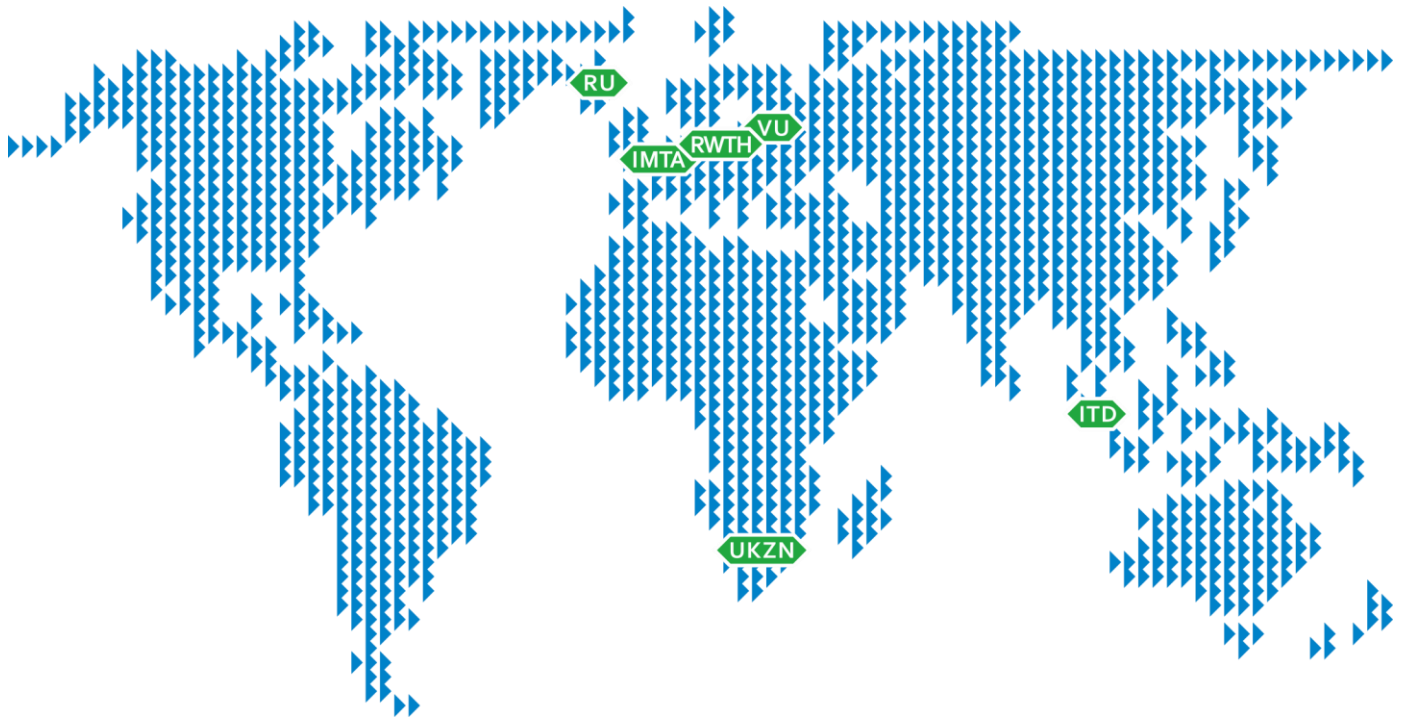


Designing higher Education
Curricula for Agility, Resilience
& Transformation

www.decartproject.eu



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About DECART

The DECART research and innovation project is an international cooperation partnership initiative funded under the European Commission's ERASMUS+ programme (2022-1-FR01-KA220-HED-000087657). The project unites higher education institutions in France, Iceland, Indonesia, Lithuania, and South Africa. The primary project goal is to provide guidelines to design innovative curricula that leverage the transformative capacities of 21st century education systems in engineering and business. The project will also identify leadership models to help educational stakeholders to thrive in an increasingly turbulent socioeconomic context.

The Project Meeting #6 at Vilnius University



DECART team at Vilnius University. Photo: Valentina Dagienė, CC BY-NC-SA licence

On **July 7–8, 2025**, the DECART consortium met at **Vilnius University** for its final project meeting. The hybrid event gathered partners to finalize deliverables, validate key performance indicators (KPIs), and reflect on lessons learned. Focus was placed on ensuring the sustainability and transferability of tools, games, and methods developed across the three work packages. Participants also co-edited the final brochure, serving as a reference for institutions adopting DECART’s agile and transformative curriculum tools. The meeting marked both the project’s conclusion and a transition toward future impact.



Project Meeting #6 at VU. Photo: Arlinta Barus & Eglė Jasutė, CC BY-NC-SA licence

The **final DECART meeting** also served to synthesize insights from WP1–WP3 into a cohesive “toolchain” for curriculum renewal. By fostering exchange among partners from diverse educational systems, **PM6** deepened the consortium’s shared understanding of how agility, resilience, and transformation can be embedded in higher education. It was not just a conclusion but a launchpad for continued application and dissemination of DECART results.

Participants also joined a guided tour of **Vilnius University’s historic campus** – one of the oldest in Eastern Europe, founded in 1579. The visit to the Library, Grand Courtyard, and Astronomical Observatory offered cultural context that enriched the meeting and linked DECART’s forward-looking goals with Europe’s enduring academic heritage.

WP1 – Curriculum Design

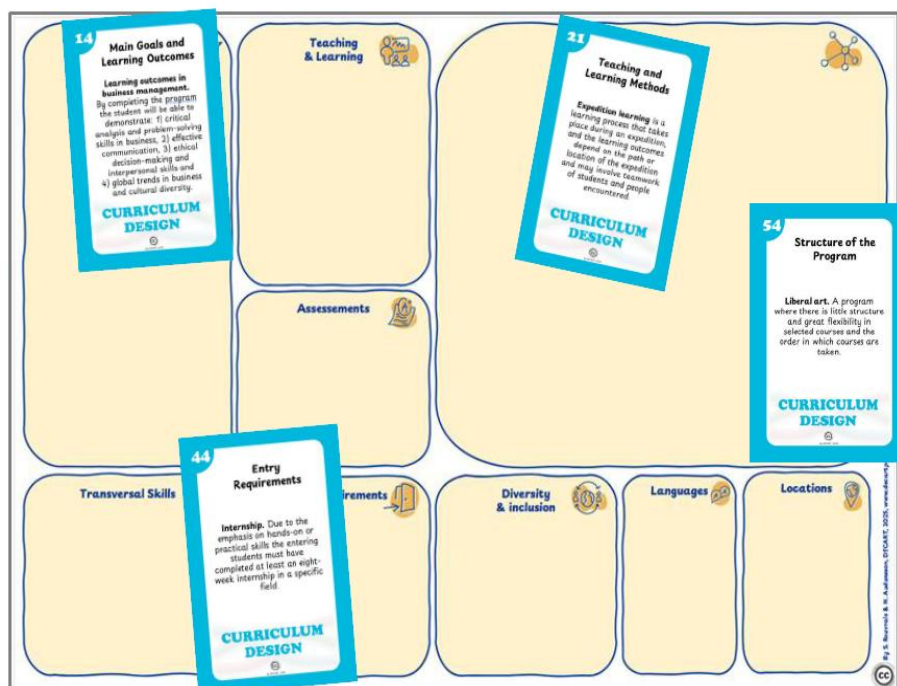
WP1, coordinated by **Reykjavik University**, focused on developing flexible, innovative, and **VUCA**-aware curricula. The work package began with an exploration of diverse curriculum examples from partner institutions, highlighting common challenges and innovative design strategies. These insights laid the foundation for DECART’s unified curriculum framework.



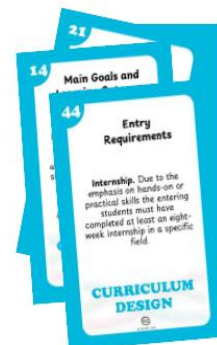
DECART team visiting the Old Vilnius University library. Photo: Valentina Dagienė, CC BY-NC-SA licence

The **Curriculum Design Canvas** is a visual tool that organizes curriculum planning into nine key components: goals, teaching methods, assessment, program structure, transversal skills, entry requirements, diversity and inclusion, languages, and learning locations. It helps facilitate the design or redesign of educational programs collaboratively.

Curriculum design game



Stack of 54 cards:
6 examples for each of
9 components.



Objective is to support and stimulate the design of a holistic curriculum, including its structure, components and content, and to realize that curricula may be very diverse depending on the context.

The Curriculum design game. Photo: Haraldur Audunsson, CC BY-NC-SA licence

To complement the canvas, WP1 developed two **serious card games**:

- A **VUCA events game**, introducing crisis scenarios such as climate change, digital disruption, or political instability, prompting reflection on program vulnerability;
- A **Curriculum Design game**, guiding educators and students in collaboratively building program models using example cards aligned with the canvas components.

These tools proved highly effective in **fostering participatory curriculum discussions** and were widely adopted during IPHE sessions. WP1 thus laid the **conceptual and methodological foundation** for the tools and processes later developed in WP2 and WP3.

WP2 - Curriculum Resilience

WP2, led by IMT Atlantique, tackled the question of how to **enhance the resilience** of curricula in higher education institutions. The flagship result is **SUCRE** (Serious Game for University Curriculum

Resilience)—a simulation game that supports institutional teams in making informed decisions under crisis conditions.

The SUCRE game unfolds in three progressive levels:

1. **Situational Awareness** – identifying external threats and internal fragilities;
2. **Keystone Vulnerability Mapping** – using institutional profiles to locate high-risk areas;
3. **Adaptive Capacity Building** – generating targeted actions to strengthen resilience.

To enhance realism, the game includes **pre-defined institutional ID cards** and diverse crisis scenarios. Additionally, WP2 developed a **diagnostic tool**, based on a validated questionnaire, that helps assess curriculum resilience through quantitative indicators and self-reflection.

Importantly, WP2 **builds directly on the tools from WP1**, using its curriculum canvas and VUCA scenarios as input for simulation. The SUCRE game was tested in five pilot events and is now ready for broader use in strategic planning, internal evaluations, and staff training initiatives.

WP3 – Curriculum Transformation

WP3, led by the **University of KwaZulu-Natal (UKZN)**, addressed the **leadership and institutional strategies** required to implement meaningful curriculum transformation in complex environments. The focus was on empowering educational leaders to drive change in a collaborative, inclusive, and resilient manner.

Key outputs include:

- **R31 report** identifying the key drivers, disruptions, and barriers to transformation in higher education;
- **R32 report** (forthcoming) analysing leadership styles and practices that effectively support transformation;
- **R33 deliverables**, which include interactive leadership workshops, stakeholder engagement tools, and a visual framework called the **Curriculum Transformation Web**.

WP3 emphasized capacity-building through **participatory workshops** and training sessions where tools such as stakeholder mapping, scenario planning, and leadership role-play were used. These activities helped institutional leaders and educators understand the political, cultural, and emotional layers that influence change.

Crucially, WP3 **drew upon the curriculum design structure from WP1** and the diagnostic outputs from WP2 to inform its training and planning tools. WP3 thus represents the **action and leadership layer** of the DECART methodology, translating insights into strategic implementation and real institutional transformation.

IPHE3 at Vilnius University

From **July 9–10, 2025**, directly following Project Meeting #6, DECART held its third **Intensive Programme for Higher Education (IPHE3)** at **Vilnius University's** Faculty of Philosophy. This two-day hybrid event brought together educators, program leaders, and academic developers from 10 universities across South Africa, France, Germany, Indonesia, Lithuania, and Iceland for a hands-on, immersive training focused on curriculum transformation, stakeholder engagement, and leadership development.

The training centred on eight learning outcomes, from understanding the **“What, Why, Who, When, Where, and How”** of curriculum transformation to developing tools for **stakeholder engagement and leadership strategy**. Guided sessions combined conceptual input with practical exercises, linking theory to real institutional challenges.

Key activities included stakeholder mapping, engagement planning, exploration of leadership complexity, and the design of institutional transformation roadmaps. IPHE3 drew on the full DECART methodology: **WP1's Curriculum Canvas** and **VUCA games**, **WP2's SUCRE game** and diagnostic tools, and **WP3's stakeholder and leadership** instruments for action and implementation.

A particular strength of the programme was its **interactive and collaborative atmosphere**. Participants worked in mixed-institution teams, which encouraged cross-cultural insights and peer

learning. The use of visual tools—such as rich pictures, stakeholder webs, and gamified exercises—enhanced engagement and made abstract concepts tangible.



Photo: Siegfried Rouvrais-Delahaie & Cecile Gerwel Proches, CC BY-NC-SA licence

By the end of the programme, attendees expressed **greater clarity and confidence in navigating transformation processes**, especially in volatile or uncertain contexts. Many reported intentions to adapt and integrate the DECART tools into their local curriculum review processes, internal training schemes, and strategic planning sessions.

IPHE3 not only marked the culmination of DECART's training dimension but also demonstrated the full integration of WP1, WP2, and WP3 results into a practical capacity-building format. It served as both a validation of the project's outputs and a springboard for their future application across European, African, and Asian higher education institutions.

Workshop in Šiauliai: SUCRE Game for Crisis-Resilient Curriculum



At the Šiauliai workshop. Photo: Eglė Jasutė, CC BY-NC-SA licence

On **26 September 2025**, the **Vilnius University** team organized a three-hour workshop in **Šiauliai, Lithuania**, that introduced school leaders and university staff to the **SUCRE** serious game, developed within the Erasmus+ DECART project. The session invited participants to step into crisis simulations, trace their ripple effects on curricula, and collaboratively design strategies for adapting educational programs under conditions of uncertainty. Through scenario cards and team discussions, attendees explored how seemingly abstract notions of resilience could be translated into concrete responses, testing practical solutions and debating how crises might affect their own institutions.

What distinguished the workshop was not only the novelty of the **SUCRE** game but also the participants' readiness to engage in collective learning and critical reflection. Moving beyond theoretical debate, teams produced prototype strategies for curriculum transformation, grounding their ideas in hands-on gameplay. By embedding resilience thinking in an interactive format, the Šiauliai event reinforced the DECART project's broader aim: to **equip higher and secondary education communities** with adaptable tools for navigating volatility, uncertainty, complexity, and ambiguity. In doing so, it contributed to building momentum toward more crisis-responsive and future-proof educational practices.

The Introduction of DECART Cup

We are proud to introduce the **DECART Cup** – a symbolic mix of European flavors that embodies **resilience and transformation** in higher education.

It represents: “Your higher education cup shaken by hazards, unknowns, disruptions, or even polycrisis 🌋.” A moment to respond à la Française FR:

☕ **CAFE** (coffee) – *Creative, Agile & Flexible Education design tool*

🍷 **SUCRE de canne** (sugar cane) – *Serious game for University Curriculum Resilience*

🥛 **LAIT entier** (creamy milk) – *Leadership, Alignment, Influence & Transformation tool for curriculum innovation*

– stirred with a European spoon to inspire and lead curriculum transformation.

Now, the three powerful DECART tools are freely available at www.decartproject.eu.



DECART Celebrates #ErasmusDays 2025 Around the World

The **#ErasmusDays**, held globally from **13 to 18 October**, are an international celebration of the **Erasmus+ Programme**. These events invite people everywhere to connect, share, and showcase how Erasmus+ projects strengthen education, mobility, and innovation., each designed to highlight its three flagship tools – **CAFE**, **SUCRE**, and **LAIT** – and how they empower education leaders, teachers, and learners to make meaningful change happen.



Erasmus Days 2025 at IMTA Atlantique. Photo: Siegfried Rouvrais, CC BY-NC-SA licence

FR At **IMT Atlantique in Rennes**, twenty fourth-year students worked in small groups to assess the agility of their Master of Engineering programmes. Using the **CAFE** curriculum framework, they shared fresh insights with the school's leadership – input that will drive programme reforms set for 2026. This event followed the success of Erasmus Days 2024 in Nantes with the CAFE tool focused on European energy resilience.

IS At **Reykjavik University in Iceland**, We presented the DECART project at the Erasmus Days at RU on **16 October 2025**. This was the first time Erasmus Days were held at RU, so the impact of **DECART** may occur at unexpected places. To make the event more sweet the International office at RU brought a welcoming big cake for everyone to enjoy. Anyway, our **games** on curriculum were presented, the **CAFÉ** on design, **SUCRE** on resilience, and **LAIT** on transformation. Our colleague Haraldur Audunsson was at the DECART-table, discussing our project with faculty and staff, and the potential provided by Erasmus programme.



Erasmus Days 2025 at RU. Photo: Haraldur Audunsson, CC BY-NC-SA licence

FR At **IMT Atlantique in Brest**, training directors from the 14 IMT engineering schools spent a full day exploring the SUCRE serious game. They tackled the challenge of a forecasted 20% reduction in national funding and used the **CAFE** and **LAIT** tools to co-design joint action plans – building momentum for resilience and continuity across the IMT network.

ID At **Institut Teknologi Del** in Indonesia, graduates, students, and parents gathered to learn about the DECART Project during the university's graduation ceremony for the **Faculty of Informatics Engineering** and the **Faculty of Vocational Studies**. More than a hundred participants enjoyed interactive games and engaging activities, while taking home DECART and **Erasmus Days** merchandise – making the celebration both informative and fun



FR During the **Learning Show 2025 in Rennes**, over twenty education professionals took part in a **SUCRE** game workshop, tackling cause-and-effect scenarios that disrupt training ecosystems. The lively exchanges sparked new ideas for adapting DECART tools across different education sectors.

Erasmus Days 2025 at Institut Teknologi Del. Photo: Sari Silalahi, CC BY-NC-SA licence

ZA At **UKZN in South Africa**, academics attended a workshop on **14 October 2025**. The UKZN team shared about the DECART Project and the three work-packages. The team provided an overview of the various tools that were developed in the project, and indicated how they **facilitate curriculum design, resilience and transformation**. The WP3 tools, such as the stakeholder list, stakeholder influence and interest matrix, curriculum transformation components, curriculum transformation web, and the stakeholder engagement plan, were highlighted as part of the contributions that came out of the work package on curriculum transformation led by the UKZN team.



Erasmus Days 2025 at UKZN. Photo: Cecile Gerwel Proches, CC BY-NC-SA licence

Overall, through the **#ErasmusDays**, the **DECART tools – CAFE, SUCRE, and LAIT – reached new audiences worldwide**. After years of research, testing, and refinement, they are now freely available under a **Creative Commons license** for use by programme leaders, teachers, trainers, students, professionals, and all citizens passionate about transforming education.

On behalf of all **DECART members**, heartfelt thanks to the **Erasmus+ Programme** for making these global collaborations possible! 🌍 ✨



PM4@ IT Del with Dr Liem in the middle of front row, Photo:Arlinta Barus, CC BY-NC-SA licence

In Memoriam: Dr. Ir. Inggriani Liem

(January 16, 1953 – August 28, 2025)

The academic community deeply mourns the passing of **Dr. Ir. Inggriani Liem**, a highly respected educator, researcher, and passionate advocate for computing education. Representing the **Institut Teknologi Del**, Dr. Liem made significant contributions to the **DECART Project**.

She was also the recipient of the **IOI 2022 Lifetime Achievement Award**, in recognition of her exceptional contributions to the advancement of

informatics education in Indonesia and around the world. Her unwavering dedication to nurturing young talent, promoting excellence, and fostering collaboration has left an enduring legacy of inspiration and impact. **Dr. Liem's** integrity, compassion, and commitment will be remembered with the deepest respect and heartfelt gratitude.

Publications

- M. Kanyangale, A. James, C. Gerwel Proches, V. Dagienė, A. Matthiasdottir, I. Liem, E. Jasutė, and H. Audunsson (2026). Facilitating Curriculum Transformation in Higher Education in a Volatile, Uncertain, Complex and Ambiguous World. Article in Acta Paedagogica Vilnensia, Vilnius University Press, 2026.
- E. Stepani Sinambela, A. Barus, S. Rouvrais, A. Sinaga, S. Silalahi, and H. Audunsson (2025). Empowering Curriculum Design Stakeholders with AI in Higher Education. Paper in the 10th International STEM Education Conference (iSTEM-ED): "Education for All". IEEE Education Society. 31-1 August 2025, Chonburi, Thailand.
- C. Gerwel Proches, A. James, M. Kanyangale, H. Audunsson, V. Dagienė, I. Liem, E. Jasutė, R. Waldeck, S. Rouvrais, and Á. Matthiasdottir (2025). Internal Factors Influencing Curriculum Transformation in Higher Engineering Education. Paper in Proceedings of SEFI2025: 53rd annual Conference of the European Society for Engineering Education, "Engineering & Society" theme. Tampere University, Finland. September 15-18
- James, C. Gerwel Proches, M. Kanyangale, V. Dagienė, E. Jasute & R. Waldeck (2025). The Role of Leadership in Curriculum Transformation: Implications for Science, Technology, Engineering, Arts, and Mathematics in Higher Education. Paper in 6th International Baltic Symposium on Science and Technology Education, June 1–19, 2025, Siauliai, Republic of Lithuania.
- R. Waldeck, A-K. Winkens, C. Lemke, C. Leicht-Scholten, and H. Audunsson (2025). Identifying Curriculum Disruptions in Engineering Education through Serious Gaming. Workshop with paper in SEFI2025: 53rd annual Conference of the European Society for Engineering Education, "Engineering & Society" theme. Tampere University, Finland. September 15-18.
- S. Rouvrais, G. Jacovetti, H. Auðunsson, and A. Barus (2025). Curriculum Design for an Expedition Learning Semester on Energy Sovereignty Engineering. Workshop in CISPEE2025: 6th International Conference of the Portuguese Society for Engineering Education. Polytechnic University of Setúbal, Portugal, July 16-18, 2025.



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