature and challenges of cooperation with non-academic partners and EPICUR partner universities. The WP3-R team was repeatedly advised to follow a step-by-step approach to identify efficient partnerships with tangible outcomes. Based on discussions with the staff involved in EPICUR and the ambitious EPICUR SHAPE-IT work plan, EPICUR-Research propose the following three main recommendations and additional ones which might feed the joint strategy to involve partners outside academia into research projects with EPICUR universities members.

### 5.1 EPICUR Fellow Program

EPICUR aims at developing mobility formats that allow researchers to collaborate with non-university professionals in order to tackle societal challenges. Yet, experts originating from a variety of external institutions may not have access to either EPICUR's partner institutions or EPICUR's offers. Allowing non-university professionals to receive the status of "EPICUR Fellow" would enhance the visibility of EPICUR's various programs and further the creation of European projects involving non-university third parties.

Both individuals and legal entities could access the program through an access fee (see D3.2 for more details on access fees). Such access fees could vary depending on the nature of the contributor (individual vs. legal entities), as well as the level of benefits enjoyed by the Fellow. Basic fees could provide basic services, whereas increased fees could provide access to increased benefits.

Benefits	Increased services	Basic services
Legal Entity	>5,000	<5,000
Individual	>1,000	200-999

Such benefits would allow non-university professionals to:

- Access to basic Research Infrastructures and Core facilities such as libraries and communal spaces;
- Benefit from opportunities to develop trainings and curricula focused on convergence research;
- Participation in private events and meetings;
- Access to EPICommunity;
- Be eligible to apply for mentorship programs (such as the EPICluster Mentorship Program).

### 5.2 EPICUR inter and transdisciplinary Graduate Hub for Research- and Transfer-oriented Teaching

Universities are expected to prepare academics for careers inside as well as outside academia. As an alliance of research-intensive universities, EPICUR decided to provide enhanced training opportunities for current and future researchers, focused on delivering specific training in transversal skills (e.g. training on agile tools and methods), inter-sectoral exchanges and community engagement from regional stakeholders.

For the second funding phase of EPICUR, the work package 6 "Enriching research-based learning" seeks to design a concept and pilot a prototype of an EPICUR inter and transdisciplinary Graduate Hub for Research- and Transfer-oriented Teaching. It includes processes for the identification of relevant regional stakeholders from science, industry, government and civil society, dealing in particular, but not exclusively with the grand societal challenges.

A close collaboration among the partners and projects will be important in order to consolidate the work undertaken in EPICUR-Research with the involvement of non-academic actors and integrate it into the development of the hubs within the alliance.

### 5.3 Framework agreements between EPICUR and non-academic partners to present clear and comprehensible ways of collaborating

In order to successfully initiate and deepen cooperation with non-academic partners, it is important to show the external partners clear and comprehensible ways of cooperating with the universities. This is independent of the type of possible external partners, i.e. it applies to partners from Business, Industry & Entrepreneurship, Government & Public Administration, Civil Society, Media & Culture, and Science, Technology, Innovation and Health.

EPICUR recommends to develop a common process defining how collaborations with academic and non-academic partners, as well as accesses to research infrastructures (see recommendation described in deliverable 3.2) are regulated.

For the following three types of research collaborations three standard contracts and/or agreements can be predefined (figure 1).

- **WIDE ACCESS:** In this type of access, the external partner wishes to conduct joint research and development activities with the university. This collaborative research is formalised via a cooperation agreement.
- **MARKET-DRIVEN ACCESS:** In this case, it is a matter of the university providing a service defined in advance in a specific assignment from the external partner. The collaboration is based on full cost recovery through a purchase order. The university transmits the results to the contractor (external partner) in the appropriate form; all obtained results are treated confidentially and will not be published (contract research).
- **EXCELLENCE-DRIVEN ACCESS:** This access to the university provides for cooperation between the university and one or more external partners that can be assigned to the area of excellent research. Joint projects proposed by external partners will be evaluated by an independent peer review board. Proposals must be received by submission deadlines. The obtained results have to be published in high impact journals.

The following diagram provides a concise overview of these three approaches to the EPICUR University:

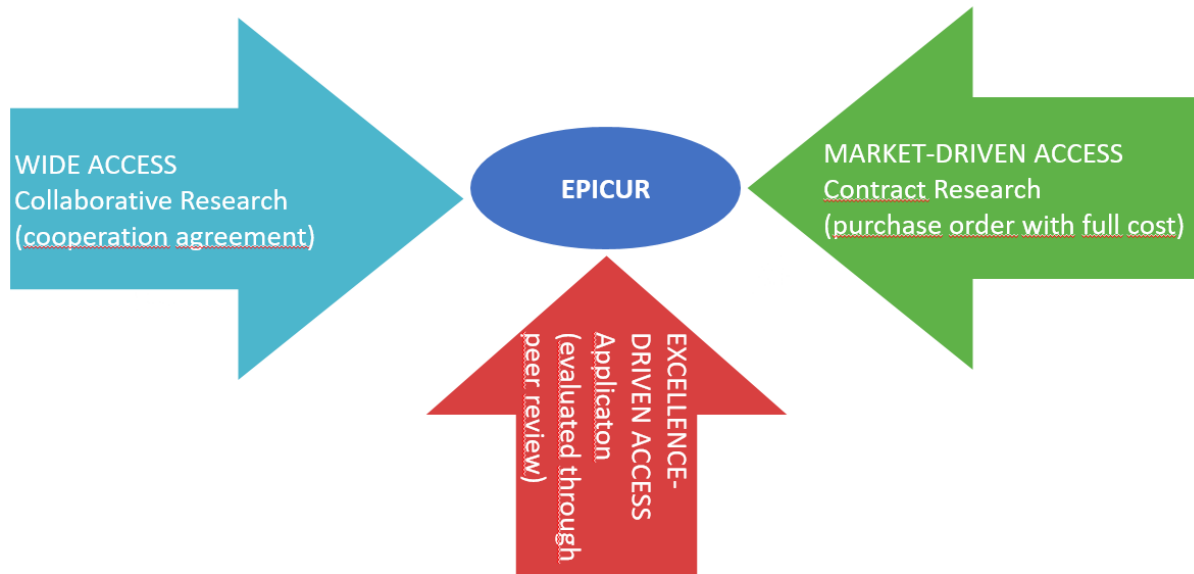


Figure 1: Research collaboration approaches between EPICUR and partners

### 5.4 Additional recommendations

- **Strengthening certain types of university-industry cooperation**

In the context of EPICUR-Research the following types of university-industry cooperation could be strengthened: curriculum development and delivery, lifelong learning, student mobility, academic mobility, valorisation of research outcome, collaboration in R&D, entrepreneurship, and governance. These types of the cooperation are directly related to the missions of the universities and the needs of industry.

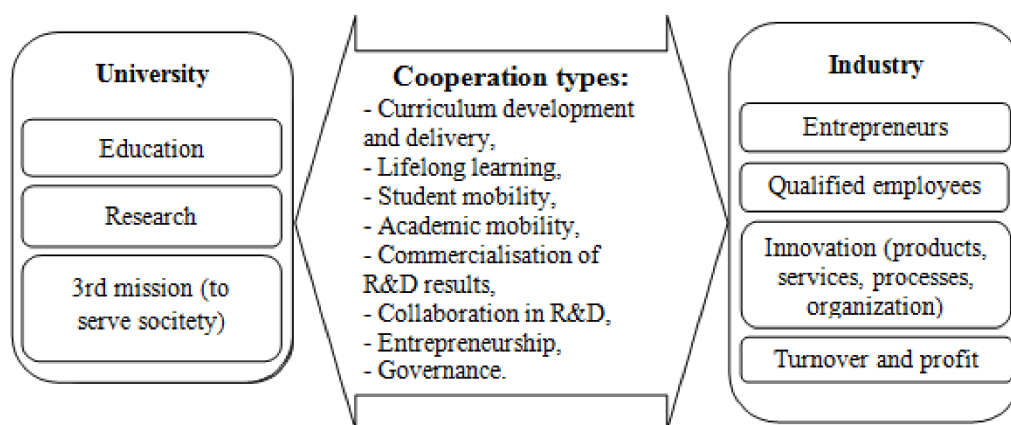


Figure 2: University-Industry Cooperation Types

- **Developing Citizen Science Hubs (CSH) in European Universities**

Awareness and dissemination actions about EPICUR objectives and priorities can activate citizens and civil society sector stakeholders to be engaged in research within EPICUR. Among others, the following initiatives can inspire us:

AUTH could contribute through actions related to currently active citizen science projects such as INCENTIVE, a cross-national 3-year long Coordination and Support Action (01/02/2021- 31/01/2024), supported by the European Union within the framework of the Horizon 2020 programme. **INCENTIVE** aims to demonstrate the potential of citizen science through the co-creation, establishment and assessment of Citizen Science Hubs (CSH) in four European Universities: University of Twente (the Netherlands), Autonomous University of Barcelona (Spain), Aristotle University of Thessaloniki (Greece), Vilnius Gediminas Technical University (Lithuania). By doing so, the project will accelerate the transition of these institutions to more inclusive, open and democratic innovation and scientific governance, under the principles of Responsible Research and Innovation. Moreover, the project seeks to deliver a legacy to European and international research institutes on how to create and operate their own CSH with the aim to secure a democratic and collaborative way of designing, implementing and monitoring scientific progress and technological growth.

Dr. Christiane Hauser (Institute of Technology Futures at KIT) wrote a concept "Studies on Trust in Science in different (European) Countries" on behalf of EPICUR. It provides an overview of projects and studies that deal with trust in science and scientists. A survey of the Wellcome Trust is evaluated in further detail. Its data allows a comparison for the six countries in which EPICUR universities are located. An analysis on a national basis can be helpful for the design of activities aimed at promoting the dialogue between science and the public - especially if formats with a thematic focus on health issues are to be realised, the Global Monitor can provide insights on a country level for the addressing of individual target audiences.

- **Training early career researchers on developing partnerships**

Experience in the cooperation of universities with non-academic partners shows that there is often a great degree of uncertainty on the part of the scientists as to how to find the right partners, how to initiate a partnership, how to structure a partnership, how to develop a partnership and ultimately also how to expand an existing partnership into a strategic partnership. This uncertainty often has the effect that partnerships that make sense in principle are not entered into at all, or that the potential in existing partnerships is not fully exploited.

Against this background, it seems reasonable to offer early career researchers appropriate **training and qualification measures so that they learn and practice appropriate cooperation with non-academic partners**. It would be as well instructive for early career researchers to conduct information events with non-academic partners so that they practice how to cooperate with universities.

It is therefore recommended that appropriate training and qualification measures are designed and offered at the EPICUR partner universities. Particularly with regard to the design of such measures, synergies can be utilised within the EPICUR consortium.

**Further investigations**

In terms of inviting stakeholders from outside academia into research activities, EPICUR-Research will examine the potential of cooperation that arises with the future associated partners of EPICUR, especially with the [Assembly of European Regions](#).

**Outlook**

After the validation of the deliverable 3.1, the work package 3 tasks leaders (UNISTRA, KIT, and UFR) with the partners will meet to develop a common strategy, based on the recommendations, for cooperation(s) with non-academic partners in research projects. This strategy will be notably tested through the implementation of the EPIClusters, one of the major activities of EPICUR-Research.

## 6. Appendix

### 6.1 Survey for WP3-R Task 3.1a

#### EPICUR value propositions to partners from other sectors to be involved in research on EPIChallenges (WP3-R Task 3.1a)

Dear EPICUR members, please find below a questionnaire to prepare the deliverable D3.1.a: EPICUR analysis report & recommendations.

This questionnaire is part of the analyses to be conducted within WP3-R to identify the needs, interests and potentials of partners from outside academia to be included in joint research projects. The results will remain confidential.

We kindly ask you to let the dedicated departments of your university answer this questionnaire below and to send it back until February, 28th. Thanks in advance for your contribution!

*In this questionnaire are considered the following partners from:*

*Science, Technology, Innovation & Health: research organisation (research sector)*

*Business, Industry & Entrepreneurship: Start-ups, SMEs, large companies (business sector)*

*Government & Public Administration (public sector)*

*Civil Society, Media & Culture: NGOs, CSOs (civil society sector)*

- What is the ratio for different types of partners (Number of projects)?
  - % from research sector:
  - % from business sector:
  - % from public sector:
  - % from civil society sector:
- How do you build new research partnerships with stakeholders from business sector?
- How do you build new research partnerships with stakeholders from public sector?
- How do you build new research partnerships with stakeholders from civil society sector?
- What are the main reasons that external non-academic partners cooperate with your organization?
- Concerning your research with partners from the business sector, what is the ratio of cooperative research versus contract research? (1. Number of projects, 2. Budget)
- What are the main needs of large companies?
  - Outsourcing research activities / Using a Research Infrastructures in your university (contract research):
  - Being a partner in a research project (cooperative research):
- What are the needs of SMEs?
  - Outsourcing research activities / Using a Research Infrastructures in your university (contract research):
  - Being a partner in a research project (cooperative research):
- Are technology transfer projects with industrial partners needed for developing a technology before licensing it to industry? How many transfer projects have been done per year (2019, 2020, 2021)?



- Is there a centralized entry point at the interface between industrial partners and your university (industry office / business club)?
- How many strategic partnerships with companies did you have in 2021? Which companies?
- How many long-term exchanges (> 6 months) of personnel between universities and industries did you have in 2021?
- How co-operations with stakeholders from the public sector differ from co-operations with the business sector?
- How co-operations with stakeholders from the civil society sector differ from co-operations with the business sector?
- Which potentials do evolve for EPICUR partners by involving public sector organizations in EPICUR research?
- How can the interest of the public sector to get involved in EPICUR research be identified and matched?
- Where do you see potentials for further co-operations with non-academic partners, not yet realized as of today?
- How could EPICUR include society (citizens, NGOs, civil society sector) into our quest for research questions?