



# **Catalogue of the CIVIS Hubs' challenge-based educational activities**

CIVIS2: Deliverable 3.1

Approved by the Steering Committee of CIVIS  
on 17 September 2026

## The CIVIS Alliance member universities

Here are the names of the universities and their acronyms as we use them in CIVIS.

### Full member universities

|      |                                                |
|------|------------------------------------------------|
| AMU  | Aix-Marseille Université                       |
| NKUA | National and Kapodistrian University of Athens |
| UB   | University of Bucharest                        |
| ULB  | Université libre de Bruxelles                  |
| UofG | University of Glasgow                          |
| UNIL | University of Lausanne                         |
| UAM  | Universidad Autónoma de Madrid                 |
| SUR  | Sapienza Università di Roma                    |
| PLUS | University of Salzburg                         |
| SU   | Stockholm University                           |
| UT   | University of Tübingen                         |

### Associate member universities

|      |                                               |
|------|-----------------------------------------------|
| UH2C | Université Hassan II de Casablanca            |
| UCAD | Université Cheikh Anta Diop de Dakar          |
| WITS | University of the Witwatersrand, Johannesburg |
| MAK  | Makerere University                           |
| UEM  | Universidade Eduardo Mondlane                 |
| USF  | Université de Sfax                            |

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## CIVIS – Europe's Civic University Alliance

**CIVIS** is formed by the alliance of 11 leading research-intensive higher education institutions across Europe: Aix-Marseille Université, National and Kapodistrian University of Athens, Université libre de Bruxelles, University of Bucharest, University of Glasgow, University of Lausanne, Universidad Autónoma de Madrid, Sapienza Università di Roma, Paris Lodron University of Salzburg, Stockholm University and Eberhard Karls Universität Tübingen. Six prestigious African universities join CIVIS as Associate Members: Université Hassan II de Casablanca, Université Cheikh Anta Diop de Dakar, University of the Witwatersrand, Johannesburg, Makerere University, Eduardo Mondlane University, Université de Sfax.

CIVIS brings together a community of more than 470,000 students and 58,000 staff members, including 35,000 academics and researchers in Europe alone. Including Associate Members, the Alliance counts 720,000 students and 75,000 staff members.

## The Authors

Ulf JANSSON, SU  
Pär BRÄNNSTRÖM, SU  
and the entire **CIVIS Community**

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**1** Alliance  
**11** Universities  
**Countless** Possibilities

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## CIVIS 2 WORK PACKAGES AND STREAMS

The CIVIS2 project is organised around three broad Streams, the Alliance's key areas of activity. Each Stream brings together different operational Work Packages that turn our Alliance's priorities into action.

|      |                                                                                    |                                                          |
|------|------------------------------------------------------------------------------------|----------------------------------------------------------|
| WP1  | Management and Governance                                                          |                                                          |
| WP2  | Civic Engagement and Challenge-Based Education Strategy                            | Stream 1: Challenge-Based Education and Civic Engagement |
| WP3  | Challenge-Based Local to Global Educational Activities                             |                                                          |
| WP4  | Local to Global Civic Engagement Projects                                          |                                                          |
| WP5  | Enabling the Shared Inter-University Campus                                        |                                                          |
| WP6  | Connecting Student Communities through the Inter-University Campus                 | Stream 2: Inter-University Campus                        |
| WP7  | Connecting Staff Communities through the Inter-University Campus                   |                                                          |
| WP8  | Embedding Shared Educational Offer                                                 |                                                          |
| WP9  | Accredited Shared Undergraduate (Bachelor) and Graduate (Master) Educational Offer | Stream 3: Embedded Joint Educational offer               |
| WP10 | Doctoral Educational Offer                                                         |                                                          |
| WP11 | Accredited Modular Educational Offer                                               |                                                          |
| WP12 | Consolidation                                                                      |                                                          |
| WP13 | Impact and Dissemination                                                           |                                                          |

## ACRONYMS AND ABBREVIATIONS

|         |                                                                    |
|---------|--------------------------------------------------------------------|
| CIVIS   | CIVIS – Europe's Civic University Alliance                         |
| CIVIS 1 | Erasmus+ project "CIVIS" from 2019 to 2022                         |
| CIVIS 2 | Erasmus+ project "CIVIS2" from 2022 to 2026                        |
| OL      | Open Lab                                                           |
| SC      | Steering Committee                                                 |
| WP      | Work Package (of the CIVIS2 project, if not specified differently) |
| EEA     | European Education Area                                            |
| CBL/CBE | Challenge-based learning or Challenge-based education              |
| BIP     | Blended Intensive Programme                                        |
| ISCED   | International Standard Classification of Education                 |
| STEM    | Science, technology, engineering, and mathematics                  |
| STEAM   | Science, technology, engineering, arts, and mathematics            |

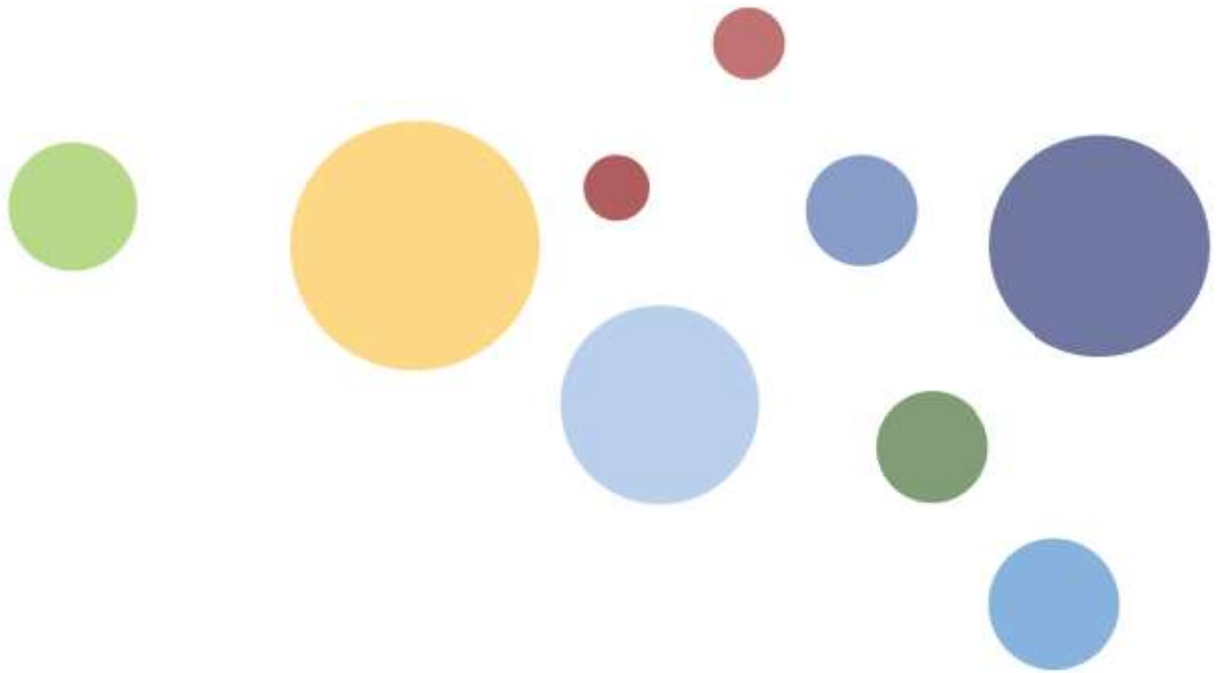
## EXECUTIVE SUMMARY

The challenge-based education developed during the CIVIS2 project by transnational teaching teams spread across five transdisciplinary Hubs and supported by the CIVIS Innovative Pedagogies Officer and the Digital Campus, Education and Mobility Units supports CIVIS' goals of civic engagement, interdisciplinary collaboration, and global partnerships. It addresses major societal issues such as health, climate change, migration, anti-democratic movements and development of Artificial Intelligence (AI) to mention a few. Transdisciplinarity and challenge-based education (CBE) also aligns well with contemporary educational goals, such as those set in the strategic framework for European cooperation in education and training by the European Council for 2021-2030, including improving quality and equity in education, supporting lifelong learning, and contributing to the green and digital transitions. The approach offers several benefits: it increases student engagement, develops critical skills such as collaboration and problem-solving, promotes practical real-world application, and fosters civic responsibility and connecting with community stakeholders. Students get training in defining their own problems and work on societal challenges. They also get to interact with external stakeholders such as communities or industry experts. Reflection on the challenge itself by the students is widely integrated in the educational activities. Educators and students report that challenge-based learning (CBL) strongly enhances students' critical thinking and complex problem-solving abilities.

This report shows that the academic staff in the CIVIS universities have developed and carried out a large number of challenge-based educational activities. All five Hubs have successfully built various kinds of challenge-based educational offer and other innovative activities in their areas of focus. The first generation of educational activities comprises 12 projects, the so-called flagship projects, all involving several universities, created as forerunners by the Hubs. Furthermore, 29 educational activities ranging from multiple/joint programmes to Doctoral networks, micro-programmes, micro-credentials or other modular courses were offered to our students or have been under preparation as a result of two educational calls. Finally, 236 Blended intensive programmes (BIPs) were conducted between 2022-2026. Most of these activities have managed to reach a high level of transdisciplinarity in its design, thus including external stakeholders. Transdisciplinary learning forms a significant part of the Alliance's educational approach and transdisciplinary education therefore remains a consistent and meaningful focus within CIVIS. The courses, programmes and learning activities carried out and designed since 2022 can be seen as templates or inspiration for future educational activities.

CIVIS educational activities show a strong emphasis on integration of disciplines, with all provisions combining multiple academic fields. This is supported by the structure of the calls and the set-up of the Hubs focusing on challenges rather than existing scientific structures. For instance, a large degree of natural science-based topics in our learning activities with challenges such as climate and health often also involve social sciences and the humanities. Between 2022 and 2026, our CIVIS BIPs show a trend of increased collaboration across academic disciplines.

Major European and global challenges are addressed in CIVIS; challenges that we face today, and our students will deal with as they enter the labour market. The EU's *European Education Area* and *Union of Skills* set priorities for higher education, focusing on quality, inclusion, digital and green transitions, STEM/STEAM (science, technology, engineering, art, and mathematics), and international cooperation. The developed provisions in CIVIS align well with and contribute to these goals. However, there is room to improve in areas like teacher education. In short, CIVIS already offers CBL but could expand it further by better supporting teachers and aligning activities. At the same time, scaling CBL institution-wide is complex and resource demanding. Overall, CIVIS contributes significantly to EU higher education priorities and will continue to support this endeavour.



# 1

## OBJECTIVES & METHODOLOGY

## Introduction

This deliverable shows the results, outcomes and impacts regarding transdisciplinary and challenge-based aspects in the CIVIS educational activities during the CIVIS2 project (October 2022-September 2026). From the CIVIS2 project logic, this deliverable shows how Work Package 3 "Challenge-based local to global educational activities" has fulfilled its tasks and delivered its objectives. We will here analyse the content and impact of the educational offer supported, designed and organised by our teachers at various universities within the purview of CIVIS, i.e. three generations of incentivised educational activities (flagship projects of the Hubs, call for educational activities 2024 and 2025), and Blended Intensive programmes (BIPs). Aspects of challenge-based education within the Open Labs are addressed in Deliverable 4.1 of the CIVIS2 project.

## Structure of the text

This deliverable is organised in six chapters:

- Chapter 1 gives an introduction and background to the report and introduces the central concepts used in the report focusing on 'transdisciplinarity'. There is a short description of the method used to analyse the educational activities offered in CIVIS.
- Chapter 2 presents and analyses the so-called "Flagship" projects and courses, modules and programmes created as a result of the educational calls of 2024 and 2025.
- Chapter 3 focuses on the large number of courses created as BIPs in CIVIS.
- Chapter 4 analyses the types of challenges addressed in the CIVIS activities in regard to what academic themes and disciplines they cover.
- Chapter 5 links the CIVIS education to more overarching European goals for the European Education Area and the Union of Skills, and societal challenges in higher education.
- Finally, chapter 6 summarises the overall achievements within this field and also looks forward.

## CIVIS2 objectives and tasks in WP3

The objectives for WP3 are as stated in the application:

- T3.1 Support academics engaged in our emerging challenge-driven Education & Research Activities
- T3.2 Support Hubs to build common research-based education and other innovative activities in their areas
- T3.3 Intensify Cooperation with International Associated partners in challenge-based higher education

## Concepts used in this report

This deliverable refers to some concepts and definitions. Firstly, a brief definition of terms that are used in CIVIS and this report will be proposed, and secondly some more general concepts of the analysis will be introduced.

### List of definitions

**Hubs:** The [CIVIS Hubs represent five interdisciplinary thematic research and education areas](#) that structure the academic collaboration within the Alliance. They were conceived to relate to major societal challenges and also linked with the UN Sustainable development goals. Hub 1 focuses on Climate, Environment and Energy, Hub 2 focuses on Society, Culture and Heritage, Hub 3 works on Health, Hub 4 focuses on Cities, Spaces and Mobilities, and finally Hub 5 collaborates on Digital and Technological Transformations. All educational activities fall within the purview of one or several Hubs.

**Flagship:** The so-called "Flagship" projects are educational provisions developed by the Hubs and incentivised by CIVIS2 funds. Some of them have been initiated during CIVIS 1 (2019-2022) and been further developed in CIVIS 2. The "Flagships" are mostly programmes on Bachelor's, Master's and Doctoral level but also provide activities of other kinds (see appendix for a complete list). They are not superior to other educational provisions but served as forerunners in the development of common educational provisions within CIVIS.

**Educational calls:** Two calls for educational provisions have been launched during CIVIS2, one in 2024 and one in 2025. Through these calls 29 different educational activities were selected. They cover a variety of educational activities with financial support from CIVIS (see appendix for a complete list)

**Blended Intensive Programmes (BIPs):** The BIPs are funded under the Erasmus+-programme (KA131). Every CIVIS BIP combines online teaching and learning with a short period of physical mobility, in CIVIS set to one week, where students can spend time at another university with students from across the CIVIS Alliance. While mobilities and organisational costs are covered by KA131 funds, the BIP calls, selection and management processes are harmonised across the Alliance thanks to CIVIS2.

## Transdisciplinary Education

**Transdisciplinary education** offers a powerful framework for addressing complex, real-world challenges that cannot effectively be solved within the confines of a single discipline. By fostering collaboration across academic fields and integrating non-academic knowledge, including insights from industry, communities, and other stakeholders, transdisciplinarity generates more holistic, innovative, and actionable outcomes.

**Multidisciplinarity** is generally understood as approaching a research problem from multiple disciplinary perspectives. For example, a topic may be examined from both an economic and a psychological perspective, with each analysis conducted independently by specialists such as an economist and a psychologist. Together, these separate contributions provide a broader understanding of the research topic. **Interdisciplinarity**, by contrast, involves the integration of theories, methods, or perspectives from different disciplines within the same investigation. In the previous example, this would entail combining economic and psychological approaches in a coordinated and integrated manner. Finally, **transdisciplinarity** extends collaboration beyond academia by involving actors such as practitioners, policymakers, or other stakeholders, who work alongside researchers from different disciplines to jointly address the research question.

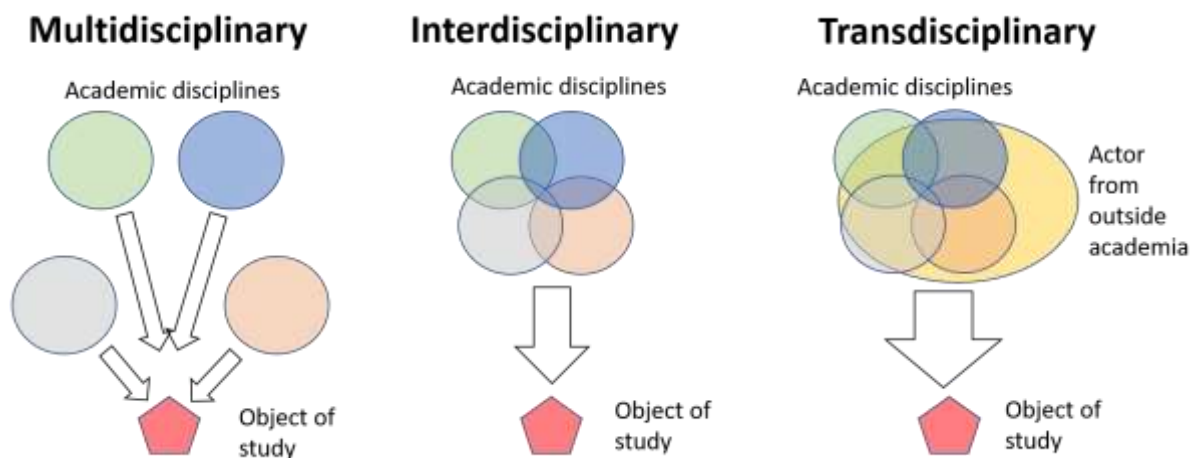


Figure 1. The figure shows a simplified representation of the various concepts ranging from multidisciplinary to transdisciplinary, that involve partners from outside academia.

The university structure to some extent promotes disciplines as we have faculties and academic disciplines in different organisations. This ensures that we create deep knowledge in academic disciplines and can disseminate that to our students. During the last 20 years, transdisciplinarity has more and more been seen as a possible solution to improve learning and thereby strengthening society's ability to rise to current and future challenges. Transdisciplinary education moves beyond the traditional boundaries of academic disciplines by integrating knowledge, methods, and perspectives from multiple fields and involving also non-academic stakeholders in the learning process. This approach equips learners with the skills, mindsets, and frameworks needed to navigate the complexity of contemporary global challenges. For further references to transdisciplinary education see the recent edited book by Nicewonger & Amelink (2025). The key benefits of transdisciplinary education that are often mentioned are: real-world relevance, development of critical and systems thinking, enhanced creativity and innovation, collaboration and communication skills and finally adaptability in a changing world – skills that are crucial in the 21st century. Recent studies highlight that this type of learning prepares students beyond the classroom (Atkinson-Toal 2024).

Transdisciplinary approaches are particularly well-suited to tackle for example climate change, public health crises, or social inequality. These issues are multi-faceted and interconnected, requiring knowledge that spans technical, social, cultural, and economic domains. Transdisciplinarity enables a more comprehensive understanding by bridging these diverse perspectives, actively involves stakeholders outside of academia, such as policymakers, practitioners, or affected communities—. This has the potential to produce knowledge that is directly applicable and socially relevant. Transdisciplinary projects emphasise dialogue and mutual learning among participants. Engaging in transdisciplinary work allows students, teachers and researchers to develop important skills such as communication across disciplines, systems thinking, and adaptive learning. These capabilities are increasingly essential in today's interconnected and rapidly changing world, both within academia and in broader professional contexts.

## **Innovative pedagogies**

The transdisciplinary education also requires an adapted pedagogical strategy. Therefore, CIVIS has compiled (before CIVIS2) the handbook: *Innovative pedagogies: Ways into the Process of Learning Transformation*. In the handbook a list of activities is to be found, and also different types of innovative pedagogies are described: technology-based, methodology-based, skill-based and context-driven pedagogical innovation educational activities (Ciolan et al. 2021, p. 10). The last is the one most clearly related to the transdisciplinary aspects this report focusses on. See more on the topic of innovative pedagogies in Martin Santamaría (2024), the CIVIS Innovative Pedagogies Officer. Important to notice is that the Open Labs in CIVIS are using and developing pedagogical tools that can deal with several disciplines and outside actors. Furthermore, the Expert Group on Innovative Pedagogies works to support CIVIS teaching and learning challenges. Among other things they ensure intercultural and transdisciplinary approaches (Martin Santamaría 2023).

## **Challenge-based education: a pedagogical approach**

Challenge-based education (CBE) and challenge-based learning (CBL) are two closely related terms. The first one focuses on the education in itself and the second one on the learning process. These terms will be used in an alternating way throughout this report. CBL is an approach where students tackle problems by asking questions, researching solutions, creating a plan, and taking action. It is hands-on, collaborative, and focuses on solving authentic challenges rather than memorising content. Although the concepts *challenge-based learning* and *challenge-based education* are used interchangeably here, challenge-based learning is the most common in the scientific literature.

CBL was originally developed within a corporate setting and contains three main stages called *Engage*, *Investigate* and *Act*. The idea was that these phases form a cycle that connects learning directly to real-world action. *Engage* starts with "a big idea" that is subsequently broken down and used to define the challenge at hand. During the *Investigate* phase the students do research, gather information, and explore possible solutions. They collaborate, interview experts, and analyse data. And finally, *Act*, when the students design and implement a real solution. They test it, refine it, share results, and reflect on what they learned (Apple Inc. 2008).

It is true that CBL often involves several academic subjects but does not necessarily have to be multidisciplinary (Taconis and Bekker 2023, p. 6). It is also worth mentioning that CBL has spilled over from the schools and the multinational technology company into higher education (Leijon et al 2022). Even though the challenge-based approach is fairly new, there is a significant overlap with other, older pedagogical perspectives such as problem-based learning (PBL) or design-based learning (DBL) and shares many of their characteristics (Taconis and Bekker 2023, p. 7).

There are several benefits that are obvious and inherent to the pedagogical approach of CBE, such as enhanced engagement, by working on relevant challenges and engage in solving real-world issues the students are more motivated and engaged in their learning, leading to deeper understanding and retention of knowledge. CBE also fosters essential skills such as critical thinking, collaboration, communication, and problem-solving.

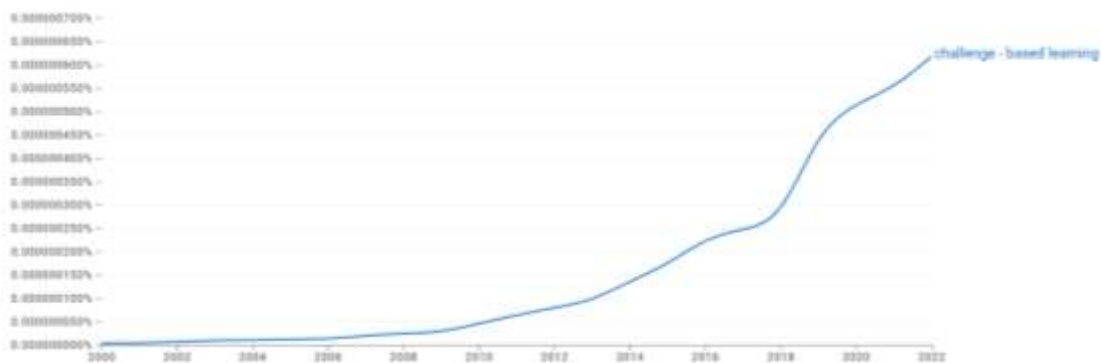


Figure 2. The graph shows the increase of the use of the concept *CBL* in the corpus in Google. It shows the rapid evolution of the concept in mostly scientific but also other kinds of literature. Source: N-gram viewer, Google.

## CIVIS definition of Challenge-based education

A CIVIS framework was developed for the challenge-based initiatives. The WP2 Deliverable 2.1 *Digital Guidebook on the CIVIS Challenge-Driven Approach* states that:

'Challenge-based education is a pedagogical approach founded on scholarship across and among academic disciplines. It leverages the experience and expertise of stakeholder groups to enable students to apply their learning to engage with real-world challenges.' (Blenckner et al 2024, p.15)

This definition emphasises the inclusion of external stakeholders. The Deliverable 2.1 also suggests three phases "*Explore, Deepen and Act*" (Blenckner et al 2024, p. 20-21), similar to the "*Engage, Investigate, Act*" method. The Deliverable lays the ground with guides and suggestions that help setting up educational activities and also how CIVIS can encourage these in its calls.

The concept of challenge-based education in CIVIS can be interpreted in three possible ways (Martin Santamaria 2023, p. 8).

1. The first variant is called *the challenge as a theoretical framework*. Here, the theme is in focus. It could be that the focus is climate change, social unrest, segregation etc. In those educational activities any pedagogical structure and method could be used.
2. The second variant is called *the challenge as a frame for experimental learning*. Here, there is an engagement on real-world problems and an active participation of the students. They will also engage with actors or communities, even if the teacher often presents the problem or challenge. So, this is a challenge-based pedagogical approach.
3. The third variant is called *challenge-based learning (CBL), a concrete pedagogical setting*. Here, the students follow their learning closer to the three phases (*Engage, Investigate and Act*) that were mentioned earlier. This is a more structured approach than the previous and also has a clear relation to outside stakeholders (Martin Santamaría 2023). In sum, the first variant is more on the theme and the second two include more pedagogical aspects on CBL.

## European and global challenges

According to the first variant mentioned above, *the challenge as a theoretical framework* (as the theme of the course), the challenge itself is central. The world faces several challenges such as environmental challenges, but also technical and social tasks that need to be addressed in the near future. Hence, we here focus on the major challenges that are addressed by our educational activities, created within the themes of the Hubs. Additionally, challenges that can be found in policies for higher education formulated by the European Commission will be dealt with in two separate chapters (4 and 5). The transdisciplinary approach and the challenge-based pedagogy is, as we have seen, well suited to deal with the challenges of our century and provide our students with appropriate skills for their future work.

## Methodology in this report

This section briefly presents the methods used in the preparation of this deliverable. It covers different types of educational provisions developed as "Flagships", in the educational calls or the BIPs. They have been created in different ways and require different methods to be investigated. Some have large databases created and others depend more on surveys (since the Quality Framework on educational activities is still mostly anchored within single universities).

### Data collection – Flagship projects

All descriptions of the so called "Flagships" are based on the original applications and descriptions produced in the various programmes and courses, in addition to existing databases in CIVIS. To get more qualitative information regarding transdisciplinarity and innovation, the 12 CIVIS "flagship" projects, created within the Hubs, are central to analyse. A focused survey of all flagships was carried out in autumn 2025. This survey was conducted using a structured questionnaire to get insights from the teachers and administrators running or developing the activities. It was sent out to all projects to ensure adequate representation of the educational activities. 7 of the 12 "flagships" answered the survey.

### Data collection – Educational calls

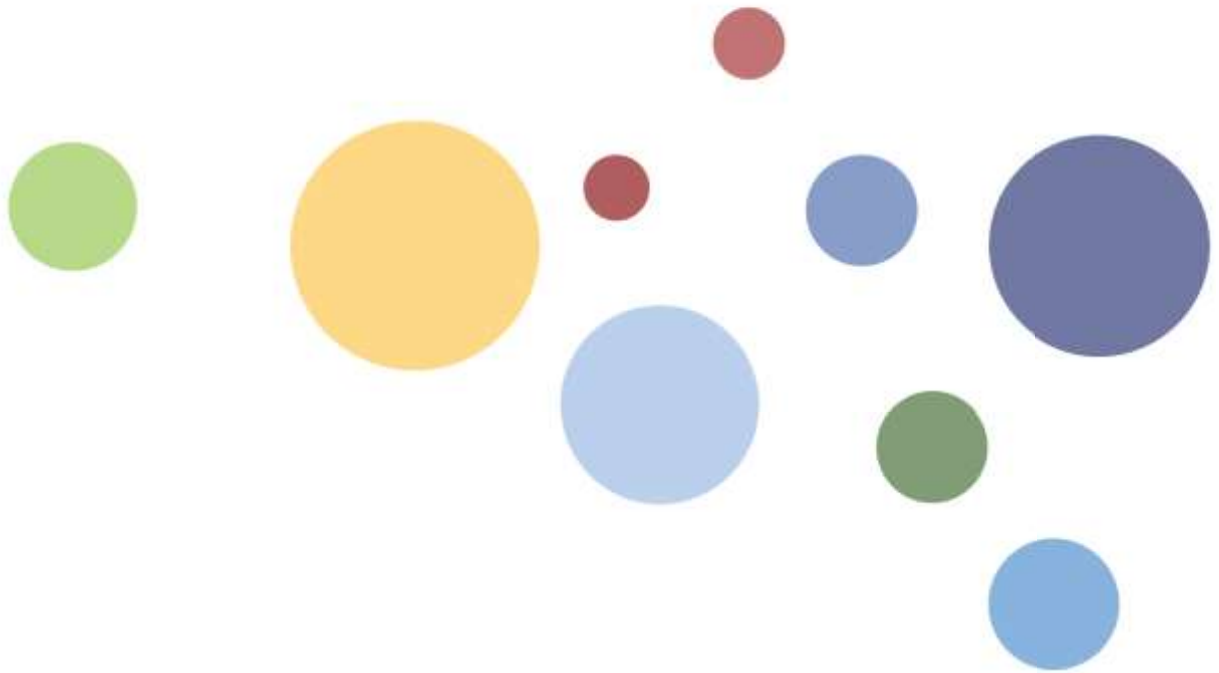
For the educational activities produced or under development from the educational calls 2024 and 2025, all applications have been analysed, and the various courses and programmes have been classified according to which academic disciplines they cover, and also if they involve interdisciplinary, multidisciplinary and transdisciplinary aspects. It was investigated if they include external stakeholders in the activities and if they apply CBE. Some of the data was already compiled in CIVIS, but most information was retrieved using the original applications and descriptions of the various projects (since the final reporting was due after the writing of this report). We classified these educational activities according to the UNESCO International Standard Classification of Education (ISCED). The codes can be applied on different levels. In this report, we aggregated



to two-digit level to be able to present the data (ISCED-F 2013) (UNESCO 2013). The ISCED codes allow us to see what academic disciplines are covered by the CIVIS educational activities.

## **Data collection – Blended Intensive Programmes**

The BIPs can be investigated through an available register of the 247 activities. 247 BIPs were planned, but 11 were cancelled, so that only a total of 236 BIPs have been conducted. Since the final data was not available, this report analyses the total of 247 planned BIPs. Similarly to the data for the activities resulting from the educational calls, we have focused on retrieving data on transdisciplinarity and neighbouring concepts such as interdisciplinarity and multidisciplinarity, to provide a fuller view. The pedagogical aspects of CBE are also studied. We have searched for the use of the three above mentioned concepts in administrative documents of each BIP, but also at which academic subjects and disciplines are studied, what level the courses are given on and when they were held. All the BIPs were also classified into ISCED-codes. Furthermore, we had access to a database of all students that have applied to CIVIS BIPs. Finally, a report on BIPs of the academic year 2024/25 completes these results. The sheer number of BIPs means that they cannot be presented in detail.



# 2

**TRANSDISCIPLINARY AND CHALLENGE-BASED EDUCATION IN THE CIVIS EDUCATIONAL PORTFOLIO (FLAGSHIPS AND EDUCATIONAL CALLS)**

## Introduction

The aspects of CBE and transdisciplinarity were clearly included as award and evaluation criteria in the educational calls and the creation of the so-called "Flagships". This chapter analyses the aspects of transdisciplinarity and CBE in the educational activities incentivised by CIVIS2. We study firstly the "Flagships" that were developed under CIVIS 2 and secondly the provisions resulting from the educational calls in 2024 and 2025. 12 flagships were created representing all Hubs (see Table 1 and appendix). More information and context on the stage of development and implementation of these activities can be found in the Stream 3 Deliverables (D9.1, D10.1 and D11.1).

## Transdisciplinarity and challenge-based education in the "Flagships"

Most "Flagship" activities are carried by 3–4 partner universities. However, some activities are coordinated between eight or even all full partner Universities, plus African Associate Members. Most "Flagships" have planned activities for 10 to 19 students a year but some aim at even larger cohorts.

Most flagships, as visible from the appendix, display an element of transdisciplinarity already built in from the design stage of the activity. About half of the flagships present a deliberate transdisciplinary pedagogical approach. The rest still maintain multi- or interdisciplinary perspectives. It is often claimed that research within the fields of environmental sciences was an early adopter in working in a transdisciplinary way. It is therefore not surprising that the master's programme in Transdisciplinary Studies of Climate, Environment and Energy (TRACEE) has embraced that perspective. The range of disciplines involved is extensive, with a transdisciplinary stream holding together the students spread over nine specialised study tracks (Environmental Humanities and Law; Environmental Social Sciences; Energy and Matter; Environmental Chemistry and Toxicology; Environmental Geoscience; Climate Change Science; Environmental Risks and Mitigation; Societal Challenges and Transdisciplinary Hotspots; and Global Change Biology). Here also the name of the programme makes this aspect abundantly clear.

Other flagships also have a crucial transdisciplinary part. The Doctoral Program in Translational Cardiometabolic Biomedicine & Health from Hub 3 could stand as an example where not only various sub-disciplines of medicine and biology are involved, but also a wide range of other academic disciplines and fields outside academia. It involves various fields of Health, such as cardiovascular diseases, endocrinology, pathophysiology, molecular and cellular signalling, aging, immunity and inflammation, microbiology, innovative pharmacology and nanotechnology, among others. Moreover, it deals with other domains such as economy, humanities and ethics. The initiative is cross-sectoral since it involves different sectors such as academia, hospitals and health research centers, companies or patient associations.' (source: application to the programme).

Several responses in the survey to the programme coordinators highlight the benefits of transdisciplinarity. One coordinator notes:

*'The transdisciplinary approach will contribute to students' ability to solve complex problems by requiring them to integrate methods and perspectives from multiple fields, moving beyond single-discipline thinking. By combining, for example, anthropological sensitivity to culture, historical depth of context, and creative exhibition design from the arts, students learn to approach challenges like representation or decolonization from several angles at once, fostering more innovative, inclusive and practical solutions.'*

One answer to the question regarding what aspects of the transdisciplinary experience will be the most beneficial is '...It directly addresses real-world problems that cannot be solved from a single disciplinary angle.'

Table 1 The table shows the names of the Flagship projects and what hub they are under. (See appendix for details)

|                                                                                                      |                                                                                        |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Hub 1 Climate, Environment and Energy</b>                                                         |                                                                                        |
| <b>1. Master's Programme in Transdisciplinary Studies of Climate, Environment and Energy, TRACEE</b> | <b>Coordination: SU</b><br><b>Participants: all 11 European + Wits, UH2C</b>           |
| <b>Hub 2 Society, Culture and Heritage</b>                                                           |                                                                                        |
| <b>2. MA "ART-W" Paleolithic Archaeology (Master's programme)</b>                                    | <b>Coordination: UT</b><br><b>Participants: UT, SUR, AMU, Wits</b>                     |
| <b>3. EUROSUD (Master's programme)</b>                                                               | <b>Coordination: UAM</b><br><b>Participants: UAM, AMU, ULB, SUR, UB</b>                |
| <b>4. Network for Global Epistemologies and Intercultural Philosophy (PhD-level)</b>                 | <b>Coordination: UB</b><br><b>Participants: UB, UT, AMU, NKUA, SUR</b>                 |
| <b>5. Museum University Forum (network with PhD cotutelles and course offers)</b>                    | <b>Coordination: UT</b><br><b>Participants: UT, AMU, NKUA, SUR, SU, UB, PLUS, UofG</b> |
| <b>Hub 3 Health</b>                                                                                  |                                                                                        |
| <b>6. Master degree in Biochemistry</b>                                                              | <b>Coordination: SUR</b><br><b>Participants: SUR, AMU, UB, UT</b>                      |
| <b>7. Doctoral Program in Medical Systems Biology</b>                                                | <b>Coordination: PLUS</b><br><b>Participants: PLUS, UT, AMU</b>                        |
| <b>8. Master's degree: Drug development: from natural products to formulation and applications</b>   | <b>Coordination: NKUA</b><br><b>Participants: NKUA, SUR, UB, UH2C</b>                  |
| <b>9. Doctoral Program in Translational Cardiometabolic Biomedicine &amp; Health</b>                 | <b>Coordination: ULB</b><br><b>Participants: ULB, UAM, NKUA, SUR, UB</b>               |
| <b>10. Population Health and Preventive Medicine (PrevMed) (Master's programme)</b>                  | <b>Coordination: UT</b><br><b>Participants: UAM UNIL, UT</b>                           |
| <b>Hub 4 Cities, Spaces and Mobilities</b>                                                           |                                                                                        |
| <b>11. Doctoral Network</b>                                                                          | <b>Coordination: ULB</b><br><b>Participants: ULB, UAM, SUR, UNIL, UB, NKUA, UH2C</b>   |
| <b>Hub 5 Digital and Technological Transformations</b>                                               |                                                                                        |
| <b>12. Digital Transformations in Health and Wellbeing (micro-programme, undergraduate level)</b>    | <b>Coordination: UB</b><br><b>Participants: UB, UAM, UT, AMU</b>                       |

All Hubs address important societal challenges. The Hubs decided if they wanted to focus on one or several "Flagships" (see table 1). In the appendix the "Flagships" are described more which allows us to see the specific challenge central to our societies addressed by the respective activity. While most "Flagships" have strong transdisciplinary elements built in from the design stage, the pedagogical aspects of challenge-based education are less explicitly visible than transdisciplinarity.

In the survey the answers of the "Flagship" coordinators that have adopted pedagogical aspects of CBL state that the students will be able to define and identify problems themselves to a high degree. They also indicate that the respective challenge is well connected to real-world problems. The students can also to some degree or to a high degree interact with external stakeholders (e.g., community, industry experts).

Furthermore, most "Flagships" applying CBL have answered that the students reflect on the challenge. We also asked, how the challenge will enhance students' ability to think critically and solve complex problems. For a Doctoral programme that answered the flagship-survey this was the crucial aspect of CBL, especially since principles of CBL would be, according to the coordinators, *'...more or less the definition of a PhD degree'*. Another answer also illustrates the benefits of the CBL approach; *'The challenge will enhance students' ability to think critically and solve complex problems by immersing them in real-world issues (such as colonial legacies, representation and inclusion) that have no straightforward solutions.'*

The Master's degree in Biochemistry also highlights the mutual benefits resulting from the stakeholder inclusion for students and stakeholders when entering the labour market after finishing their education. In the original application: *'The [Master's Degree] may establish an international mentorship programme with a panel of professionals from academia, research, and industry selected by the partners. These mentors can guide students in their career choices and offer advice based on their specific experience of the Biochemistry and biotechnology sector, which is growing exponentially in the global market.'*

## Educational calls 2024 and 2025

This section covers the 29 courses or educational activities incentivised under the educational calls 2024 and 2025. The courses are of various types, such as MOOC, COIL, micro-credentials, asynchronous online courses and bachelor's, master's and doctoral provisions. All activities belong to and were developed through different CIVIS Hubs; however, some involve several Hubs.

Several of the activities have a section of transdisciplinarity included, where students meet actors outside of academia. In a survey conducted by the Education Unit about half have answered that they have contact to external stakeholders implemented in their programmes. Other mention that they would like there to be more contacts between the students and the world outside academia.

In the longer programmes (Bachelor's, Master's or Doctoral degree programmes) it is easier to incorporate challenge-based education, but also in shorter activities it is possible to do this. One such example is a Micro-credential *Digital Humanities for Renaissance studies* working with digital humanities and art exhibitions. Another example is the micro-credential *IA et travail : accompagner ses équipes face au changement*, which is directly targeting managers as participants and dealing with their concrete problems and challenges to build competences regarding the growing importance of AI in the working environment.

Table 2. Number of provisions in the educational call that have external stakeholders according to the applications and if they used terms such as transdisciplinary, interdisciplinary or multidisciplinary. None of the activities had only one academic subject.<sup>1</sup>

|                            | External stakeholders | No external stakeholders | Total     |
|----------------------------|-----------------------|--------------------------|-----------|
| <b>Transdisciplinary</b>   | 9                     | 2                        | 11        |
| <b>Interdisciplinary</b>   | 12                    | 1                        | 13        |
| <b>Multidisciplinary</b>   | 2                     | -                        | 2         |
| <b>Several Disciplines</b> | 3                     | -                        | 3         |
| <b>Total</b>               | <b>26</b>             | <b>3</b>                 | <b>29</b> |

The table above shows the classification of the 29 courses and programmes in the educational calls. It shows that 26 of the 29 projects resulting from the educational calls include external stakeholders. The level of involvement may vary. The projects are further categorised according to the self-reported description as interdisciplinary, multidisciplinary or transdisciplinary.

Looking through the activities' descriptions, some activities cover several disciplines, without referring to the concept of multidisciplinary. To separate these projects from projects clearly reflecting on and referring to a multidisciplinary approach, they are labelled here as 'Several Disciplines', even if the three activities that belong to this group are similar to those that have used the concept multidisciplinary.

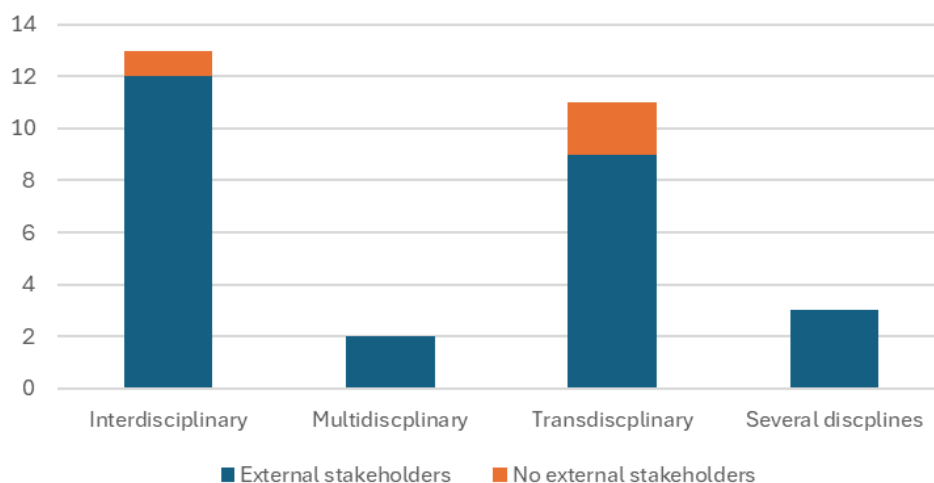


Figure 3. Diagram over CIVIS educational provisions that have interdisciplinary, multidisciplinary and transdisciplinary aspects in the educational calls 2024 and 2025, combined with how many of them include external stakeholders. The courses marked as several disciplines do not mention the pedagogical aspects.

<sup>1</sup> The reporting of educational activities took place during September 2026 and could therefore not be incorporated in this Deliverable.

Table 3. Number of the projects selected under the educational calls 2024 and 2025 mentioning the pedagogical aspects of challenge-based education.

|                                                        | Number of activities |
|--------------------------------------------------------|----------------------|
| <b>Explicit use of Challenge-based education (CBE)</b> | 12                   |
| <b>No direct mentioning of CBE</b>                     | 17                   |
| <b>Total</b>                                           | <b>29</b>            |

12 out of 29 provisions incentivised via the educational calls 2024 and 2025 directly refer to aspects of CBE as a pedagogical approach. It is possible that the other 17 provisions also offer CBE, without explicitly referring to it in their pedagogical design, especially since the majority have included external partners in some ways (see Figure 3 above).

## Challenges of Challenge-Based Education

The two variants of CBE mentioned in chapter 1 focusing especially on the pedagogical aspects and not only on the topic of a specific challenge might require special support. There are several challenges to this form of education. In a systematic literature study from 2022, Leijon et al. note that there are relatively few studies on CBL in higher education, until a marked increase from about 2018 onwards. This indicates that the pedagogical approach is relatively innovative and still evolving. Some areas according to the existing literature might be especially challenging, also for CIVIS and other European University Alliances or individual Universities. Implementing CBE can require significant resources, including time, funding, and access to external partners, which may not be readily available in all educational settings. Furthermore, the traditional assessment methods may not effectively capture the learning outcomes achieved through CBE. Developing new evaluation strategies that reflect student learning in this context can be challenging. Another obstacle linked to this is scalability. While effective in smaller settings, scaling CBE to larger classes or across entire institutions can be complex and may require structural changes within the educational system. In the conducted survey we find many of those challenges mentioned by our teachers. Under CIVIS2, relevant resources regarding CBE, such as an [online module on CBE course design](#), but also support on neighbouring approaches such as [Service Learning](#) have been produced.

Another challenge consists in the ontological differences between the various academic disciplines. In some cases, the differences are not so great but rather well aligned, such as for the Network for Global Epistemologies and Intercultural Philosophy. One "Flagship" project mentions: 'The biggest challenges will be bridging different disciplinary languages, methods and expectations, as students and instructors may initially struggle to understand approaches outside their own fields.' Another challenge mentioned in the survey is to not make one discipline the dominant one and the others just a top-up. This challenge basically means that it is easier to offer multidisciplinary activities than inter- and transdisciplinary learning opportunities.

This challenge directly impacts the students of one common activity that might have diverse backgrounds in natural science, humanities, social science or law. Most students, especially in Master's or Doctoral programmes or networks, for example those coming together in the first semester of the TRACEE Master's, are normally not used to combining several disciplines, since they come from individual disciplines. This is the first hurdle to overcome in this type of education. One "Flagship" coordinator mentions that these differences are incorporated in the course-structure: '...courses are designed in a manner that students from different disciplines can communicate with each other afterwards ("baseline knowledge" across various disciplines)'.

It can be seen as an advantage to have a diverse group of students with different academic backgrounds that can enhance the students' learning. Another response in the "Flagship"-survey, concerning the ART-W Master's (Hub 2): *'Students enter the programme from a variety of disciplinary backgrounds. Some have solely studied archaeology, others have studied heritage management, some have more experience in the natural sciences. These students spend at least 3 of their 4 semesters in the programme studying together, working together in common classes and learning from each other's perspectives'*. The inter- and transdisciplinary approach of CIVIS educational activities is therefore innovative and enhances the skills of the students.

Another hurdle is to involve stakeholders from outside academia. Here, the students are often even less prepared. This can be time consuming and CIVIS programme coordinators also mention the need for more financial and administrative resources concerning the obstacles that could be faced by students and educators. One input from the organisers was: *'Funding, teaching highly demanding practical courses'*. This reflection echoes the CBL literature, referenced previously, which also underlines the lack of various resources for conducting this kind of education. CIVIS proposes already online support to build a CBE course and the support by the Innovative Pedagogies officer, the Education unit and the Digital Campus Unit to tackle some of these challenges.

One significant aspect is that educators may need training to shift from traditional teaching methods to a CBE approach. Gaining buy-in from faculty and administration can also be a hurdle. Benefits for the students are clear, but lecturers find it sometimes hard to adjust to being a facilitator for the students, instead of being a more "classic" role as a teacher (Georgiou, Gallagher & Chmielewska 2025, p. 15). This challenge is especially difficult since there are so few studies on the teaching practices (Galdames-Calderón, Stavnskær Pedersen & Rodriguez-Gomez 2024). Teachers are, as we can see in our survey and in other documents, aware of these challenges and use them as a starting point and tackle them in the design of the educational activities.

## Support our teachers

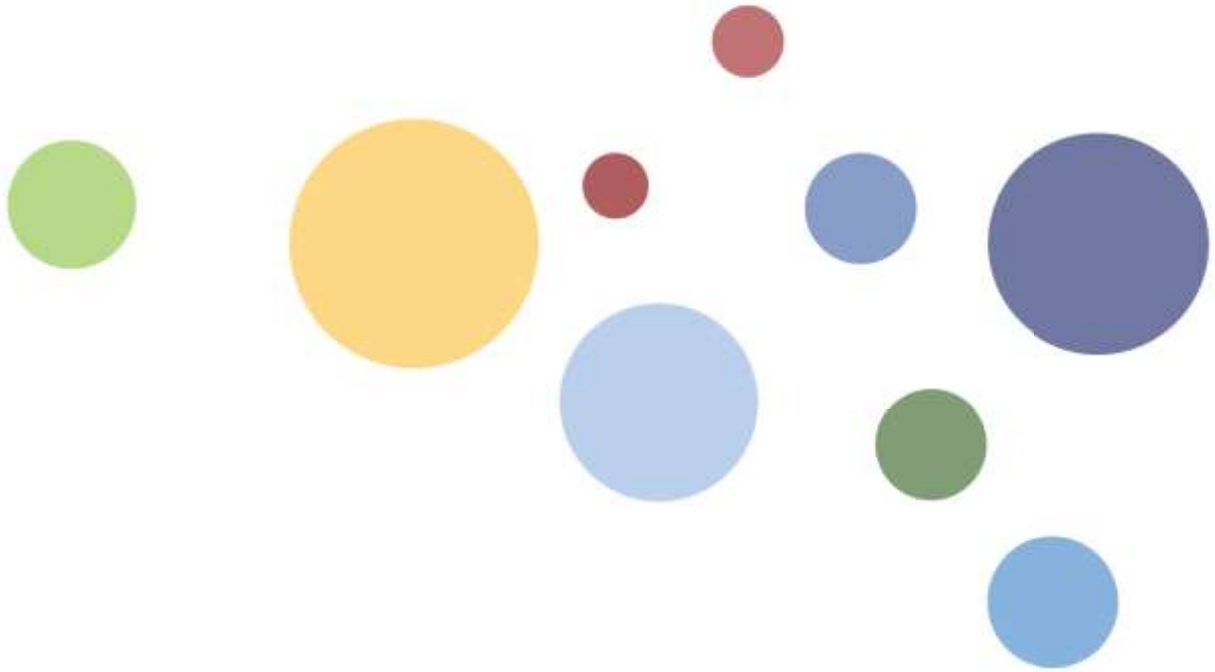
Despite its strengths, we have seen that CBL also presents difficulties. This becomes clear in the various surveys mentioned above. Implementing it requires substantial time, resources, and external partnerships. Traditional assessment methods often fail to capture its learning outcomes, making new evaluation tools necessary. Scaling CBL to larger groups or institutions is complex, and educators may need significant training to shift into facilitator roles. Research on CBL teaching practices remains limited, particularly in higher education, though interest has grown rapidly since 2018. Overall, CBL is a young and evolving educational approach with strong potential but also clear implementation challenges.

The [CIVIS2 Deliverable 2.1](#) created the basis for the CIVIS-perspective regarding CBE. The wording in the educational calls also improved the creation of provisions with CBE. In the survey sent out to the "Flagship" coordinators, one question was: *'What kind of support would you like to have to develop this activity from the university or CIVIS?'* One answer that highlights the challenge is: "To have international collaborations with more than one university is administratively challenging in most cases in itself but to also involve actors from outside academia in several countries adds an extra organisational burden."



In spring 2025, Stream 2 (led by academics coordinating WP3 and WP4) initiated [a seminar series with the initiative CASCADE Participatory Research and Education network in CIVIS](#). It was aimed at challenges and benefits of CBE and an exchange of knowledge. There have also been other activities geared towards CBE especially linked to the Open Labs. There is also a CIVIS Moodle module on CBL, mentioned above. In the future the single Innovative Pedagogies Officer will be upgraded into a *Skills and Learning development team* that will more efficiently support teachers across the Alliance. Another suggestion for the future is to create a "CIVIS CBL Toolkit", continuing the efforts already started, to facilitate the implementation of challenge-based approaches in the future.

Figure 4. The illustration shows the main idea of the webinar series; to share knowledge on CBE among CIVIS institutions and active teachers.



# 3

## **TRANSDISCIPLINARY AND CHALLENGE-BASED EDUCATION IN THE CIVIS BIPS (BLENDED INTENSIVE PROGRAMMES)**

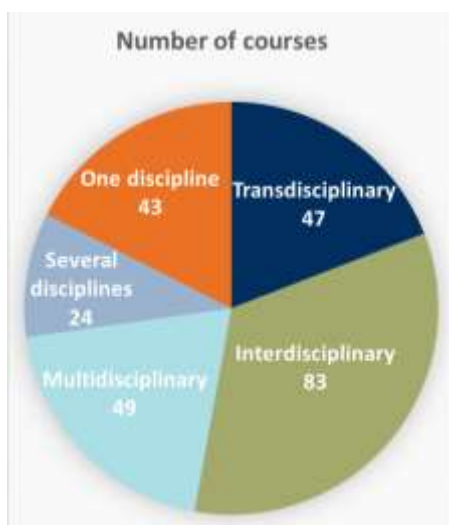
## Introduction

Since 2022 many of our common educational activities have been created in the form of Blended Intensive Programmes (BIPs). Since the funding and administrative background of these activities vary from the provisions incentivised by CIVIS2, we present them in a separate chapter. During CIVIS2, 236 BIPs were implemented out of 247 that have been planned (11 were cancelled). The present analysis is based on all planned BIPs, including the cancelled.

Blended Intensive Programmes are funded separately from the CIVIS2 project as an innovative blended learning format supported by KA131. A BIP, in contrast to many traditional student exchanges, combines online teaching and collaboration with a short period of physical mobility and innovative pedagogies. The governance and management support structures supported by CIVIS2 have enabled the Alliance to build institutional capacities to manage and carry out a large number of BIPs. It has become one of the core activities (reported more in detail in Deliverable 6.1) and they are held in a variety of academic disciplines and planned by transnational teaching and learning teams in collaboration with many constellations of universities within the Alliance.

Some BIPs have a very clear transdisciplinary approach, for example clearly labelled in their titles such as *Civic engagement in Europe: a transdisciplinary approach*, and *Transdisciplinary Approaches of Gender in MENA region* as two examples. In those courses it is evident that transdisciplinary approaches are key for the learning design of the BIP. But only looking at titles would miss a whole range of content. For this report, we analysed the content of the BIPs, to identify the use of concepts such as transdisciplinary, interdisciplinary and multidisciplinary. The following hierarchy was employed in this order: transdisciplinary, interdisciplinary and multidisciplinary. This means, if a course contains both, interdisciplinary and transdisciplinary elements, it was categorised as transdisciplinary. If a course used the concepts interdisciplinary and multidisciplinary, it was classified as interdisciplinary. Additionally, we introduced the category 'several disciplines' since this is our interpretation of courses that cover several disciplines without referring to the three other concepts. They could of course also be seen as multidisciplinary, but we kept this class to differentiate between our own classification and the concepts applied intentionally in the pedagogical design of the BIPs.

## The number of BIP courses



The first thing to investigate is the number of BIP-courses that have been planned within CIVIS2 and that apply transdisciplinary, interdisciplinary or multidisciplinary pedagogies or that cover several disciplines without specific references to any of the three concepts.

About 82% of the BIPs involve more than one discipline. One third of the programmes are multidisciplinary or including several disciplines and another third are interdisciplinary, i.e. they have a higher level of integration of different academic subjects. The number of transdisciplinary BIPs stands for almost one fifth of the offered courses. In total 47 BIPs giving students the possibility to be awarded 205 ECTS following a transdisciplinary approach.

Figure 5. Diagram showing the number of planned BIP courses as they are classified into the different categories. It is clear that BIPs with only one discipline are not so common, but they do exist.

## The categories over time

In 2022/2023 nine BIPs or 16.9 % had adopted a transdisciplinary aspect and during 2025/2026 15 or 24.6% had done so. The use of the term interdisciplinary has also increased over time. The number of courses that cover only one discipline has decreased over time to very few during the last academic year.

It is hard to draw any clear conclusions from the statistics over time. The number of BIPs with transdisciplinarity generally makes up one fifth to one quarter of the BIPs, which is a substantial share across the whole project period. It has also increased over the duration of this period, and single-discipline BIPs have nearly disappeared suggesting that CIVIS increasingly encouraged teachers and students coming from different disciplines to collaborate transnationally.

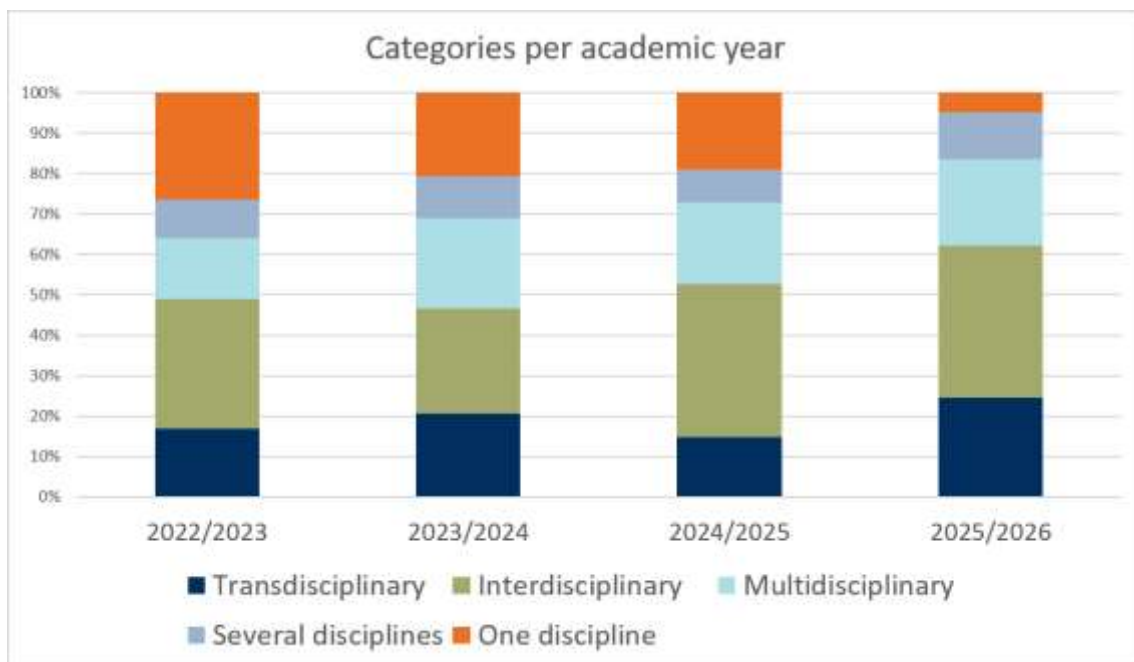


Figure 6. Diagram that shows the percentages of planned BIP courses offered in CIVIS over the period from the academic years 2022/2023 to 2025/2026, divided between the different categories. It shows that the amount of transdisciplinary BIPs has increased whereas the number of courses only involving one discipline has decreased over time.

## The categories on courses at different levels

The BIPs provided within the CIVIS Alliance are offered to students of various levels in their education. Even though a BIP might only be open for a specific level of studies, it is common that students from different levels can apply to the same course. For instance, one BIP can be open to both Bachelor's and Master's level or both Masters and doctoral level. Some are even open to all levels. This affects the statistics since a course can be taken by several levels, hence they are counted several times in the following analysis. This becomes evident when you look at the numbers for Master's courses. There is a total of 246 planned BIPs in CIVIS and 229 could be taken by students on Master's level.

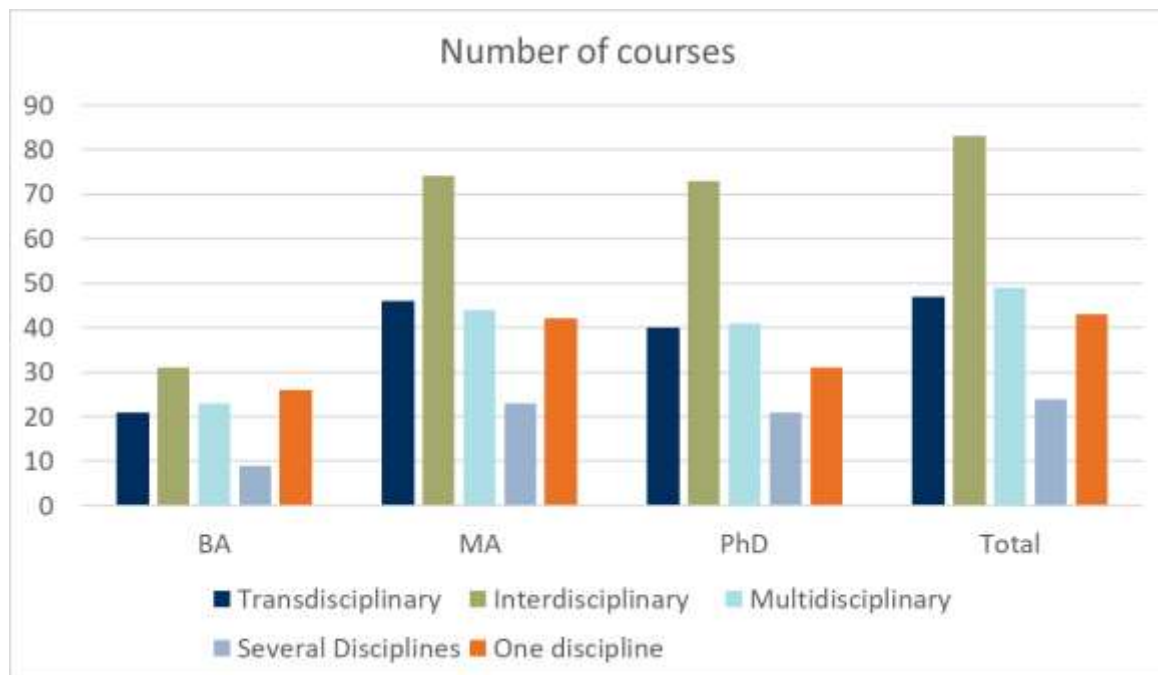


Figure 7. Diagram showing the selected CIVIS BIP courses and their level (Bachelor's, Master's, Doctoral) of studies.

Looking at the percentages of the BIPs for all different levels of the study cycle, we find that about 19 to 20% are transdisciplinary. Interdisciplinary BIPs are more common at the higher levels of education with 28% on bachelor's and 35.4% on doctoral level. On bachelor's level it is more common to find courses only involving one discipline (23.6%) whereas in the same category only make up 15% on doctoral level. It is an interesting observation and it suggests that disciplinary integration increases as education becomes more advanced. It is positive that transdisciplinary BIPs are present in the CIVIS education to the same degree regardless of the courses are given on Bachelor's, Master's or doctoral level, especially since transdisciplinary approaches might be more challenging to teach on undergraduate level.

Table 4. Table shows the percentages of BIPs for each level of education. Note that the percentages are calculated for each level, i.e. per column. This table includes 246 planned BIPs.

|                             | Bachelor's | Master's   | Doctoral   | Total      |
|-----------------------------|------------|------------|------------|------------|
| <b>Transdisciplinary</b>    | 19.1%      | 20.1%      | 19.4%      | 19.1%      |
| <b>Interdisciplinary</b>    | 28.2%      | 32.3%      | 35.4%      | 33.7%      |
| <b>Multidisciplinary</b>    | 20.9%      | 19.2%      | 19.9%      | 19.9%      |
| <b>Several disciplines</b>  | 8.2%       | 10.0%      | 10.2%      | 9.8%       |
| <b>One discipline</b>       | 23.6%      | 18.3%      | 15.0%      | 17.5%      |
| <b>Total number of BIPs</b> | <b>110</b> | <b>229</b> | <b>206</b> | <b>246</b> |

## Challenge-based learning

Looking through all the descriptions of the BIPs, only 13 of them have explicitly stated a clear challenge-based pedagogical element in the programme. As discussed in Chapter 1, this number does not include courses that have a challenge as a theme, i.e. a global or a local challenge, but only the pedagogical approach involving CBL. Subsequent chapters will analyse to what extent CIVIS BIPs tackle challenges as topic without explicitly following the pedagogical approach of CBL.

The coordinators of BIPs have emphasised that their programmes fostered interdisciplinary collaboration. 97.5% indicated that interdisciplinary approaches were encouraged in the courses and the same amount reported that students from different disciplines were supported in working and learning together. (Stingu et al 2026, p 56). The BIPs also show a broad range of stakeholders from society as a whole, to, depending on the subject at hand, NGOs, museums, medical clinics and local officials for instance.

## The student perspective

In the previous section, the pedagogical content has been analysed according to the descriptions provided by the coordinators. The first edition of an annual BIP survey has been conducted regarding the students' experience for the 2024/25 BIPs (Stingu et al 2026). According to that survey students generally perceived that the programmes included substantial elements of CBL, where students work on real-world problems linked to CIVIS focus areas such as health, climate, or cities. A clear majority indicated that these elements were present: 32.57% (n=199) answered 'to a great extent' and 29.79% (n=182) 'to a very great extent', together accounting for over 60% of respondents. A further 25.70% (n=157) considered that CBL was included 'to some extent'. Only a small minority reported low or no presence of such elements, with 7.69% (n=47) selecting 'to a small extent' and 4.26% (n=26) 'not at all'.

In line with the literature and theoretical foundations of CBE, the students describe how CBE had a positive impact on both engagement and learning outcomes making the learning experience more meaningful and motivating, with one participant noting that "focusing on real cases [...] made the learning process much more meaningful" and "encouraged me to actively participate, ask questions, and apply the concepts to my own [...] projects," (Stingu et al 2026, p. 55). Stingu et al. also conclude based on the survey that working on authentic tasks, with real-world problems and concrete cases was seen as crucial for this effect.

The impact is also visible as the students reported a very high level of encouragement to work and learn with colleagues from different areas of study, indicating that the programmes were strongly perceived as interdisciplinary and collaborative. Almost half of respondents stated that this occurred 'to a very great extent' (49.10%, n=300), and a further 35.84% (n=219) answered 'to a great extent', while only a small minority (n=23) indicated no or small extent of interdisciplinary interaction. (Stingu et al 2026 p. 57). Participants also pointed to problem-based and project-based activities as concrete vehicles for interdisciplinary teamwork, where

different academic profiles had to cooperate to design solutions to complex, real-world problems (Stingu et al 2026 p. 58).

These findings suggest that the CIVIS framework and support structures (call management, guidelines, IT support, Moodle courses, etc.) for academic teams and students open doors to new forms of collaboration and learning across borders and disciplines.

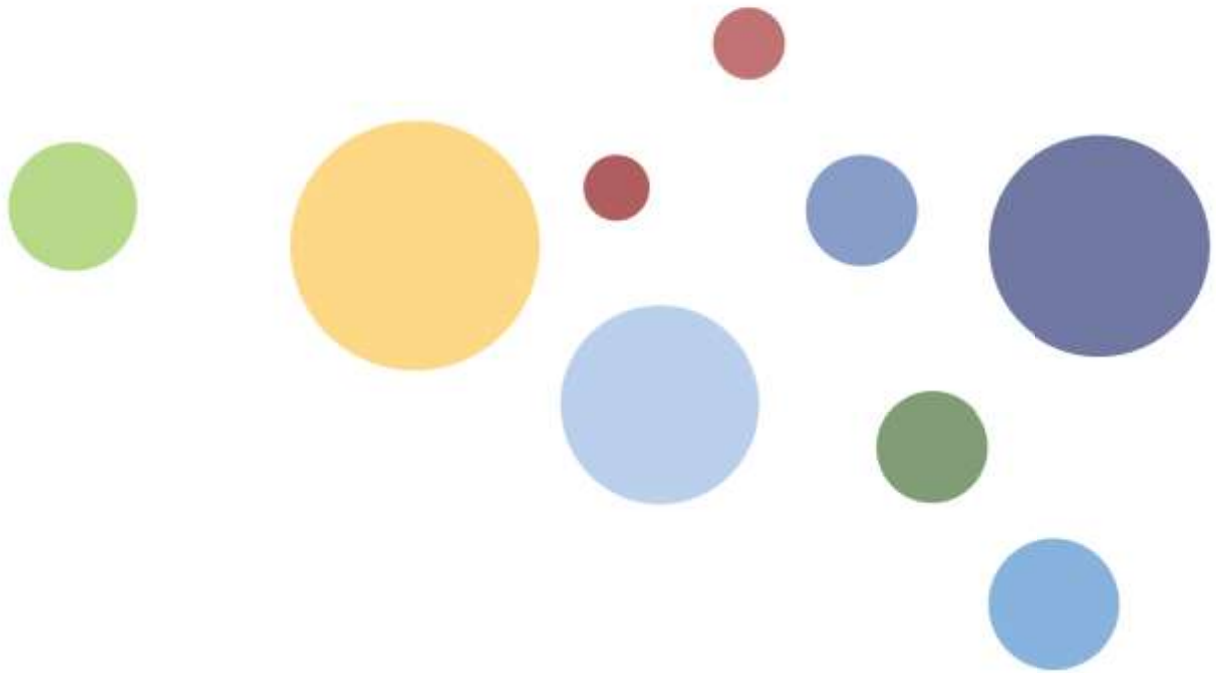
## Blended Intensive Programmes in CIVIS

A vast number of students, approximately 6500, have since 2022 participated in CIVIS BIPs. The BIPs have become a central part of CIVIS activities, spanning multiple disciplines and university collaborations. The Alliance has made it possible to develop these with a consistent theme of transdisciplinary and challenge-based perspectives. Many BIPs explicitly define themselves as *transdisciplinary*, *interdisciplinary*, or *multidisciplinary*, while others integrate several academic areas without using these terms. The BIPs by default involve mobility for the students. For a fuller description of that aspect see Deliverable 6.1.

It is worth mentioning that the short format of the BIPs makes it more challenging to involve external stakeholders in the curriculum and build a relation between students and the external partner. It usually takes time to gain trust from both sides. This is an inherent obstacle that is hard to overcome.

Several of the BIPs with CBL can be linked to the natural sciences such as studies on environment. But also BIPs in other disciplines such as economy, museum studies etc. have a strong pedagogical perspective in this direction. It is obvious that all these BIPs have a clear civic aspect. An activity that is present in many of the challenge-based BIPs is fieldwork. Fieldwork is inherent to several disciplines such as geology, geography, biology, environmental studies, archaeology, anthropology to mention some. It seems to be particularly suitable to adopt a challenge-based perspective if you already interact and engage with stakeholders in the field in some way.

To conclude this chapter, the BIPs within CIVIS show a strong focus on cross-disciplinary education. One-fifth of all BIPs are transdisciplinary, indicating substantial integration across fields. About 82% of all BIPs involve multiple disciplines. Even though no comparison to more conventional university offers is made, it can be expected that our BIPs represent a particularly high share of disciplinary integration. As the level of education rises, the degree of disciplinary integration tends to increase. BIPs are open to students across Bachelor's, Master's, and Doctoral levels. Transdisciplinary BIPs represent about 19–20% at all levels. Interdisciplinary BIPs increase with academic level (28% BA and 35% PhD). One-discipline BIPs are more common at BA level (23.6%) than PhD (15%). BIPs have grown and have become a cornerstone of CIVIS' collaborative academic framework, allowing students and academics to build transnational knowledge-creating teams across disciplines and oriented towards the challenges of our time



# 4

## **BUILDING BRIDGES BETWEEN ACADEMIC DISCIPLINES**

Types of challenges addressed

All CIVIS activities are linked to the societal challenges the Alliance has decided to address through the Hub themes. However, categorising a course or programme to be a part of a specific Hub does not fully reflect the content of that educational activity. Several of them also overlap and span two or even more Hubs.

Since BIPs mobilise a large number of students in CIVIS activities, the number of students participating in or applying to BIPs that can be linked to a Hub can serve as a proxy to see what challenges attract most students and where we have the biggest educational offer. The table below shows the number of students that have applied to BIPs by Hub. This reflects the interest in courses of the various fields. We see a large interest in BIPs linked to Hub 2 Society, culture, heritage. The Hubs are broader and function in an interdisciplinary logic, unlike the ISCED fields referenced in chapter 1.

*Table 5. Table showing the number of students that applied to BIPs belonging to various Hubs, and the approximate number that applied per BIP, a number that varies for each BIP from several hundred to some getting less than 10 applicants. Note that only about 6500 students were finally admitted and participated in the courses (compare with table 8).*

|                                                       | Number of Student applications | Mean number of applicants per BIP |
|-------------------------------------------------------|--------------------------------|-----------------------------------|
| <b>Hub 1 Climate, environment and energy</b>          | <b>2257</b>                    | <b>approx 107</b>                 |
| <b>Hub 2 Society, culture, heritage</b>               | <b>8191</b>                    | <b>approx 95</b>                  |
| <b>Hub 3 Health</b>                                   | <b>3677</b>                    | <b>approx 108</b>                 |
| <b>Hub 4 Cities, spaces and mobilities</b>            | <b>2353</b>                    | <b>approx 134</b>                 |
| <b>Hub 5 Digital and technological transformation</b> | <b>1461</b>                    | <b>approx 97</b>                  |

By classifying the activities according to the Hubs, we get the broad fields of societal challenge that CIVIS promotes. Beyond the Hubs, we can also analyse the BIPs by academic field. By digging deeper into the academic discipline with the ISCED classification, we get a more complete description of the content of our offered courses. The ISCED codes can be very detailed, which makes it sometimes difficult to categorise a course. Sometimes the codes are too wide in relation to the subject taught and sometimes the subject encompasses several academic disciplines and fields.

To set the CIVIS educational offer in relation to the broader picture in Europe, we can first see how students are distributed across ISCED fields within the EU. The most popular fields in the EU are, as displayed in figure 8 below, Business, administration and law, Engineering, manufacturing and construction and Health and welfare followed by arts and humanities.

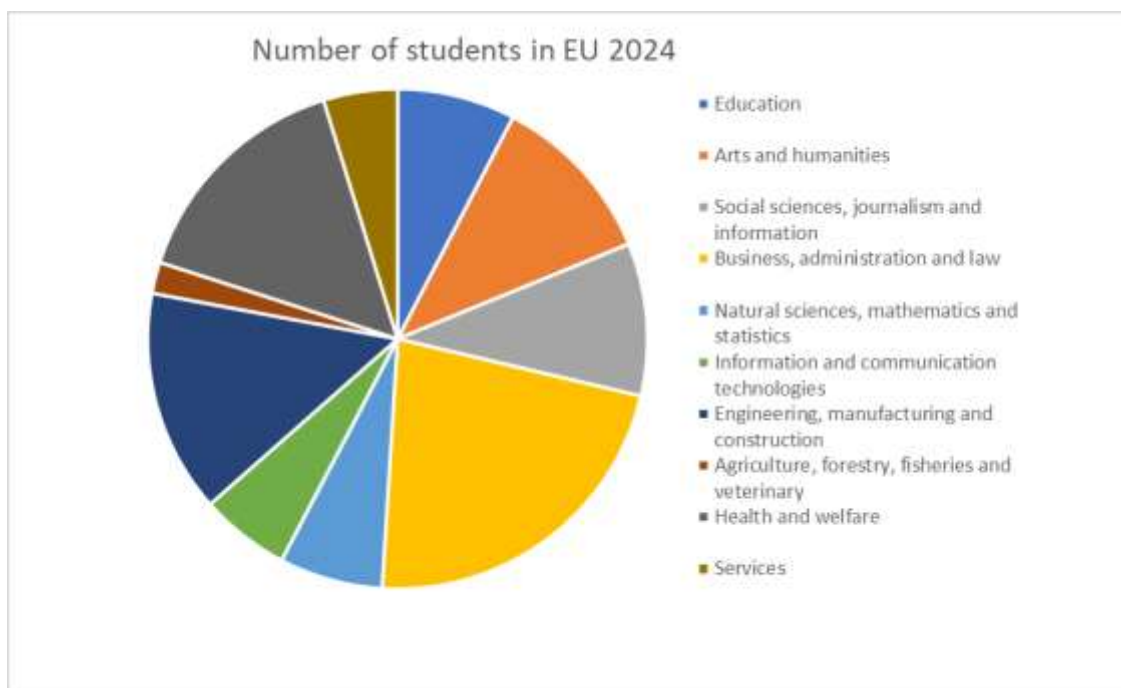


Figure 8. Diagram showing students in tertiary education in EU27 in 2024 divided into the main ISCED-fields. The total number was 18,1 million students that year. Arts and humanities are close to 2 million, Business, administration and law close to 4 million and Natural sciences, mathematics and statistics 1.2 million. Source: Eurostat.

## “Flagships” and educational calls 2024 and 2025

Reading the descriptions of the “Flagship”-projects, it becomes evident that they often include several fields ranging from the humanities to the natural sciences and health (see appendix). Even though a project often aligns with one Hub, its contents are often relevant across Hubs and disciplines. We have already seen that courses and programmes are bridging different parts of academia and also being transdisciplinary and include external stakeholders in their design.

The 29 educational activities created as a result of the educational calls can also be classified by ISCED codes. Here they are presented on two-digit level to make it comparable to major fields.. The appendix “Educational calls 2024 and 2025” shows the different combinations. Almost all cover more than one academic field.

Table 6. The table shows the distribution of educational provisions that involve different fields in the two educational calls in CIVIS. Note that there are only 29 activities, so several of them present a combination of fields. This table could be compared to the distribution of higher education in the EU as presented above.

| ISCED                                                  | EdCall2024 | EdCall2025 | Total     |
|--------------------------------------------------------|------------|------------|-----------|
| <b>01 Education</b>                                    | 1          | 2          | 3         |
| <b>02 Arts and humanities</b>                          | 5          | 9          | 14        |
| <b>03 Social sciences, journalism and information</b>  | 3          | 11         | 14        |
| <b>04 Business, administration and law</b>             | 2          | 1          | 3         |
| <b>05 Natural sciences, mathematics and statistics</b> | 4          | 4          | 8         |
| <b>06 Information and Communication Technologies</b>   | 4          | 9          | 13        |
| <b>09 Health and welfare</b>                           | 1          | 6          | 7         |
| <b>10 Services</b>                                     | 1          | -          | 1         |
| <b>Total</b>                                           | <b>-</b>   | <b>-</b>   | <b>29</b> |

Table 7. The table shows the combinations or links between different Codes. The figure shows the number of provisions that combine disciplines, for example ISCED 02 and 03 are combined in eight different educational activities whereas ISCED 02 and 04 are only combined three times.

|                     | ISCED 01 | ISCED 02  | ISCED 03  | ISCED 04 | ISCED 05 | ISCED 06  | ISCED 09 | ISCED 10 |
|---------------------|----------|-----------|-----------|----------|----------|-----------|----------|----------|
| <b>ISCED 02</b>     | 0        |           |           |          |          |           |          |          |
| <b>ISCED 03</b>     | 0        | 8         |           |          |          |           |          |          |
| <b>ISCED 04</b>     | 0        | 3         | 3         |          |          |           |          |          |
| <b>ISCED 05</b>     | 0        | 3         | 7         | 2        |          |           |          |          |
| <b>ISCED 06</b>     | 2        | 6         | 5         | 2        | 4        |           |          |          |
| <b>ISCED 09</b>     | 0        | 0         | 3         | 0        | 3        | 2         |          |          |
| <b>ISCED 10</b>     | 0        | 1         | 1         | 1        | 1        | 1         | 0        |          |
| <b>Total number</b> | <b>3</b> | <b>14</b> | <b>14</b> | <b>3</b> | <b>8</b> | <b>13</b> | <b>7</b> | <b>1</b> |

The numbers in table 7 indicate how many times different academic fields are combined in the educational provisions incentivised via the two educational calls. The total number is the absolute number of projects for each ISCED-category, since several have more than one connection (such as 14\_ *Global Destination and Tourist Organization Management*, 11\_ *Artificial Intelligence and Research: Opportunities Across Disciplines* and 31\_ *Competition for natural resources and conflict management in a complex approach*), the combinations make up a higher number. (see appendix for more information). For instance, there are only 3 projects classified as ISCED 04, but all of them are combined with two or more other major fields.

## Blended intensive programmes

It is apparent that educational activities incentivised via the "Flagship" initiative and the educational calls involved more than one academic field. At the same time, we can analyse the BIPs, in order to see what fields we cover and what types of interdisciplinary, multidisciplinary or transdisciplinary aspects are achieved.

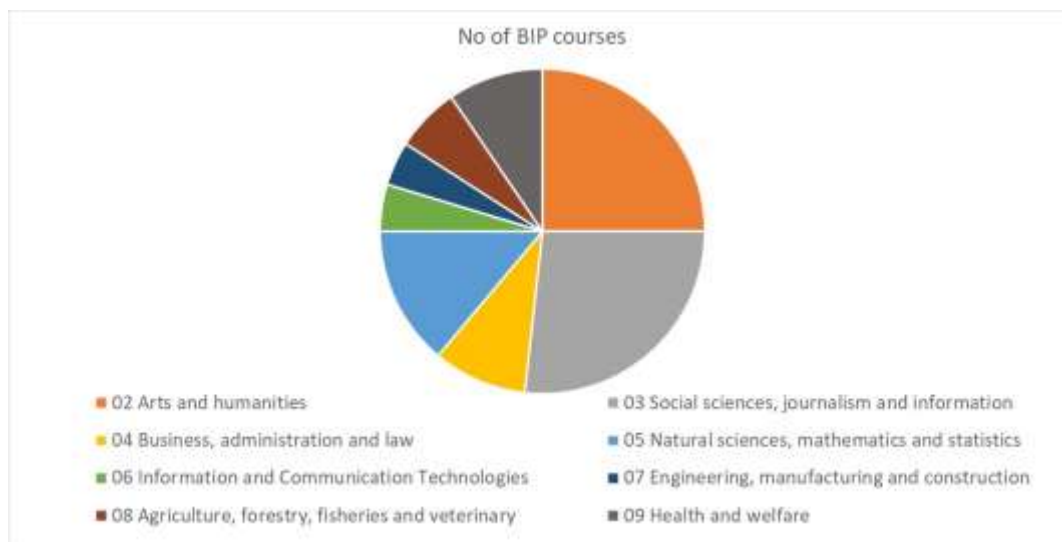


Figure 9. Distribution of BIP-courses according to ISCED-codes. The largest groups are Arts and humanities, social sciences and science, mathematics and statistics, but several other fields are also present. Note that one course can have several codes, so in that case it is counted more than once.

In the table below, we can see the number of BIPs and the number of students that have attended the different BIPs sorted by academic fields. The fields of Arts and Humanities, the Social Sciences and Business, Administration and Law make up the vast majority of our students. However, since several BIPs are classified among various disciplines, these numbers might be distorted, as these fields might be more common to include in multi- inter- or transdisciplinary designs. So, if we see that 4426 students have been enrolled in BIPs classified as Arts and humanities, some of those students are also counted within another field because the BIP can be assigned to more than one academic classification.

Table 8. The table shows the number of BIPs that are classified in ISCED-codes and the number of students participating. An individual course can be counted several times since they often have two or more ISCED-codes. The total number of students in this table is 6574.

|                                                                 | Number of BIPs | Number of Students |
|-----------------------------------------------------------------|----------------|--------------------|
| <b>ISCED 02 Arts and humanities</b>                             | 171            | 4426               |
| <b>ISCED 03 Social sciences, journalism and information</b>     | 183            | 4784               |
| <b>ISCED 04 Business, administration and law</b>                | 64             | 1655               |
| <b>ISCED 05 Natural sciences, mathematics and statistics</b>    | 95             | 2482               |
| <b>ISCED 06 Information and Communication Technologies</b>      | 32             | 876                |
| <b>ISCED 07 Engineering, manufacturing and construction</b>     | 30             | 748                |
| <b>ISCED 08 Agriculture, forestry, fisheries and veterinary</b> | 44             | 1071               |
| <b>ISCED 09 Health and welfare</b>                              | 65             | 1686               |

In many BIPs we can observe an overlap between the humanities and the social sciences. This is not so farfetched since many areas of study overlap in both fields. 183 out of 247 BIPs can be labelled among the social sciences. This is not very surprising since CBE is inherently linked to society outside of academia, and thus often includes some of the academic disciplines in the social sciences. At the same time, BIPs that have a clear challenge-based pedagogical approach come from a variety of disciplines and faculties, many of them from the natural sciences. The natural sciences are in total involved in 95 of the BIPs. They deal with themes such as climate, pollution, hazards etc., topics that are often linked to challenge-based pedagogical approaches.

*Table 9 The absolute number of BIPs as they are distributed among various combinations of academic categories. For instance: ISCED 02 Arts and humanities is combined with ISCED 03 Social sciences, journalism and information 169 times. For full description of the codes see previous Table 8.*

|          | ISCED 02 | ISCED 03 | ISCED 04 | ISCED 05 | ISCED 06 | ISCED 07 | ISCED 08 | ISCED 09 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| ISCED 02 |          | 169      | 56       | 62       | 27       | 21       | 31       | 19       |
| ISCED 03 | 169      |          | 56       | 75       | 29       | 24       | 37       | 22       |
| ISCED 04 | 56       | 56       |          | 37       | 21       | 19       | 24       | 14       |
| ISCED 05 | 62       | 75       | 37       |          | 25       | 27       | 44       | 24       |
| ISCED 06 | 27       | 29       | 21       | 25       |          | 16       | 13       | 10       |
| ISCED 07 | 21       | 24       | 19       | 27       | 16       |          | 21       | 12       |
| ISCED 08 | 31       | 37       | 24       | 44       | 13       | 21       |          | 10       |
| ISCED 09 | 19       | 22       | 14       | 24       | 10       | 12       | 10       |          |
|          | 171      | 183      | 64       | 95       | 32       | 30       | 44       | 65       |

*Table 10. shows the percentages of BIPs in relation to combination of academic categories (ISCED 02-09). How CIVIS BIPs link various fields of study. In the table below the percentages are calculated for the line, not the columns. So, the overlap of ISCED\_02 and ISCED\_03 is 169 BIPs but that equals 98 or 92 percent depending if you divide the number with the total number of courses in either group. High percentages 50-100% marked as dark grey, 20-49.9% medium grey, below 20% light grey for easier reading of the table. For full description of the codes see previous Table 8.*

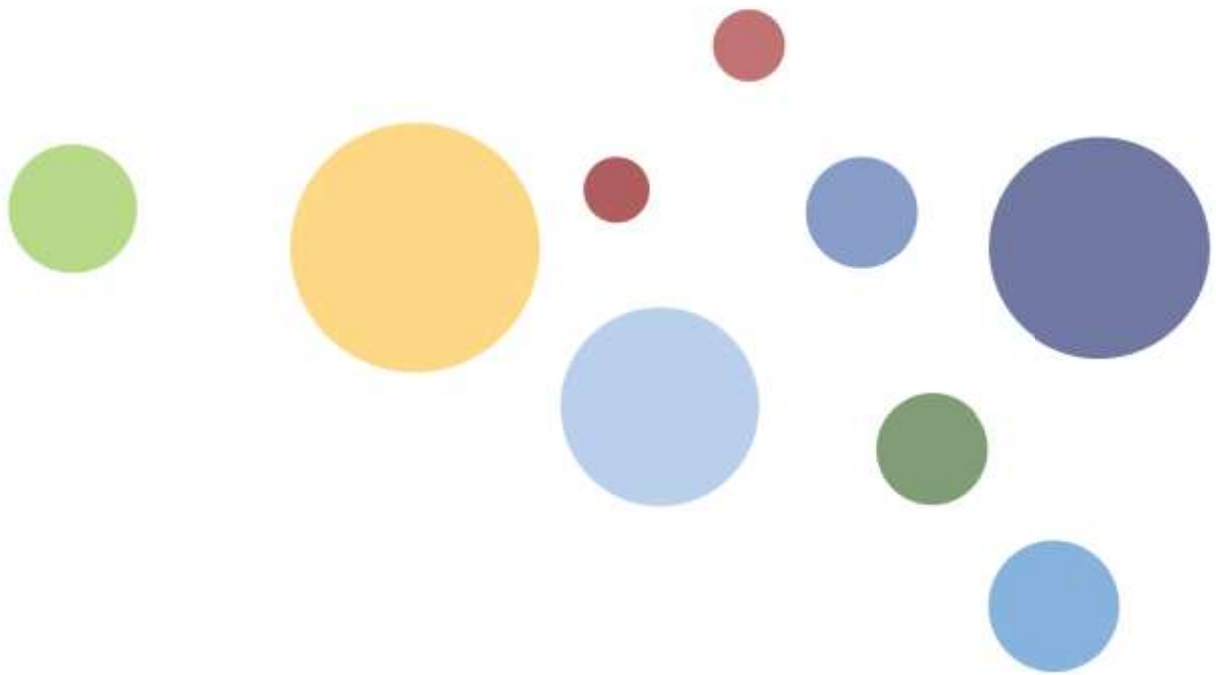
|          | ISCED 02 | ISCED 03 | ISCED 04 | ISCED 05 | ISCED 06 | ISCED 07 | ISCED 08 | ISCED 09 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| ISCED 02 |          | 98,8%    | 32,8%    | 36,3%    | 15,8%    | 12,3%    | 18,1%    | 11,1%    |
| ISCED 03 | 92,4%    |          | 30,6%    | 41,0%    | 15,8%    | 13,1%    | 20,2%    | 12,0%    |
| ISCED 04 | 87,5%    | 87,5%    |          | 57,8%    | 32,8%    | 29,7%    | 37,5%    | 21,9%    |
| ISCED 05 | 65,3%    | 79,0%    | 39,0%    |          | 26,3%    | 28,4%    | 46,3%    | 25,3%    |
| ISCED 06 | 84,4%    | 90,6%    | 65,6%    | 78,1%    |          | 50,0%    | 40,6%    | 31,2%    |
| ISCED 07 | 70,0%    | 80,0%    | 63,3%    | 90,0%    | 53,3%    |          | 70,0%    | 40,0%    |
| ISCED 08 | 70,4%    | 84,1%    | 54,6%    | 100,0%   | 29,6%    | 47,7%    |          | 22,7%    |
| ISCED 09 | 29,2%    | 33,8%    | 21,5%    | 36,9%    | 15,4%    | 18,5%    | 15,4%    |          |
|          | 171      | 183      | 64       | 95       | 32       | 30       | 44       | 65       |

This table tells us that, in spite of their short time frames, BIPs do actually combine several fields even if we look at the two digit level of the ISCED-codes. The biggest overlap can be observed between Social Sciences and Arts and Humanities: out of the total of 171 BIPs that are classified within the Arts and Humanities, 169 also include Social Sciences, Journalism and Information. Even in the categories that only count a smaller number of BIPs, such as agriculture, present a significant number of courses that include complementary fields.

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In sum, it is fair to state that the whole educational portfolio of CIVIS deals with important challenges that Europe and Africa face today. This is also a contribution from our Hubs. For instance, all Hub 3 provisions deal with medical issues that need to be addressed. Hub 1, 4 and 5 deal with crucial questions such as the environment, cities, mobilities, digital transformation and wellbeing. The Hub2 activities, in addition to dealing with central questions, also have a clear CBL perspective in their curricula.

When we break it down to ISCED-codes the level of integration of various disciplines in the CIVIS educational offer is clearly visible. Given the very high level of aggregation used in this analysis, an even bigger diversity and interdisciplinary overlap would result if the four-level ISCED-codes were applied. A more general conclusion is that most educational activities incentivised by or coordinated within CIVIS2 indeed combine various academic fields to a large extent. Many of today's societal challenges demand input from many vantage points and academic disciplines. The collaboration within and beyond Hubs and the variation of ISCED-codes and their combinations in our offer show how the project and the Alliance contribute to innovative learning environments and they also bear testament to the comprehensive nature of the CIVIS universities and CIVIS as a whole.



# 5

## CHALLENGES IN A EUROPEAN PERSPECTIVE

## Introduction

Before coming to the conclusion, we believe that it is also relevant to think about the major challenges we face as a University Alliance in the European Union as well as in a global perspective. One way of describing this is to look at central focus areas of the EU when it comes to higher education in the European Education Area (EEA) and the Union of Skills.

### Focus topics in European Education Area

The European Union has agreed a set of focus topics in the [\*Strategic Framework for European cooperation in education and training towards the European education area \(EEA\) and beyond\*](#). Those will guide the Member States and stakeholders, like CIVIS and our Member Universities, to achieve the goals. The areas are currently described as 1) *Improving quality and equity in education and training*, meaning that all citizens have the right to high-quality and inclusive education, training and lifelong learning. 2) *Teachers, trainers and school leaders* an effort to revalorise the teaching professions and to provide all teachers, trainers and school leaders with high-quality initial education and professional development opportunities. 3) *Digital education* by promoting the development of a high-performing European digital education ecosystem and seeking to enhance citizens' competences and skills for the digital transition. 4) *STEM* Science, technology, engineering and mathematics (STEM) are essential skills for the EU's present and future. 5) *Green education* meaning that it should encourage the education sector to take action to contribute to the green transition and to strengthen the sustainability competences of learners. 6) *The EEA in the world* i.e. strengthening international cooperation with countries and regions around the world and continuing to promote Europe as a partner for education.

There are also some themes mentioned specifically regarding higher education, such as *Inclusive and connected higher education* which aims at education to be inclusive and its institutions connected to their communities. And finally, the goal *Innovation in education*. Fostering innovation in higher education is a key priority for the EU and its Member States. See also Dikilitaş, Marshall and Masoumeh Shahverdi (2025, p. viii) who highlight CBL as a good approach to contribute to the achievement of these goals.

### Union of Skills

A more recent strategy is the so-called *Union of Skills - challenges of higher education in Europe* (The Union of Skills 2025). Overall, it epitomises the EU's effort to align education, training, and employment with the needs of a rapidly evolving economy, focusing on lifelong learning, inclusivity, and labour market adaptability. It aims to equip Europeans for the green and digital transitions, address labour shortages, and ensure that education, training, and employment policies work together. Here a number of aspects are highlighted for instance education in STEM but also including arts (STEAM), Teacher education, vocational education and training (VET), increased accessibility to higher education, boosting entrepreneurship education, European competence for academic staff among other things.

## The CIVIS contribution

This section examines the achievements so far in CIVIS 2 in relation to these more general European goals as presented above. We find that some of those are hard to relate to qualitative and quantitative data regarding our educational offer. There are obvious achievements in CIVIS educational provisions in relation to the goal *Inclusive and connected higher education*, especially related to European cooperation and mobilities of students in the Alliance for instance. Transdisciplinary education, of which we have plenty (see chapters 2 and 3), further shows how embedded the education is in society.

In relation to *innovation in education*, we can highlight the development of innovative pedagogies. By combining methods, theories, and practices from multiple disciplines, transdisciplinarity fosters creativity and innovation. This integration often leads to novel solutions that would not emerge within traditional disciplinary boundaries, driving progress in both knowledge creation and practical applications. The European cooperation in the Alliance also facilitates the transfer of knowledge between our Full Members in Europe and our Associate Members in Africa. The fact that several educational provisions include external stakeholders,

transdisciplinary aspects of education and even challenge-based education across all the Hubs manifests the competence distributed through and streamlined within the Alliance.

Some goals such as *Teachers, trainers and school leaders* are not so much visible in our CIVIS offer yet. The teacher education, vocational education and training (VET) is more related to schools than higher education. However, many courses for teachers in schools are carried out on a national level rather than across countries in university alliances. We have however educational provisions linked to learning and various pedagogical aspects, but here is room for more activities to be developed within the Alliance; perhaps especially concerning languages, history, social sciences and environment where an international perspective would be important in schools. There is however a separate initiative linked to several participating universities in CIVIS "[The UNI-T Academy](#)" (eUropeaN clvic Teacher Academy) project, coordinated at AMU, is one of the 11 projects selected by the European Commission as part of the Erasmus Teacher Academies call for projects.

*Digital education* is a central goal. Since the inception of CIVIS, there has been a Hub dedicated to this topic; Hub 5 - Digital & Technological transformations. 10 of the 41 educational activities (flagships and calls) have been proposed by Hub 5. All are highly relevant to achieve this goal. They include courses and programmes related to AI in various ways such as 'Digital Transformations in Health and Wellbeing' linking medicine and technology', or 'Equitable and Just Digital Society: Developing Interdisciplinary Skills and Knowledge.' Furthermore, the pandemic prompted all to think more about the possibilities of digital tools in higher education. All BIPs are for instance partly digital by design.

Most researchers and policymakers agree that STEM (Science, technology, engineering and mathematics) education is a critical area that needs further development and that it should be a focus area of higher education and is addressed in our Hubs. 103 out of the total 247 planned BIPs covered STEM disciplines showing this resolve. When it comes to STEAM, i.e. also including arts and humanities, we can see in our BIP-courses that over 80% of the BIPs within Information and communications technologies also include arts and humanities. Likewise, courses in natural sciences and mathematics have a 65% overlap with arts and humanities and there are similar numbers for Engineering. The links to social sciences are even stronger (see previous chapter). CIVIS 2 has thus delivered regarding challenge-based and future-oriented STEAM offer on a European scale.

*Green education*, as mentioned above is an explicit focus of *Hub 1 - Climate, Environment, Energy*. The Hub's "Flagship" is a Master's programme cutting across all the CIVIS universities called Master's Programme in Transdisciplinary Studies of Climate, Environment and Energy, TRACEE. Hub 1 has also offered more than 20 BIPs. Additionally, Deliverable 6.1 reports on green-mobility in the Alliance, which remains challenging.

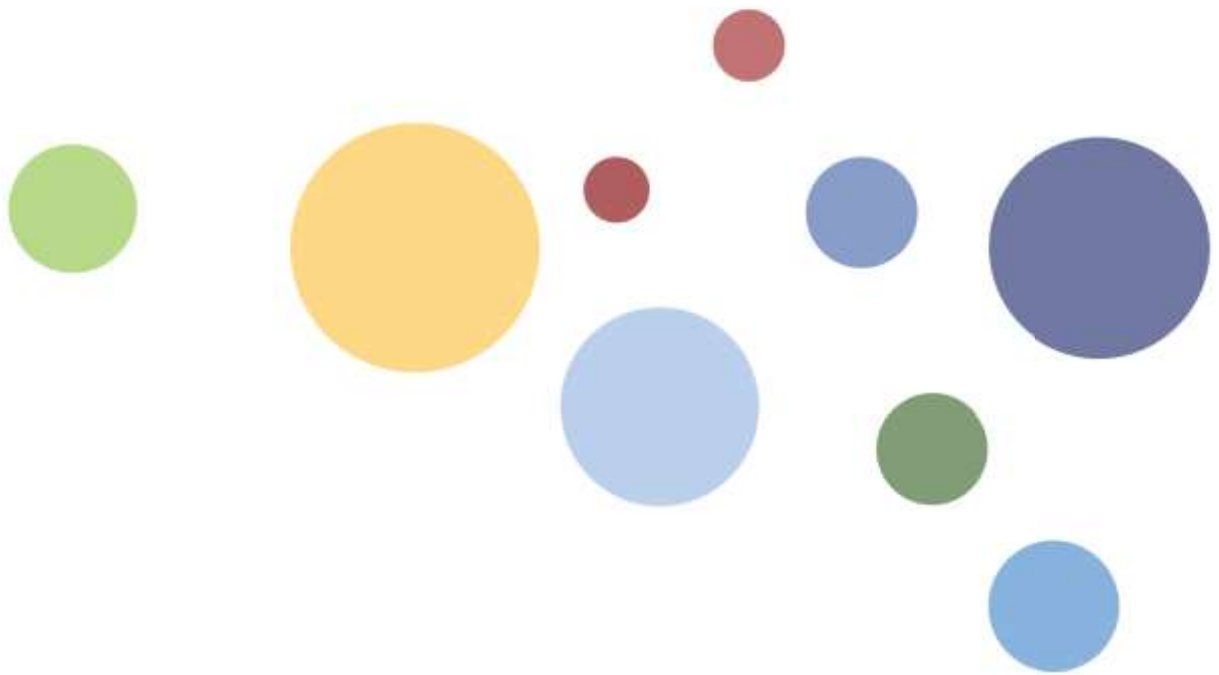
In the overall goals of the EEA strategic framework, *The European Education Area in the world* is another priority. This goal is difficult to quantify but collaborations with African Associate Members can be used as a proxy of this. To this date 15 of the 41 activities under the educational calls and flagships have participation of one or more African universities, even though mobilities from or towards these countries and organisational costs in these countries cannot be financed by the CIVIS2 Erasmus+ grant. One of the tasks of the CIVIS 2 project was however "T3.3 to *Intensify Cooperation with International Associated partners in challenge-based higher education*". We have built the base for fruitful collaboration, but more can be done to overcome practical obstacles linked to for instance funding and [visas for students and researchers](#). The Associate Members are a key dimension of CIVIS and its challenge-based agenda.

Another goal is increased accessibility to higher education - lifelong learning. This has not been a major focus for CIVIS, even though the development of micro-credentials and the Open Lab projects can contribute to these objectives. Few activities in CIVIS are directed to students not previously admitted to a university. On the other side, the Alliance opens up learning opportunities for students that would have been inaccessible at their home universities, enlarging of the possible curriculum for each student. In the next years, the Alliance will work on opening opportunities also via activities for other groups than students.

Labour market adaptability is of course central to universities that want to educate our students for needs that are relevant today and tomorrow. By involving external stakeholders, from both public and private sector, in several of CIVIS educational provisions we ensure that the education is relevant in today's society. The transdisciplinary aspects ensure that our students acquire relevant knowledge and pose applicable questions.

Table 11. CIVIS achievements in relation to overall European goals discussed above. The level of achievement, in three simplified levels, is indicated by the colours: Dark Green – High level of achievement; Light Green – Intermediate level of achievement; Orange – Room for improvement

| <b>European goals</b>                                                  | <b>CIVIS achievements</b>                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Inclusive and connected higher education</i>                        | Significant Progress – CIVIS educational activities display a very high degree of collaboration with external stakeholders in several educational projects and BIPs as seen in the analysis of transdisciplinarity.                                                |
| <i>Innovation in education</i>                                         | Significant Progress – In CIVIS a range of innovative pedagogies have been launched, in this deliverable we are mostly concerned with transdisciplinary and CBE and they permeate several activities as shown here.                                                |
| <i>1) Improving quality and equity in education and training</i>       | Significant progress – Several provisions offered with innovative pedagogies. Several have for instance CBE and include external stakeholders. Important transfer of knowledge between universities.                                                               |
| <i>2) Teachers, trainers and school leaders</i>                        | Here is room for improvement and future development. Relatively few activities in CIVIS are directed to future teachers.                                                                                                                                           |
| <i>3) Digital education</i>                                            | Significant progress – There are several provisions in the topic especially in Hub 5 - Digital & Technological transformations, but also practically conducting digital offer across all the Hubs.                                                                 |
| <i>4) STEM</i>                                                         | Significant progress – Many courses with for instance over 100 BIPs during the period belong to STEM category.                                                                                                                                                     |
| <i>5) Green education</i>                                              | Significant progress - Many courses and programmes have been developed relating to environmental challenges. In Hub 1 - Climate, Environment, Energy but also in collaboration with other Hubs. Courses exist for Bachelor's, Master's and Doctoral-level.         |
| <i>6) The European Education Area in the world</i>                     | Progress – One unique feature in CIVIS is that there are dedicated African partner universities. It is encouraged to include them in preparation of courses and they do often participate.                                                                         |
| <b>Additional goals in Union of Skills</b>                             |                                                                                                                                                                                                                                                                    |
| <i>STEAM</i>                                                           | Significant Progress – We have shown that it is possible in our educational activities to build bridges between for instance the sciences, medicine and arts and humanities.                                                                                       |
| <i>Increased accessibility to higher education - lifelong learning</i> | This has not been a major focus for CIVIS. Few opportunities in CIVIS are directed to students not previously admitted to a university, but through CIVIS students from all universities can participate in BIPs or micro-credentials, etc... run by the Alliance. |
| <i>Labour market adaptability</i>                                      | Progress – By involving external stakeholders in CIVIS education, from both public and private sector, we ensure that the education is relevant in today's society.                                                                                                |



# 6

## SUMMARY AND CHALLENGES

## Summary

To reiterate the relevant CIVIS2 tasks in this deliverable mostly covered *T3.1 Support academic staff engaged in our emerging challenge-driven Education & Research Activities* and *T3.2 Support Hubs to build common research-based education and other innovative activities in their areas*. This report consisted of a presentation and analysis of the resulting catalogue of educational activities designed or delivered by the Hubs or within the themes of the Hubs.

In the Alliance there has been a focus on CBE, also reflected in the award criteria of the educational calls in 2024 and 2025. Several of the early 12 "Flagships" have included transdisciplinarity in their design, i.e. they have involved external stakeholders. All Hubs have examples of transdisciplinary education in their "Flagships". The subsequent 29 educational provisions incentivised under the educational calls in 2024 and 2025 have almost all included external actors. Also, the 247 CIVIS BIPs selected (of which 236 have actually taken place) demonstrate a strong culture of cross-disciplinary education. In the BIPs alone about 6500 students have participated in various courses. Interdisciplinary and transdisciplinary learning are integral to CIVIS' educational offer and academic identity. As education level rises, BA, MA and PhD-level, integration across disciplines increases. This overview demonstrates that transdisciplinarity and challenge-based education exist to a large extent in the CIVIS educational activities under scrutiny here.

We have, as formulated in one of the CIVIS2 Project's subtasks, developed education which sees students from all levels empowered and involved in challenge-based curricula. Indeed, educational activities on Bachelor's-, Master's- and Doctoral level have included not only major real-world challenges but also the pedagogical efforts to create CBL, as outlined in chapter 1. The CBL approach offers several benefits: it increases student engagement, develops critical skills such as collaboration and problem-solving, promotes practical real-world application, and fosters civic responsibility. CBL has expanded from schools and industry settings into higher education, where frameworks, such as the CIVIS model, underline the importance of stakeholder involvement and interdisciplinary participation. CBL is a hands-on, collaborative pedagogical approach where students work on real, meaningful problems by asking questions, conducting research, planning, and taking action. CBL is structured around three cyclical phases, Engage, Investigate, and Act, which guide learners from identifying a broad idea to defining a specific challenge, exploring solutions, and implementing and evaluating real-world actions.

The sustained presence of transdisciplinarity and CBE confirms CIVIS' commitment to addressing complex societal challenges through multidimensional teaching and research thus fulfilling the subtasks T3.2.2 that we were to create either inter- or transdisciplinary and cross-sectoral courses and T3.2.3 regarding innovative pedagogies.

## Types of challenges addressed

Analysing CIVIS educational provisions and BIPs by academic disciplines (ISCED fields) provides a clearer picture than by hub themes alone, highlighting their broad and often interdisciplinary nature. Compared to EU trends—where fields like business, engineering, and health dominate—CIVIS provisions show strong representation in arts, humanities, social sciences, and ICT (Information and Communication Technology). Many courses and programmes, even the short BIPs, span multiple disciplines and frequently adopt transdisciplinary and challenge-based approaches. Social sciences and humanities are especially interconnected across the CIVIS Offer. Equally, science-based topics in our offer with challenges such as climate and health often also address social sciences and humanities. Overall, CIVIS offerings are highly interdisciplinary and closely aligned with real-world challenges across Europe.

## European and global challenges

The European Union has identified key challenges and priorities for higher education through the European Education Area (EEA) and the Union of Skills strategy. The EEA focuses on six main areas: improving quality and equity in education, strengthening the teaching profession, advancing digital education, promoting STEM skills, supporting green education, and enhancing international cooperation. In higher education specifically, there is an emphasis on inclusivity, connectivity, and innovation. The Union of Skills builds on these priorities by aligning education, training, and employment with labour market needs. It promotes lifelong learning, inclusivity, and adaptability, with particular focus on digital and green transitions, STEM/STEAM education, teacher training, vocational education, and entrepreneurship.

CBL aligns well with contemporary educational goals, such as those set by the European Council for 2030, including improving quality and equity in education, supporting lifelong learning, and contributing to the green and digital transitions.

The CIVIS Alliance contributes to several of these goals. It shows strong progress in areas such as inclusive and connected higher education, innovation in education, including challenge-based and transdisciplinary learning, digital education, STEM, and green education. CIVIS also supports international collaboration, notably through partnerships with African universities.

However, some areas require further development, particularly in teacher education and formats specifically aimed at educators. Overall, CIVIS demonstrates significant alignment with EU priorities, especially in fostering innovation, interdisciplinarity, and collaboration across institutions.

## Looking forward

CBE engages students with real-world problems and emphasises interdisciplinary collaboration and practical application of knowledge. The CIVIS Hubs have carved out relevant themes for the Alliance and they can serve as platforms for transdisciplinary CBL including innovation and community involvement with external actors. The strategic frameworks and partnerships, especially with six African universities, which are now Associate Members, can further strengthen global collaboration on pressing issues such as health, climate change, and migration. It is clear that internationalisation of education in itself, such as activities within CIVIS, can, as Budwig & Alexander (2020, p. 2) put it, help transdisciplinary efforts and overcome academic knowledge silos. Here the University Alliance can potentially have a significant impact. Additional challenges that have emerged over the last years for challenge-based education as pointed out by Beattie (2024) are the pandemic of Covid-19 and the rise of AI. Two major events in society that have to be, and already are, incorporated. For that we need to continue to align our calls, and make sure the challenges continue to be pertinent to society.

Even though there is a high level of buy-in of the perspective as seen in the CIVIS educational portfolio, it is important to continue to study and improve the pedagogical aspects of learning, using this relatively new approach. CBE involves many aspects, amongst other things adapting pedagogical structures and creating new learning environments. Horn et al (2024) show that there is a need for further studies on how students learn using this perspective and subsequently how we are to teach. We also have an opportunity in CIVIS to enhance knowledge, and dissemination of the method apart from gaining empirical input how it works in a broad setting, across universities and across academic disciplines. In an overview from 2022 it looks like there is a tendency in the literature that 'subject area knowledge' is reduced in favour of generic skills (Leijon et al 2022, p. 616). This can be seen as a risk, and perhaps also an effect of being multidisciplinary.

There are clearly several activities in CIVIS that are already challenge-based, but there is a potential to incorporate the pedagogical approach more systemically in the future. It is important to continue to support our teachers in this endeavour in line with the subtask T3.1.1, i.e. to organise workshops and seminars to stimulate dialogues between the Hubs. Some universities, courses and teachers are well versed in the method and others are embarking on this pedagogical shift for the first time. To continue to transfer knowledge in an organisational form is essential. That enhances our capabilities to simply make it easy to know what has been



done in different CIVIS activities. The Open Labs are the clearest existing CIVIS structure apt for a challenge-based perspective. A structure that also often provided essential purpose-built spaces for this kind of education. It would be valuable in the future to deepen this focus regarding staff weeks, resources or micro-credentials specifically targeting pedagogical training, digital education, and transdisciplinary methods for future school teachers.

Higher education within CIVIS and all the universities that participate has a strong influence on our future professionals. Bridging the different disciplines in academia and society in a transdisciplinary way is key in order for us to reach its full potential in contributing to the future of society. As stated by Piaget in 1972, in the very moment when the concept of transdisciplinarity was coined: 'If education is accepted as being essentially education for the self-renewal of society, it becomes an important, or even the most important agent of innovation.' (Quoted from Budwig & Alexander 2020, p. 11).

A further focus on CBL can also amend the effects as far as civic engagement is concerned. For our Alliance, the CIVIS2 deliverable 2.1 states perfectly: 'CIVIS' strategic alignment with European educational objectives demonstrates a proactive commitment to enhance the quality and reach of higher education through innovative practices that emphasise civic engagement, challenge based learning, and international collaboration.' (Blenckner et al 2024, p. 55). A focus on scientific, evidence-led education, encouraging critical thinking, mutual respect, and democratic values whilst the Alliance is focused on relevant tasks in society, makes a concrete impact. Christersson et al (2022, p 11) argue one step further and assume that by adopting CBL in higher education it can play an important role in developing a global learning society.

## References

- Apple, Inc. (2008) Apple Classrooms of Tomorrow—Today Learning in the 21st Century. Cupertino, California: Apple, Inc.
- Atkinson-Toal, Aaron. (2024). Student Value of a Transdisciplinary Approach to Curriculum Development. *Journal of Marketing Education*, 0(0). <https://doi.org/10.1177/02734753241288182>
- Beattie, Scott (2024) *Challenge Based Learning Engaging with Students Through Interactivity*, Springer.
- Blenckner, Thorsten, Sbaraglia, Fanny, Osborne, Mike, Möllmann, Christian, Martin Santamaria, Enrique, Reynaud, Celine, Brännström, Pär, Diehl, Johanna, Harmalla, Ulla, Breitholtz, Magnus & Wilenius, Maria (2024) WP2 Deliverable 2.1 *Digital Guidebook on the CIVIS Challenge-Driven Approach*, CIVIS.
- Budwig N & Alexander AJ (2020). A Transdisciplinary Approach to Student Learning and Development in University Settings. *Front. Psychol.* 11:576250. doi: 10.3389/fpsyg.2020.576250
- Christersson, C. E., Melin, M., Widén, P., Ekelund, N., Christensen, J., Lundegren, N., & Staaf, P. (2022). Challenge-Based Learning in Higher Education: A Malmö University Position Paper. *International Journal of Innovative Teaching and Learning in Higher Education*, 3(1), 1–14. <https://doi.org/10.4018/IJITLHE.306650>
- Ciolan, Lucian, Iucu, Romita, Nedelcu, Anca, Mironov, Cosmina & Cartis, Alexandru (2021). Innovative pedagogies: Ways into the Process of Learning Transformation [innovative-pedagogies-ways-into-the-process-of-learning-transformation.pdf](https://doi.org/10.1177/02734753211000000000000000000000) (accessed 10 September 2025)
- Dikilitaş, Kenan, Marshall, Tim and Shahverdi, Masoumeh:2025 A Practical Guide to Understanding and Implementing Challenge-Based Learning Palgrave Macmillan, Springer.
- European Education Area (2026). Quality education and training for all retrieve spring 2026 <https://education.ec.europa.eu/>
- Galdames-Calderón, M., Stavnskær Pedersen, A., & Rodriguez-Gomez, D. (2024). Systematic Review: Revisiting Challenge-Based Learning Teaching Practices in Higher Education *Education Sciences*, 14(9), 1008. <https://doi.org/10.3390/educsci14091008>
- Georgiou, D., Gallagher, S. E., & Chmielewska, K. A. (2025). Beyond the challenge: Exploring student, lecturer, and stakeholder challenges with challenge-based learning. *Active Learning in Higher Education*, 0(0). <https://doi.org/10.1177/14697874251326099>
- Horn, A., Visser, M.W., Pittens, C.A.C.M., Urias, E. Zweekhorst, M. B. M. & van Dijk, G. M. (2024). Transdisciplinary learning trajectories: developing action and attitude in interplay. *Humanit Soc Sci Commun* 11, 149 (2024). <https://doi.org/10.1057/s41599-023-02541-w>
- Leijon, M., Gudmundsson, P., Staaf, P., & Christersson, C. (2022). Challenge based learning in higher education—A systematic literature review. *Innovations in Education and Teaching International*, 59(5), 609–618. <https://doi.org/10.1080/14703297.2021.1892503>
- Leijon, M., Nordmo, I., Tieva, Å., & Troelsen, R. (2024). Formal learning spaces in Higher Education – a systematic review. *Teaching in Higher Education*, 29(6), 1460–1481. <https://doi.org/10.1080/13562517.2022.2066469>



Martín Santamaría, Enrique (2023) CIVIS micro-credentials Notes for a challenge-based approach September, 2023 <https://box.civis.eu/s/wESAHqKHRtpiAd4>

Martín Santamaría, Enrique (2024). Calendar of Workshops on Innovative Pedagogie, Milestone 8.5 Work package WP8 Embedding Shared Educational Offer.

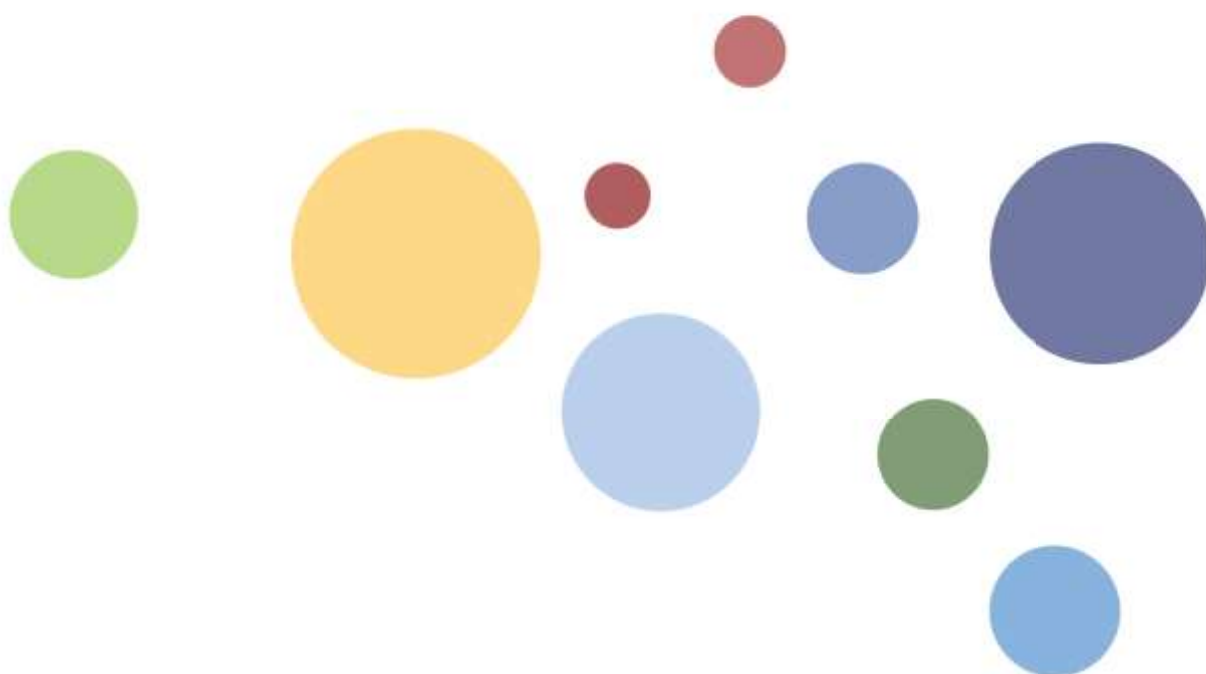
Nicewonger, Todd E. & Amelink, Catherine T. (eds.) (2025). Global Insights into Transdisciplinary Higher Education Initiatives, Blacksburg, VA, Virginia Tech Publishing, 200p.

Stingu, M., Carțiș, A., Iftimescu, S., Björling, A.-K., Sköld, E., & CIVIS – Europe's Civic University Alliance. (2026). CIVIS Blended Intensive Programmes 2024-2025: quality, impact, and strategic development. CIVIS – Europe's Civic University Alliance. <https://doi.org/10.5281/zenodo.18504165>

Taconis R and Bekker T (2023) Challenge Based Learning as authentic learning environment for STEM identity construction. Front. Educ. 8:1144702. doi: 10.3389/feduc.2023.1144702

The Union of Skills (2025). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The Union of Skills Brussels, 5 March 2025. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A52025DC0090>

UNESCO (2013) International Standard Classification of Education Fields of education and training (ISCED-F 2013) – Detailed field descriptions. <https://unesdoc.unesco.org/ark:/48223/pf0000235049.locale=en>



## APPENDIX

Description of flagships

## The flagship projects

To get a better understanding of the flagship projects, here is a more detailed description of them and what they contain and what their main objectives are. These texts are created based on information on public websites directed towards students and faculty and internal documents on the activity as they were being planned.

### Hub 1 Climate, Environment and Energy

#### 1. Master's Programme in Transdisciplinary Studies of Climate, Environment and Energy, TRACEE

The TRACEE programme is a two-year, 120 ECTS, Master's programme with the first semester (30 ECTS) hosted by Stockholm University, but co-created and co-taught by academics from all across the CIVIS Alliance. All 11 European CIVIS Universities are full degree awarding partners in the joint master's programme coordinated by Stockholm University. The programme offers nine different study tracks to choose from, with aspects from science, law, humanities and the social sciences, those tracks are: *Environmental Humanities and Law* (PLUS, Austria, and UB, Romania), *Environmental Social Sciences* (UofG, Scotland, and UB, Romania), *Energy and Matter* (UAM, Spain, and SU, Sweden), *Environmental Chemistry and Toxicology* (SU, Sweden, and UT, Germany), *Environmental Geoscience* (UofG, Scotland, and AMU, France), *Climate Change Science* (NKUA, Greece, and UT, Germany), *Environmental Risk and Mitigation* (UNIL, Switzerland, and SUR, Italy), *Transdisciplinary Approaches to Climate Change* (PLUS, Austria, and ULB, Belgium), *Global Change Biology* (SUR, Italy, and AMU, France). The Master's programme is designed to train students to tackle some of the world's most pressing challenges—climate change, energy transitions, and environmental crises. To build a sustainable future. The aim is to educate students to break disciplinary boundaries and work together on transformative solutions. The master programme provided students with new skills and knowledge, and supported their entrepreneurial mind-set to better tackle society's biggest challenges locally and globally, through teamwork. The programme's mobility components also allow students to explore new academic environments, broaden their multicultural perspectives, and build international networks.

### Hub 2 Society, Culture and Heritage

#### 2. MA "ART-W" Paleolithic Archaeology

The master's programme is called "ART-W" in reference to the three partner universities in Europe (Aix-Marseille, Rome and Tübingen) and Witwatersrand in South Africa, an associate member university of CIVIS. It is designed as an independent master's programme, building upon the curricula of existing programmes in each institution. The aim of the ART-W programme is to provide students with a multidisciplinary, international, multilingual and comprehensive training in disciplines related to Palaeolithic Archaeology. The core of this discipline is to understand the diversity and the variability of past human cultures through time and space, as well as the factors that might have influenced cultural evolution. The programme includes the physical mobility of students between the three universities.

#### 3. Master in South European Studies (EUROSUD)

Five degree-awarding CIVIS institutions offer a 2-year joint master programme starting September 2025. Students study, train, and do their research at universities in Spain (UAM), Italy (SUR), France (AMU), Romania (UB), and Belgium (ULB). The programme focuses on the Mediterranean basin. The area has witnessed significant global challenges, including the rise of liberal democratic norms, the growth of populist and anti-

establishment movements, and the economic and social dynamics of regional integration. The programme also deals with issues including post-colonial ties, migration flows, climate change, socio-demographic shifts, corruption and governance quality.

#### **4. Network for Global Epistemologies and Intercultural Philosophy**

The programme aims at providing PhD-students from all CIVIS-universities the opportunity to develop research projects in an international and interdisciplinary framework amongst CIVIS-Universities in the broader field of "Intercultural Philosophy and Global Epistemologies". The programme is structured interdisciplinary; hence PhD-students are accepted from a broad range of subjects. This should help PhD-students to (1) gain an overview of their area of research and (2) to network in an internationally appealing environment and train and establish intercultural communication and contacts. Since all participants are leading experts in their fields, the international exchange will foster the student's dissertation projects.

Furthermore, it is focused on student mobility, offering the possibility to spend up to 12 months of study abroad at one of the partner universities, and building up a lively network of doctoral students and alumni. The structured educational offers will strengthen networking activities even more: Each summer a 5-days in-person workshop at one of the partner universities will bring together all participating PhD students and lecturers. Course elements will comprise lectures as well as plenary discussions and student's work in small groups of fellow students.

#### **5. Museum University Forum (network with PhD cotutelles and course offers)**

The CIVIS Museum University Forum is a collaborative platform that seeks to bring together curators, custodians, scholars, museum educators, and civic society groups across Europe and Africa. Rooted in the shared missions of museums and universities as centres of knowledge, this forum aims at fostering meaningful dialogue, critical reflection, and innovative partnerships. At its core, the Forum seeks to bridge the traditional divide between museums and universities. It seeks to offer a dynamic space for academics, museum professionals, students and communities to connect, exchange ideas, and co-create new approaches to teaching, research, and public engagement. Through joint seminars, fellowships, lecture series, Open Labs, and collaborative PhD programmes, the Forum's focus is to promote critical reflection, object-oriented teaching, research, and knowledge exchange.

### **Hub 3 Health**

#### **6. Master degree in Biochemistry (IMSB)**

The IMSB aims to create a cultural, professional and international biochemist, endowed with a strong multidisciplinary character, but focused on the biochemical approach to the study of biomolecular disciplines. This student will be able to operate at the interface between biology and chemistry, generating an advancement of knowledge and technology for both scientific research and for the production of goods and services.

The objective of the IMSB is to train a graduate student with a versatile profile, able to tackle a wide range of scientific and experimental problems at the biomolecular level, in areas ranging from structural and functional biochemistry, cell biochemistry, bioinformatics, omics approach, medical and pharmaceutical biotechnologies. This ability derives from the in-depth knowledge of molecular and cellular systems and from the ability to apply chemical-physical methods, mathematical and computational models and analytical methodologies to the resolution of complex biological problems. To this aim, the course is designed to provide rigorous theoretical knowledge in the main fields of biochemistry, biochemical methodologies and biotechnologies, but also a solid practical preparation thanks to the presence of dedicated teaching laboratories. In-class activities will involve innovative teaching methodologies that place the student, with an active role, at the

centre of the learning process. Practical skills will be further developed during the internship aimed at the preparation of the final dissertation - a mandatorily experimental thesis.

## 7. PhD/Doctoral Program in Medical Systems Biology

The Joint CIVIS PhD Programme in "Medical Systems Biology" aims at educating PhD students in a multidisciplinary manner with the overall aim to comprehensively understand medical problems at a systems level. We aim at training students in cutting-edge technologies, interdisciplinary communication and scientific thinking beyond borders. In particular, it aims to provide novel technologies that bridge systems biology research, pathology and medicine, including the developing field of bioinformatic analysis, interpretation, and representation of complex biological networks, including machine learning and artificial intelligence. Under the umbrella of this PhD programme, we aim to gather young scientists from different disciplines such as medicine, life sciences, and bioinformatics to address biomedical problems in a systematic manner. Graduates of the Joint PhD Programme will demonstrate among other things Interdisciplinary expertise: A deep understanding of molecular and cellular biology, systems level approaches, and clinical research questions, combined with strong skills in computational modelling, bioinformatics, and data science. The PhDs will also show research independence: The capacity to formulate original scientific hypotheses, develop and manage research projects, critically evaluate results, and contribute novel knowledge to the field of medical systems biology and have an international experience and perspective.

## 8 Master degree: Drug development: from natural products to formulation and applications

The Programme *Drug development: from natural products to formulations and applications* - is the first Master's programme created to tackle the challenges of drug development based on natural products focused on each phase of this process. An interdisciplinary and expert consortium of 3 CIVIS Universities (Sapienza University of Rome, National and Kapodistrian University of Athens (NKUA, University of Bucharest), and 5 CIVIS African Partners has been composed aiming at sharing the existing knowledge and advanced training among the different disciplines of Chemistry of natural products, Pharmacology, Pyrotherapy, Pharmacokinetics, Biopharmaceutics, Analytical techniques, Spectroscopy, Environment, and Pharmaceutical technology. The coordinator of the consortium is NKUA.

## 9 PhD/Doctoral Program in Translational Cardiometabolic Biomedicine & Health

The PhD programme addresses a main health and societal challenge, connected to the World Health Organization (WHO) Sustainable Development Goals, including Health & Well-being and Quality Education, and aligned with the CIVIS challenge-driven approach. It remedies a lack of such a PhD Programme dedicated to the training and education of clinical and non-clinical researchers within this challenging field of Cardiovascular diseases among the CIVIS universities. The initiative deals with a main health and social challenge affecting Europe and the world, such as cardiometabolic diseases, i.e., cardiovascular diseases linked to disorders such as obesity and type 2 diabetes, which are now considered pandemics by the WHO. The topics covered widely transverse disciplines in the field of Health (cardiovascular diseases, endocrinology, pathophysiology, molecular and cellular signalling, aging, immunity and inflammation, microbiology, innovative pharmacology and nanotechnology, among others). Moreover, it deals with other domains such as economy, humanities and ethics. The initiative is cross-sectoral since it involves different sectors such as academia, hospitals and health research centers, companies or patient associations.

## 10. Population Health and Preventive Medicine (PrevMed)

PrevMed Master programme offers a proactive approach to health systems, focusing on disease prevention, cost-effectiveness, and overall well-being to build healthier populations, reduce healthcare costs, and create more sustainable and resilient health systems. The goal of the programme is to better understand the causes of health states in populations to improve health and prevent injury, illness, and premature death, while

developing the skills to create and evaluate policies and interventions. The Master is designed to train students as problem-solving professionals through rigorous, interdisciplinary, and interprofessional education, research, and practice. Students will be taught how to critique, design, analyse population health studies and carry out focused research under close supervision. The programme is transdisciplinary and will provide in-depth knowledge of multidimensional health determinants, including behavioural, environmental, biological, social, economic, cultural, and psychological.

## Hub 4 Cities, Spaces and Mobilities

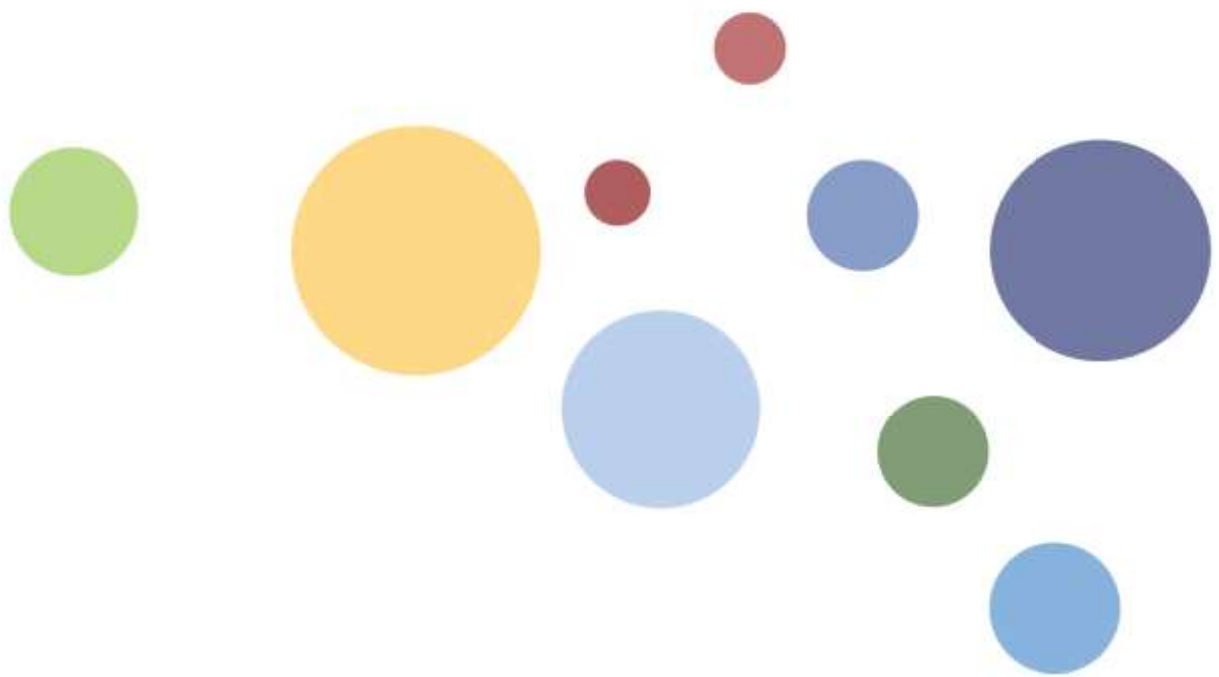
### 11 Hub4 Doctoral Network Doctoral network on Cities, spaces and mobilities

The intention of Hub 4 was to design and implement a joint programme of doctoral studies in line with the hub's objectives and missions hereby combining research and teaching that can respond to the global challenges concerning the broad themes cities, mobilities, and spaces. The programme integrates students, and university teachers with different research lines and methodological approaches in order to generate a framework of convergence and common scientific reflection to address the challenges of society. This is done through various types of courses. The aim is to create a joint doctoral training path for PhD candidates with research lines according to Hub 4 topics. Among them are to promote interdisciplinary and transdisciplinary approaches within doctoral studies. Another is to establish lines of cooperation and collaboration between CIVIS universities at the doctoral level, but also to transfer the research results developed within the framework of the programme to society, companies, and NGOs.

## Hub 5 Digital and Technological Transformations

### 12 Digital Transformations in Health and Wellbeing

This is a bachelor's level micro-programme with the following universities: UB (Lead), UAM, AMU, TU, NKUA, SUR. The overall aim is to provide a transversal introduction to how new digital technologies are affecting the provision of health services and medical work. The micro-programme has a total of 14 ECTS with 5 courses focusing on several aspect. *Digital and Technological Transformation: Social Challenges Across Domains* (Lead: UAM), *EU Law and the Use of Artificial Intelligence Tools in Health and Wellbeing* (Lead: UT), *Artificial Intelligence Tools in Health and Wellbeing* (Lead: AMU), *Digital Transformations in Oncology* (Lead: UB), *New Technologies in the Diagnostic and Treatment of Cancer* (Lead: AMU). The implications of these transformations are multi-dimensional, involving legal and ethical aspects, an understanding of changing technologies and a critical perspective on the societal aspects of digitalisation. The micro-programme will teach students to identify bio-medical needs that could be solved or improved through digital technologies and will be able to help to design and articulate such technologies based on their basic and transversal training. The programme will provide students across a variety of sectors the necessary skills to tackle these issues and provide a foundation for life-learning experiences connected to digital and technological transformation in health.



## APPENDIX

Educational calls 2024 and 2025

| Project name                                                                               | Partners                | Lead university | Programme type      | ISCED_01 | ISCED_02 | ISCED_03 | ISCED_04 | ISCED_05 | ISCED_06 | ISCED_07 | ISCED_08 | ISCED_09 | ISCED_10 | Trans-, Inter- or Multidisciplinary | CBE | External partners |
|--------------------------------------------------------------------------------------------|-------------------------|-----------------|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------------------------------|-----|-------------------|
| <b>Hub 2 - Society, Culture, Heritage</b>                                                  |                         |                 |                     |          |          |          |          |          |          |          |          |          |          |                                     |     |                   |
| 62_CUBITUS Microcredential - Communiquer l'AMU ULB, UNIL                                   |                         | UNIL            | Micro-credential    |          | X        |          |          |          |          |          |          |          |          | I                                   |     | External          |
| 34_Public Anthropology, Ethnology and Folklor NKUA, UB, UT                                 |                         | UB              | Master              |          | X        |          |          |          |          |          |          |          |          | T                                   |     | External          |
| 27_University Civic Engagement: Making a pos AMU, ULB, UNIL, UB, NKUA, SUR, UT, UoG, UAM   |                         | UAM             | Micro-credential    | X        |          |          |          |          |          |          |          |          |          | T                                   |     | External          |
| 32_Transitive Modernities: Comparative Litera AMU, UT, NKUA, SU, UB, UoG, UCAD, WITS       |                         | NKUA            | Doctoral            |          | X        |          |          |          | X        |          |          |          |          | I                                   |     | External          |
| 01_Civic Engagement meets University (CEMU) UT, NKUA, UAM, ULB, UB                         |                         | UT              | Module              |          | X        | X        |          |          |          |          |          |          |          | T                                   |     | External          |
| 4_Dae MOOC - Apprentissage de l'expression UAM, UB, NKUA, ULB, UH2C                        |                         | UAM             | MOOC                |          | X        |          |          |          |          |          |          |          |          | T                                   |     | External          |
| 34_Digital Humanities for Renaissance studies UB, NKUA, SUR, UAM, AMU, UH2C, USFAX         |                         | UB              | Micro-credential    |          | X        |          |          |          | X        |          |          |          |          | I                                   |     | External          |
| 24_Bachelor in "Empirical Economics and Soci SUR, NKUA, UB, UNIL, WITS                     |                         | SUR             | Bachelor            |          | X        |          |          |          |          |          |          |          |          | I                                   |     | External          |
| 37_MA in Advanced Linguistics: Theoretical, D NKUA, SU, UAM, UB                            |                         | NKUA            | Master              |          | X        |          |          |          | X        |          |          |          |          | I                                   |     | External          |
| <b>Hub 3 - Health</b>                                                                      |                         |                 |                     |          |          |          |          |          |          |          |          |          |          |                                     |     |                   |
| 12_RNA therapies                                                                           | USFAX, UB, SUR, UT, UAM | UAM             | Micro-credential    |          |          |          | X        |          |          |          |          | X        |          | T                                   |     | External          |
| 10_CIVIS Life & Health PhD                                                                 | UAM, NKUA, UT           | UAM             | Doctoral            |          |          |          |          |          |          |          |          | X        |          | I                                   |     | External          |
| 30_European Master in Population Health and UT, UAM, UNIL                                  |                         | UT              | Master              |          | X        |          |          |          |          |          |          | X        |          | T                                   |     | External          |
| 33_Unveiling the Complexities of Clinical Imm NKUA, ULB, UB, UH2C                          |                         | NKUA            | Micro-credential    |          |          |          |          |          |          |          |          | X        |          | M                                   |     | External          |
| 43_PhD programme in Bioinformatics                                                         | AMU, SUR, UAM, ULB      | SUR             | Doctoral            |          |          |          |          |          |          |          |          | X        |          | I                                   |     | External          |
| <b>Hub 4 - Cities, Territories, Mobilities</b>                                             |                         |                 |                     |          |          |          |          |          |          |          |          |          |          |                                     |     |                   |
| 14_Interdisciplinary Perspectives on Sustaina PLUS, UAM, UH2C, ULB                         |                         | PLUS            | Asynchronous online |          |          | X        |          | X        | X        |          |          |          |          | I                                   |     |                   |
| 31_Competition for natural resources and conf UB, UAM, SUR                                 |                         | UB              | COIL                |          | X        |          |          | X        |          |          |          |          |          | T                                   |     |                   |
| 45_Competition for natural resources in rural a SUR, UAM, UB                               |                         | UB              | COIL                |          | X        |          |          | X        |          |          |          |          |          | T                                   |     | External          |
| 14_Global Destination and Tourist Organizatio UAM, PLUS, NKUA, USFAX                       |                         | UAM             | Bachelor            |          | X        | X        | X        | X        | X        |          |          |          | X        | I                                   |     | External          |
| 33_Creative Tourism: Strategies for Designing UAM, ULB, UB                                 |                         | UAM             | Micro-credential    |          | X        |          |          |          |          |          |          |          |          |                                     |     | External          |
| 8_CIVIS-4CTIES Joint Master's in Urban Studie UAM, NKUA, UB, UoG                           |                         | UAM             | Master              |          | X        | X        |          |          |          |          |          |          |          | I                                   |     | External          |
| 65_Circular and Sustainable Tourism                                                        | NKUA, UAM, PLUS, USFAX  | PLUS            | Micro-credential    |          | X        | X        |          | X        |          |          |          |          |          | I                                   |     | External          |
| <b>Hub 5 - Digital &amp; Technological transformations</b>                                 |                         |                 |                     |          |          |          |          |          |          |          |          |          |          |                                     |     |                   |
| 11_Artificial Intelligence and Research: Oppor NKUA, SUR, UAM, UB, PLUS, UoG, WITS, MAUAM  |                         | MAUAM           | Doctoral            |          |          | X        |          | X        | X        |          |          | X        |          |                                     |     | External          |
| 49_Transversal Competences for PhD candida AMU, NKUA, SUR, UAM, ULB, UB, UCAD              |                         | SUR             | Micro-credential    |          | X        |          |          |          | X        |          |          |          |          | I                                   |     | External          |
| 54_IMAA-International Integrative Master in A AMU, UT, NKUA, SUR, UAM, ULB, UB, PLUS, UNIL |                         | UNIL            | Master              |          | X        |          |          | X        |          |          |          | X        |          | T                                   |     | External          |
| 13_IA et travail: accompagner ses équipes fac ULB, AMU, UNIL                               |                         | ULB             | Micro-credential    |          |          |          | X        |          | X        |          |          |          |          | T                                   |     | External          |
| 55_CIMIE- Joint Master Programme in Internati NKUA, UAM, UB                                |                         | UB              | Master              | X        |          |          |          | X        | X        |          |          |          |          | T                                   |     | External          |
| 07_Design your Micro-credential: From Idea to NKUA, UB, UNIL, ULB, USFAX                   |                         | ULB             | Micro-credential    | X        |          |          |          |          | X        |          |          |          |          | M                                   |     | External          |
| 28_Modern Complex Systems: Testing, Assura UB, UoG, PLUS                                   |                         | PLUS            | Micro-credential    |          |          |          |          |          | X        |          |          |          |          |                                     |     | External          |
| 38_AI Tools for Audiovisual Content Creation NKUA, UB, UNIL, USFAX                         |                         | NKUA            | Micro-credential    |          | X        |          |          |          | X        |          |          |          |          | I                                   |     | External          |

Table showing the courses created during the educational calls 2004 and 2005. Some columns are truncated, not showing the entire name or all participating universities