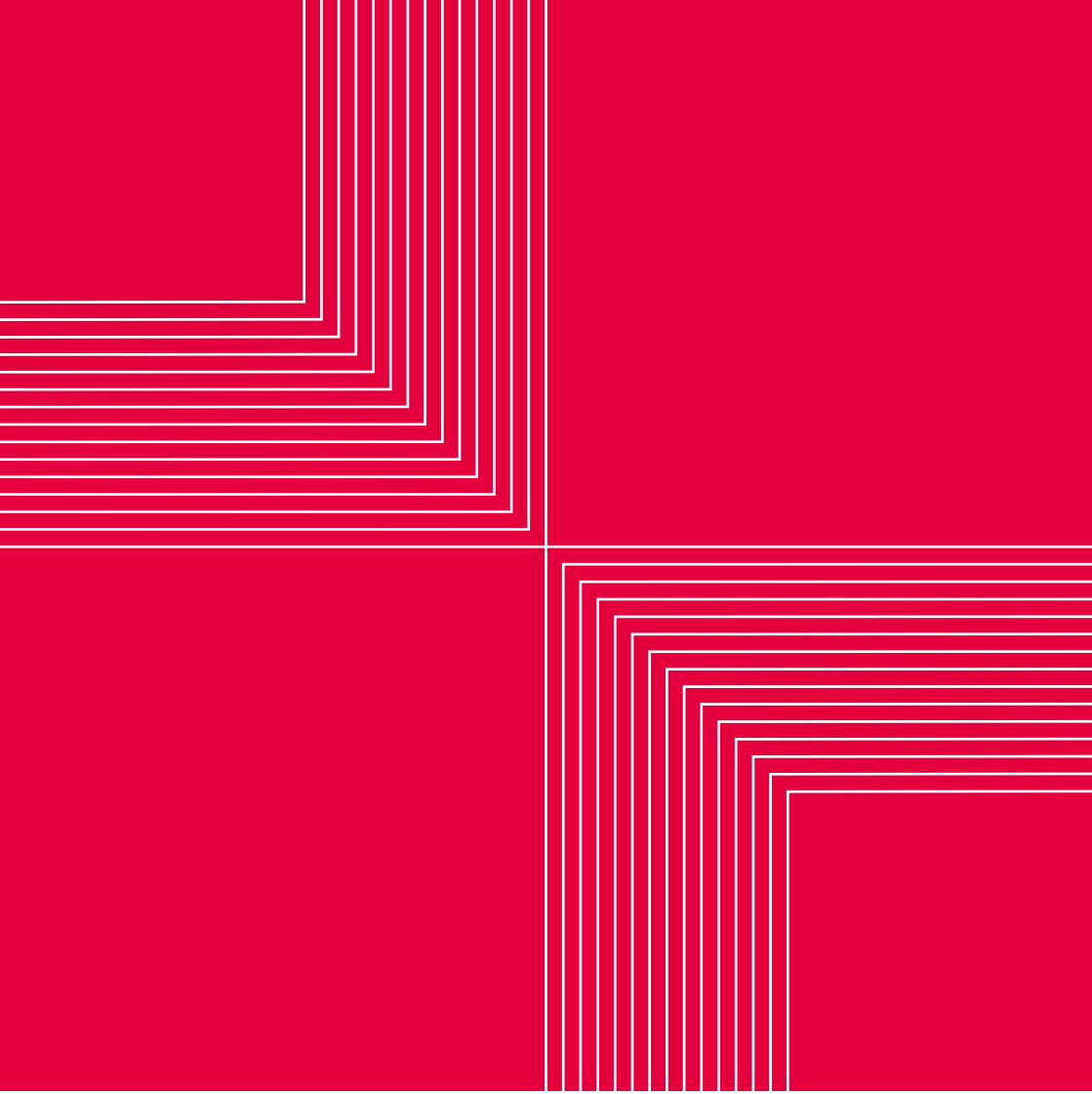


30 years, 30 stories

of Swiss-EU collaboration in research, innovation and education

SwissCore

Thirty years of building partnerships

This year 2025 marks thirty years since the creation of the Swiss contact office for European research, innovation and education – **SwissCore**. We take this occasion to celebrate three decades of Swiss-EU cooperation in these sectors. Since its founding, SwissCore has been the link between Switzerland and the European Union, fostering a dynamic environment where collaboration thrives and people come together to address global challenges.

This booklet is a tribute to this enduring partnership. It features **30 stories** that offer a glimpse into the work of the remarkable researchers, innovators, and educators who have built bridges across borders. From pioneering medical research to ground-breaking work in sustainable energy and sharing excellence in vocational training, these stories showcase the profound impact that international collaboration can have on society and the environment, ultimately for the benefit of all citizens in Europe and beyond.

As you read these pages, you will discover the **power of shared knowledge** and the tangible results that are possible when we work together. To find out even more about the projects, you can scan the QR codes at the end of each story.

On behalf of the entire SwissCore team and all our fantastic predecessors, thank you for joining us in celebrating SwissCore and the past, present, and future of Swiss-EU cooperation in research, innovation and education.

Laurin Reding
Head of SwissCore

1

ANIMATAS

Social robotics in the classroom

Robots are increasingly entering everyday life, including classrooms. They have the potential to assist with classroom management and promote student skills such as teamwork, leadership or communication. The ANIMATAS project explored how social robots can enhance education, with Swiss contribution shaping the project's direction and success.

The project began when an existing consortium preparing a proposal for the MSCA Innovative Training Networks under Horizon 2020 reached out to the Computer-Human Interaction in Learning and Instruction (CHILI) at EPFL. CHILI brought a new perspective by introducing a focus on education, which was well received and led to the successful launch of ANIMATAS in 2018.

Fifteen early-stage researchers from various disciplines were selected to explore how robots could be more useful in classrooms. Their work extended beyond research to include intercultural exchange, interdisciplinary collaboration and net-working opportunities. CHILI's contribution was rooted in its long-standing collaboration with teachers and schools, its knowledge in learning analytics and its practice-oriented approach. This interdisciplinary cooperation allowed for a more holistic understanding of the role of robots in education.

Overall, ANIMATAS provided a valuable platform for interdisciplinary exchange and networking – benefits that contribute not only to research in human-robot interaction but also to the future of other scientific fields.

Project website
www.animatas.eu/project

"From day one, we had a big network – the most beautiful aspect for me was to interact with people from so many cultures and countries."

Actor
CHILI at EPFL

Fields
Robotics
Education

Artcast4D

Blending immersive technology and the arts

Artcast4D aims to revitalise Europe's cultural landscape, particularly in the aftermath of the COVID-19 pandemic, by integrating immersive technology into artistic expression and cultural spaces. The project is funded under the Cultural Heritage section of Horizon Europe and under the New European Bauhaus umbrella. Switzerland's contribution is made through the IFAAR Institute in Bern, which participates as an associated partner in the New European Bauhaus umbrella, with funding support from the Swiss State Secretariat for Education, Research and Innovation (SERI).

At its core, Artcast4D is developing a global framework to create "efficient, cost-effective, multi-site, multi-platform, non-invasive, immersive and interactive user experiences" designed as global social sculptures for the European Cultural Creative industries. These experiences aim to strengthen public engagement and enhance the sustainability of cultural heritage sites. One of the project's most significant outputs has been the 2D/3D real-time engine, that is now available as an open-source programme to further expand the reach of the innovative idea of involving immersive technology to boost engagement in other areas such as the cultural industry.

Artcast4D will continue developing its plans to expand the reach of its pilots, deepen stakeholder engagement, and promote its open-source tools to cultural institutions across Europe.

Project website
www.artcast4d.eu

Fields
Software & Arts
Innovation

Actor
IFAAR

"We want to develop efficient, cost-effective, multi-site, multi-plat-form, non-invasive, immersive and interactive user experiences."

2

BIAS

Fighting Bias in AI Tools for Recruitment

Artificial Intelligence (AI) is increasingly shaping recruitment processes, with nearly 25% of companies relying on AI-based tools to streamline hiring decisions. Despite the benefits, these systems often reflect and reinforce societal biases present in their training data. This can lead to unfair treatment of vulnerable or marginalised groups, raising significant ethical and legal concerns.

The BIAS project addresses these challenges through an interdisciplinary European consortium funded by Horizon Europe and Switzerland's State Secretariat for Education, Research and Innovation (SERI). Switzerland's contribution comes from the Bern University of Applied Sciences (BFH), where the Applied Machine Intelligence Research Group, led by Professor Mascha Kurpicz-Briki, focuses on detecting and mitigating bias in large language models. Their innovative multilingual benchmarking methods enable the analysis of gender stereotypes and other forms of discrimination across different languages and cultural contexts.

Beyond technology, BIAS also fosters collaboration through National Labs across Europe, engaging AI developers, HR professionals, policymakers and advocacy groups to co-create inclusive solutions. By aligning with EU policies such as the AI Act, the BIAS project reflects Switzerland's commitment to trustworthy AI and fostering fairness and inclusion in the digital age.

Project website
www.biasproject.eu

The BIAS project brings Bern University of Applied Sciences to the fight against algorithmic bias in AI recruitment and develops tools for fair hiring.

Actors
BFH
Mascha Kurpicz-Briki

Fields
ICT
Innovation

Bloom Biorenewables

Transforming biomass into sustainable building blocks

For decades, fossil fuels have been the main source of carbon used in textiles, packaging, cosmetics and more. Swiss start-up Bloom Biorenewables developed a solution to tackle this issue by transforming abundant biomass into sustainable chemical building blocks, enabling a circular economy for renewable carbon.

In 2016, researchers at EPFL's Laboratory of Sustainable and Catalytic Processing (LPDC), including Bloom co-founder Florent Héroguel, developed a breakthrough method for biomass conversion, laying the foundation of Bloom's technology. Bringing in entrepreneurial expertise, Remy Buser joined Florent and third founder Jeremy Luterbacher in 2019 to bring the technology from the laboratory to market application.

As a newly established start-up, Bloom joined the EIT Climate-KIC as a partner in the Horizon 2020 project IDEALFUEL. In 2021, Bloom secured funding from SERI through Switzerland's transitional funding scheme replacing the EIC accelerator during the country's non-association to Horizon Europe. Since then, Bloom has successfully scaled up its technology and attracted both public and private funding. As an EPFL spin-off, the company continues to maintain strong ties to the university.

Looking ahead, the company is planning to construct a first-of-a-kind (FOAK) production facility to expand their presence across Europe, bridging Swiss innovation with European industrial ecosystems.

Spin-off website
www.bloombiorenewables.com

Bloom Biorenewables transforms agricultural waste into sustainable chemicals, offering cost-effective alternatives to fossil-based products.

Actors
Remy Buser, Florent Héroguel, EPFL

Fields
Bioeconomy
Innovation

Swiss and EU education actors co-developed a tool-kit providing effective and practical methods to reduce the dropout rate in adult education.

Actor
SVEB

Fields
Adult learning
Education

DIDO

“dropping-in the dropouts”

Co-developed by the Swiss Federation for Adult Learning (SVEB) and EU education actors, the project “dropping-in the dropouts” (DIDO) provides professionals in adult education with the appropriate tools and methods to reduce the dropout rate in adult education. The developed toolkit also aims at empowering adult learners and at giving them the skills needed for the labour market.

Various adult education providers from Belgium, Denmark, Finland, the Netherlands, Portugal and Switzerland participated in this project, which was divided into two phases. First, the causes of adult dropouts were determined for each participating country, which were defined by six main clusters. Tools were then developed to respond to each of the clusters. The project demonstrates the value of diversity and international collaboration, as challenges faced by adult learners differ greatly by country. Considering this diversity, the second phase included creating multiple tools to address the needs of the wide variety of contexts and actors, increasing the effectiveness of measures aiming to keep adults in education.

Although the project itself lasted from 2017 to 2020, the toolkit is still being used as a best practice and the overall attitude in adult education has changed, demonstrating the value of this European partnership.

Project website
https://sites.google.com/prod/view/dido-project/homepage

EU-AIMS & AIMS-2-TRIALS

Autism research in Switzerland and beyond

Launched in 2012, EU-AIMS (European Autism Interventions) was the first pan-European project that brought together academia, industry and organisations representing autistic people and their families to deepen the understanding of autism, identify biomarkers and develop targeted interventions. Its successor, AIMS-2-TRIALS (Autism Innovative Medicine Studies-2-Trials), continued this work by testing medicines that support autistic individuals in managing their sensory experiences.

Switzerland played a central role throughout this initiative. Swiss biotech company Roche, led by former Global Head of Innovation at Genentech, Christopher Chatham, participated in both projects, ensuring that industries are represented in the research process.

At the University of Basel’s (UNIBAS) Biozentrum, Professor Peter Scheiffele led the AIMS-2-TRIALS project, representing Swiss academia within a consortium of 48 academic, charity and industry partners across Europe. Together with Dr. Özgür Genc, he founded the start-up Translation-X. This start-up aims to develop a thera-peutic approach for autistic people that want access to treatments.

These projects exemplify Switzerland’s strong contribution to European autism research and its lasting impact. In May 2025, researchers from AIMS-2-TRIALS presented their findings and policy recommendations at the European Parliament in Brussels, marking the project’s successful conclusion.

Project website
www.aims-2-trials.eu

Fields
Health
Research

Actors
University of Basel
Roche

“Targeting the social communication aspect of autism with a precision medicine approach will help individuals with autism to have better communication skills.”

Gain Therapeutics

A global Swiss success story

Founded in 2017 in Lugano, the EU-funded biotech company Gain Therapeutics focuses on developing innovative treatments for rare genetic disorders, cancer, and neurodegenerative diseases, such as Parkinson's, Gaucher and Krabbe disease.

With Lugano hosting the company's global R&D Headquarters and development facility, Barcelona housing the research facility and computational engine, and corporate and business development taking place in Bethesda (Maryland, USA), Gain Therapeutics is truly international. Having access to a vast international network is crucial for such a small biotech company specialised in rare diseases as it allows for collaboration and knowledge-sharing between relevant academic centres and centres of excellence. Alongside EU-funding, Gain Therapeutics also received numerous American and Swiss grants, which offered the company the opportunity to access preclinical tools it otherwise would not have had, allowing it to validate the technology needed for its treatments.

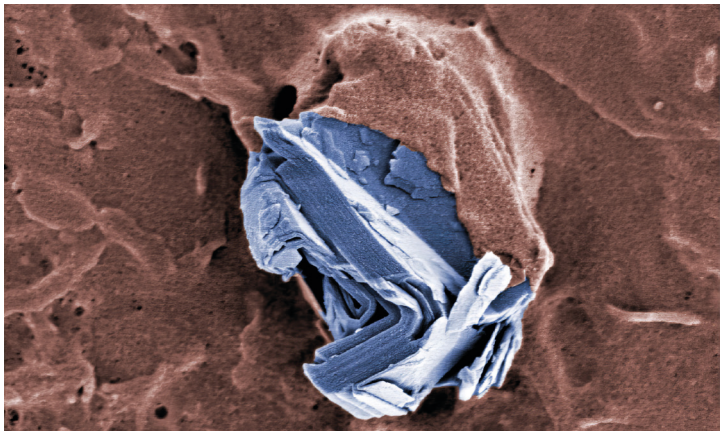
Gain Therapeutics successfully entered the American NASDAQ stock market in March 2021, thereby ensuring additional investment opportunities. This accomplishment can be attributed to Gain Therapeutics' scientific results, their established industrial research collaborations and their efficient use of resources around the globe.

Project website
www.gaintherapeutics.com

Gain Therapeutics is helping improve the lives of children who often do not reach the age of 1 or 2 years.

Actor
Gain Therapeutics

Fields
Health
Research



Graphene Flagship

10 years of collaborative research

In 2013, the European Commission launched its most extensive research and innovation project to date – the Graphene Flagship. This flagship united over 140 partners across 23 countries to advance graphene and other two-dimensional (2D) materials from lab to market. The results were significant: €6 billion in industrial value, 80'000 jobs, over 100 products introduced to the market and 20 spin-offs raising €170 million in venture capital.

Empa, the Swiss Federal Laboratories for Materials Science and Technology, marked ten years of collaboration in the Graphene Flagship, playing a crucial role in its success. Empa's Nanomaterials in Health Lab, led by Professor Dr. Peter Wick, played a key role in addressing the safety and sustainability aspects of graphene. Their work on hazard assessment, degradation processes, and machine learning based toxicity prediction sets new benchmarks for responsible nanomaterials research. These findings now inform studies on other 2D materials with potential applications in diagnostics, targeted therapies and environmental technologies.

This long-term collaboration paved the way for continued Swiss EU cooperation. Empa is currently involved in six Horizon Europe projects and contributes to initiatives such as the Advanced Materials 2030 Initiative (AMI2030), supporting the development of safe and sustainable materials and reinforcing Europe's strategic autonomy in advanced technologies.

Project website
www.graphene-flagship.eu/

Fields
Advanced Materials
Research

Actor
EMPA

"The long-term collaboration under the Graphene Flagship enabled a level of productivity and mutual trust which was very special in research projects."

HES-SO's success in the UNITA University Alliance

Romance languages connect across Europe

Since 2023, the Haute Ecole Spécialisée de Suisse Occidentale (HES-SO) has been participating in the UNITA-Universitas Montium alliance, becoming one of the first non-EU institutions to join. Supported by Movetia, HES-SO's involvement in this Erasmus+ initiative strengthens Switzerland's presence in European higher education cooperation. UNITA connects 12 universities from rural, mountainous and cross-border regions. The alliance is built on a shared identity of Romance languages, fostering strong cultural and academic ties between member universities from Portugal, Spain, Romania, France, Italy, Ukraine and Switzerland.

The alliance's core work is structured around six thematic "scientific hubs", including one on global health co-led by HES-SO. The other hubs address challenges in green energy, circular economy, digital transition and cultural heritage.

Through UNITA, HES-SO students and staff benefit from a range of opportunities, including traditional and rural mobility, Blended Intensive Programmes (BIPs), job shadowing and collaborative research projects. Each scientific hub also organises annual matching events to launch joint projects.

HES-SO's participation ensures its continued engagement in the evolving European academic landscape. Looking ahead, HES-SO aims to further deepen its involvement in UNITA, including rural mobility placements and advanced grants launching.

Project websites
www.univ-unita.eu/Sites
www.hes-so.ch/la-hes-so/unita

ICOS Cities

Supporting cities on their NetZero journey

Cities are at the heart of emission reduction efforts as they are key contributors to a large proportion of fossil fuel emissions: around 70% of anthropogenic emissions are produced in, around and by cities. The critical role of urban areas in achieving greenhouse gas (GHG) emissions reductions is recognised by ICOS Cities, a project funded under Horizon 2020, in which Switzerland is heavily involved.

ICOS Cities aims to develop the most innovative systematic observation approaches to GHG emissions in urban areas, using the three pilot cities Zurich, Paris, and Munich to test the feasibility of different measurements and modelling approaches.

Zurich was not selected out of the blue: a careful and long process led to its final success. Combining the research institute EMPA's strong know-how in GHG measurements and monitoring, the University of Basel's longstanding expertise in CO2 flux measurements and the City of Zurich's highly detailed bottom-up inventory of GHG emissions, the city's digital twin, and the willingness of the Environmental and Health Protection Department (Umwelt- und Gesundheitsschutz Zürich) to support advancements of new methods in this area made Zurich an ideal pilot city. Though the project itself is ending, the knowledge generated through ICOS Cities will support cities on their NetZero journey well beyond 2025.

Project website
www.icos-cp.eu/projects/icos-cities

HES-SO participates in UNITA University Alliance, advancing Swiss presence in European academic collaboration.

Actors
HES-SO
UNITA Alliance

Field
Higher education

Fields
Climate
Research

Actors
EMPA, Stadt Zürich, University of Basel

The road to measuring GHG emissions in urban spaces: How the City of Zurich – at the heart of an EU-funded project – is paving the way.

InCephalo

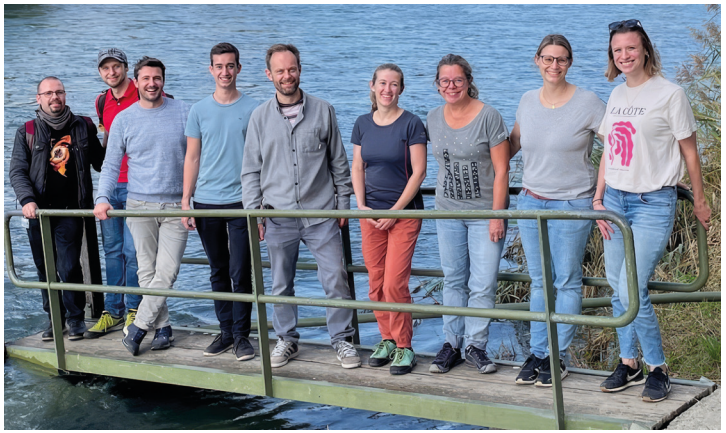
Fighting brain cancer through cooperation

Swiss biotech start-up InCephalo is advancing new therapies to fight brain cancer, one of the most challenging diseases to treat due to the complexity of the brain and the limited effectiveness of current treatment options. Founded in 2021 by Carlo Bertozzi, the company is working to overcome long-standing barriers in brain cancer treatment through innovative, targeted solutions.

At the core of InCephalo's approach is its proprietary compartment lock (C-Lock) technology. This platform enables the engineering of biological drugs to remain active at the tumour site while degrading quickly once dispersed, reducing side effects and improving treatment precision. InCephalo's primary drug candidate, InC01, has shown strong preclinical results.

To expand its technology, InCephalo received the EIT Health Gold Track grant. Additional funding was provided through Switzerland's transitional measures for Horizon Europe, managed by the State Secretariat for Education, Research and Innovation (SERI). The company also received a Eurostars grant in collaboration with Dutch company VitroScan and University Hospital Basel to analyse patient responses to InC01 and prepare for clinical trials. As Carlo Bertozzi stated, InCephalo will build on cooperations like this in the long term as "brain cancer is, unfortunately, a global phenomenon".

Project website
www.incephalo.com



"There is no bigger reward than if you can bring an excellent team together whose work convinces clinicians that they can make a difference and help their patients."

Actor
Carlo Bertozzi

Fields
Health Research

InnoVET

Innovation in Vocational Education and Training

Switzerland's first Centre of Vocational Excellence (CoVE), InnoVET, boosted innovation in vocational education and training (VET) by fostering international collaboration. The project was funded by the Swiss Agency for Exchange and Mobility, Movetia, on behalf of the State Secretariat for Education, Research and Innovation (SERI).

Under the leadership of Daniel Kehl (Rector, GBS St. Gallen), the three-year project brought together 14 partners from nine countries. Through 12 transnational meetings, six summits and six teachers academies, participants developed tools and strategies to support internationalisation and innovation in their VET institutions. Outputs included a strategy builder, a networking marketplace and tools to measure and enhance internationalisation.

The project challenged misconceptions that internationalisation adds little value to VET, demonstrating clear benefits for cultural, personal and professional development. By embedding international strategies in their institutions, many schools established International Offices and became leading models in their countries. Follow-up projects like XREATE (blending physical and virtual learning) and events like RoboCompetition are carrying the momentum forward.

InnoVET showed that internationalisation strengthens innovation and that collaborative learning is essential for institutional growth.

Fields
VET Education

Actor
GBS St. Gallen

"Growing by sharing – we grow together when we exchange our knowledge and experience."

LiveSeeding

Organic plant breeding spreads through Europe

Despite growing demand for organic produce, many European organic farms still depend on conventional seeds due to limited availability of organic alternatives. LiveSeeding, a four-year Horizon Europe Innovation Action launched in October 2022, addresses this gap by promoting the development and use of organic seeds and cultivars adapted to organic farming systems.

Coordinated by the Research Institute of Organic Agriculture (FiBL), with FiBL Europe leading project management and FiBL Switzerland guiding scientific direction, the project exemplifies international cooperation. It is co-funded by the European Commission, the Swiss State Secretariat for Education, Research and Innovation (SERI) and UK Research and Innovation (UKRI).

LiveSeeding builds on the achievements of the earlier LiveSeed project to strengthen technical, socio-economic, and regulatory conditions for organic seed use. Its objectives are implemented through a "PUSH-PULL-ENABLE" strategy: pushing innovation in breeding, pulling demand through market development and enabling supportive policies.

With 17 Living Labs and networks of breeders, seed savers, and cities across 16 countries, LiveSeeding uses a participatory, multi-actor approach. It supports breeding initiatives, market tools and policy reforms, while advancing skills, citizen science and social innovation to ensure lasting impact.

Project website
https://www.fibl.org/en/themes/projectdatabase/projectitem/project/1298

"Living Labs are the space where all actors of the whole value chain, from breeders to consumers, come together, engage in co-creation, testing and tasting."

Actor
FiBL Switzerland

Fields
Agriculture
Research

Locus Lodi

Ancient Games – A window into our socio-cultural past

Games are an integral part of human behaviour, shaping how we form social bonds and learn social rules. With the belief that games offer a unique window into the past, Professor Véronique Dasen, Professor of Classical Archaeology at the University of Fribourg, launched Locus Ludi, a project funded by the European Research Council on the cultural and social significance of play in ancient Greek and Roman societies.

As the first comprehensive study of ancient games since 1869, Locus Ludi addressed a long-standing gap in research by analysing written, archaeological and iconographic records to understand how games transmitted cultural identity and intangible heritage.

Supported by an ERC Advanced Grant, Professor Dasen brought together an international team with partners from across Europe and researchers from different disciplines including archaeology, philology, history and anthropology. The collaboration resulted in impressive scientific output, as Locus Ludi produced knowledge that was presented in numerous monographs, journal articles and books.

Locus Ludi also opened doors for further research and funding, such as a project on Greek and Roman articulated dolls and the MSCA project TEXDANCE, which studies the role of textiles in Etruscan art. The project subsequently reconstructed five ancient games, making them accessible online for educational settings such as schools, libraries and universities.

Project website
www.locusludi.ch

Fields
History
Research

Actor
University of Fribourg

"Ancient games reflect the gendered, religious, economic and political fabric of societies."

LUMI

A new Generation of European Supercomputer

For a long time, Europe lagged behind the USA and China in high performance supercomputing (HPC). But the gap is narrowing: the launch of the Large Unified Modern Infrastructure (LUMI) at the IT Center for Science (CSC) in Kajaani, Finland has scaled up European computing capacities. LUMI is Europe's most advanced HPC project, ranking third globally in computing power and energy efficiency. The initiative was co-funded by the EuroHPC Joint Undertaking (EuroHPC JU) under Horizon Europe and eleven consortium countries, including Switzerland.

Switzerland is represented in the consortium by Thomas Schulthess, ETH Professor and Director of the Swiss National Supercomputing Centre (CSCS), who is part of LUMI's Strategic Committee. Switzerland joined the EuroHPC JU in 2018, building on its previous leadership in European HPC through the Partnership for Advanced Computing in Europe (PRACE).

Today, half of LUMI's capacity is available to users across Europe through open calls, while the rest is reserved for consortium countries. Switzerland's share, managed by CSCS, ensures national excellence feeds into a collective European effort. LUMI supports research across a wide range of disciplines, including global challenges like climate modelling. As Schulthess puts it: "there is no national science, there is only science". Switzerland's strong contribution to LUMI reflects a deeper truth: scientific progress depends on shared vision, shared resources and shared responsibility.

Project website
www.lumi-supercomputer.eu

"There is no national science, there is only science."

Actor **CSCS**

Fields **HPC** **Research**

Newlife

Advancing maternal and infant health

Each year, around one in ten babies in Europe is born pre-term. These early births place significant strain on families, healthcare systems and economies. Timely detection of risks during pregnancy is essential, yet many expectant mothers do not have access to continuous, personalised monitoring. The Newlife project is tackling this challenge by developing non-invasive technologies that support early risk identification and intervention, both in the hospital and at home.

Funded under Horizon Europe's Key Digital Technologies Joint Undertaking (KDT JU), Newlife brings together 25 partners from six countries, including universities, hospitals, small and medium-sized enterprises and companies. Switzerland plays a strong role, with eight partners contributing to the project, including MOMM Diagnostics and Inselspital Bern.

Swiss start-up MOMM Diagnostics is creating a simple, rapid test to detect preeclampsia, a dangerous pregnancy complication linked to high blood pressure. The test gives results within minutes during routine check-ups, making it easier to catch early and act quickly. The Department of Obstetrics at Inselspital Bern takes on a clinical role, leading trials of new wearable devices that monitor the baby's health during pregnancy, making care more personalised and accessible.

By combining medical expertise, smart technology and strong European collaboration, Newlife is helping to make pregnancy safer for mothers and babies across Europe.

Project website
www.newlife-kdt.eu

Fields **Health** **Research**

Actors **MOMM Diagnostics** **Inselspital Bern**

Newlife is an ambitious KDT JU project aiming to secure the health of mothers and their babies by developing novel holistic monitoring solutions.

OPRECOMP

Rethinking Precision to reduce energy use

IBM's Zurich lab leads effort to solve a major challenge for the next generation of computers and supercomputers: reducing energy consumption.

Actor
IBM Research

Field
Innovation

With the rise of artificial intelligence, big data and connected devices, the demand for computing power is skyrocketing – and so is its energy footprint. The Horizon 2020 project Open trans-PREcision COMPuting (OPRECOMP), coordinated by IBM Research Zurich, tackled this challenge by rethinking one fundamental assumption: that all calculations must be performed with maximum numerical precision.

OPRECOMP introduced "transprecision computing", a novel approach that reduces the number of bits used in a computation depending on what is needed, saving energy while maintaining reliable results. This technique has proven particularly promising for applications such as deep learning, simulations and infra-structure monitoring.

Running from 2016 to 2020, OPRECOMP received funding under the Future and Emerging Technologies (FET) programme. The consortium comprised ten partners, including ETH Zurich and institutions across France, Germany, Italy and beyond. A key outcome was FloatX, an open-source software library enabling researchers to test and adopt transprecision methods on conventional systems. OPRECOMP also assessed how software modifications could optimise energy use without affecting outputs, proving that applications can run with far fewer bits than commonly assumed.

The project laid the groundwork for subsequent Horizon projects aimed at co-designing scalable, secure and low-energy computing systems based on OPRECOMP's results.

Project website
www.cordis.europa.eu/project/id/732631

OPRECOMP
Open Transprecision Computing

Oxara

Cement-free alternatives making sustainable construction real

Oxara's journey began with one powerful question: "Why are we still building our future with materials that harm it?" In 2015, materials scientist Gnanli Landrou started experimenting at ETH Zurich with ways to transform excavation and demolition waste into new construction materials. A few years later, he teamed up with Thibault Demoulin, a fellow ETH materials scientist. Together, they founded Oxara in 2019.

From the outset, the young start-up received support from its home institution and other Swiss support schemes (e.g. Venture Kick, Innosuisse). One year after spinning out from ETH Zurich, Oxara received its first EU grant, namely from the SME Instrument under Horizon 2020, which helped demonstrate the technical, commercial, and financial viability of its solution. That support continued under Horizon Europe: in 2021, Oxara was selected by the European Innovation Council for an Accelerator grant of almost €1.9 million. Although Switzerland was not associated to Horizon Europe at that time, the funding was provided through the Swiss State Secretariat for Education, Research and Innovation. This backing notably helped to optimise the manufacturing process.

Today, with support from those grants and additional public and private funding, Oxara offers two products originating from the same idea: (i) a cement-free binder made from reused demolition waste, and (ii) mineral-based activators that transform clay-rich excavation material into castable and water-resistant building materials. With these solutions, Oxara is proving that circular, low-carbon building materials are no longer experimental, but are real alternatives for the construction sector. By re-imagining waste as a resource, Oxara is helping build not only sustainable homes, but also a more sustainable future.

Project website
www.oxara.earth

Fields
Construction, Circular economy, Innovation

Actors
Oxara

"Make sustainable construction the norm — and affordable housing a reality."

PAMAfrica

Global fight against malaria

Malaria remains a major global health challenge, with the World Health Organization reporting 249 million cases and 608’000 deaths worldwide in 2022. Africa carries the heaviest burden, accounting for 94% of cases and 95% of deaths, especially among children under five years old. While early diagnosis and treatment reduce mortality, vulnerable groups often lack medicines tailored to their needs, and drug resistance threatens current therapies.

In response, Medicines for Malaria Ventures (MMV) formed the PAMAfrica consortium, bringing together partners from Africa and Europe to address these gaps. Funded by a grant from the European and Developing Countries Clinical Trials Partnership (EDCTP2), PAMAfrica supports clinical trials, capacity building, and training of African researchers and students.

Since the launch of the project in 2019, the consortium has advanced three work packages: next-generation drugs for uncomplicated malaria, therapies for severe malaria, and the development of the first treatment for newborns under 5kg. This last area led to a breakthrough in 2025, when Swissmedic approved the world’s first malaria treatment specifically designed for newborns and young infants. Developed by Novartis, another Swiss partner in the PAMAfrica consortium, in collaboration with MMV, this development represents a major advancement in malaria care.

Project website
www.pamafrica-consortium.org

The global research consortium PAMAfrica is developing treatments for babies under 5kg, severe malaria and drug-resistant uncomplicated malaria.

Actor
Medicines for Malaria Venture (MMV)

Fields
Health Research

PARC

Swiss research driving safer chemicals in Europe

Every day, people and the environment are exposed to numerous chemicals found in products such as medicines, pesticides and plastics. Yet, we often lack a complete understanding of how these substances affect human health and ecosystems over time. The European Partnership for the Assessment of Risks from Chemicals (PARC) is the EU’s largest research and innovation initiative to date, focused on improving how chemicals are tested, assessed and regulated across Europe. The project was launched in 2022 and will run until 2029.

Swiss researchers at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) play a key role in PARC. Professor Juliane Hollender and her team investigate how harmful chemicals move through water systems and affect the environment. They develop advanced techniques to detect these substances in lakes, rivers and wastewater. Meanwhile, Professor Kristin Schirmer leads efforts to develop new, humane testing methods without using animals. Her team employs innovative approaches such as studying fish embryos to assess chemical impacts on aquatic life.

Collaboration among 200 partners across Europe is central to PARC’s success, including other Swiss institutions such as Empa, ETH Zurich and the University of Basel. Switzerland’s involvement is supported by the State Secretariat for Education, Research and Innovation (SERI), enabling Swiss research to help shape safer chemical policies across Europe and beyond.

Project website
www.eu-parc.eu

Fields
Environm. chemistry Research

Actor
Eawag

“If it helps Switzerland, it’s great. If it helps the world, even better.”

Phenolivia

Circularity in the olive oil production

Each year, up to 80% of raw materials used in olive oil production become waste. At ETH Zurich's Laboratory of Food Biochemistry, mechanical engineer Claudio Reinhard and Professor Laura Nyström set out to change that. Their goal was to make the olive oil industry more sustainable by creating a fully integrated circular economy.

To realise this vision, they needed international partners. Through ETH Zurich's membership in the European Institute of Innovation and Technology (EIT) Food, Reinhard brought together a consortium of eight partners from five countries. Launched in 2019 and funded by EIT Food, the Phenoliva project combined expertise in biochemistry, engineering, product development and commercial testing across the partner countries. Together, the consortium transformed olive oil side streams into high-value resources such as antioxidants, soil enhancers and biogas.

Phenoliva achieved notable results, earning the EIT Food Impact Prize in 2021 for its circular economy model and was later nominated for the EIT Awards in 2022. That same year, the project gave rise to the ETH spin-off Gaia Tech, created to bring the innovation to market.

Phenoliva stands as a compelling example of how Swiss research, enabled by European collaboration, contributes to sustainable food systems and supports the goals of the European Green Deal.

Project website
www.eitfood.eu/projects/phenoliva

Spin-off website
www.gaiatech.ch

Thanks to EIT Food consortium Phenoliva, the Swiss ETH spin-off Gaia Technologies is close to achieving full circularity in the olive oil production.

Actors
ETH
Gaia Tech A

Fields
Bioeconomy
Innovation

Plasma physics for EUROfusion

From EPFL to ITER

Switzerland has been a member since the consortium's inception, with its contributions primarily channelled through the Swiss Plasma Center (SPC) at the Swiss Federal Institute of Technology in Lausanne (EPFL). Between 2015 and 2024, Professor Ambrogio Fasoli served as Director of the SPC. The research of Fasoli and his team at the SPC has focused on critical challenges in magnetic fusion, including the physics of burning plasmas, understanding and controlling turbulent structures, and developing novel divertor concepts for plasma exhaust, all in preparation for the scientific exploitation of ITER.

From 2019 to 2024, Professor Fasoli chaired the EUROfusion General Assembly, the decision and strategic body of the consortium, and served as its Programme Manager (CEO) during 2024. In these roles, he played a pivotal part in shaping Europe's scientific and technological fusion programme for Horizon Europe, overseeing its implementation, and defining the new European Roadmap to fusion power plants.

Project website
www.euro-fusion.org

Fields
Physics
Research

Actors
EPFL, EUROfusion
ITER

"Fusion is not just a field of science; it's a quest for mankind."

REAL

Rethinking the Future of Post-Growth Economies

Societies worldwide face interconnected challenges such as environmental degradation, inequality and political instability, rooted in an economic model based on continuous growth. While growth has increased material wealth, it has also strained natural resources and deepened disparities. The REAL – A Post-Growth Deal project (2023–2029) explores how economies can shift beyond growth, ensuring social well-being within planetary limits.

Led by Professors Giorgos Kallis, Jason Hickel from the Autonomous University of Barcelona and Julia Steinberger from the University of Lausanne, REAL investigates new economic models through five thematic work packages: Possibilities, Policies, Provisioning, Politics and Practice. Steinberger leads the work on sustainable and fair provisioning of essentials like housing, transport, food and energy, emphasising democratic involvement in economic decisions.

REAL also develops climate mitigation models that integrate social justice between the Global North and South, contributing to international policy debates such as those by the Intergovernmental Panel on Climate Change (IPCC). Supported by the ERC Synergy Grant, the project fosters interdisciplinary collaboration and engagement with decision-makers.

The ultimate goal is to create actionable Post-Growth Deals, providing governments and civil society with practical pathways for sustainable economic transformation.

Project website
www.realpostgrowth.eu

“We need to rapidly develop and implement alternative economic models that prioritise human wellbeing and environmental sustainability, without relying on growth.”

Actors
University of Lausanne

Fields
SSH Research

REVEAL

Unlocking aluminium’s potential as energy storage

As Europe faces the dual challenge of winter energy shortages and climate change, researchers are exploring new ways to store renewable energy. One promising solution is aluminium. At the SPF Institute for Solar Technology, an institute of the Eastern Switzerland University of Applied Sciences (FH OST), Michel Haller and his team developed a process that uses chemical reactions between aluminium and water to produce heat and electricity on demand. This approach could help close the seasonal energy gap by storing summer’s excess solar power in solid form and releasing it during winter, when demand is highest.

To further advance the technology, FH OST partnered with experts from across Europe through the REVEAL project, launched under Horizon Europe. The consortium of nine organisations from seven countries combines expertise in energy systems, aluminium production and sustainability. Due to Switzerland’s non-associated status in Horizon Europe at the time, the project was co-funded by the State Secretariat for Education, Research and Innovation (SERI), and partners in Iceland took over the administrative coordination.

REVEAL’s goal is clear: a safe, non-toxic and recyclable energy storage solution that is ready for large-scale use. With commercialisation in sight, REVEAL demonstrates how cross-border collaboration can power Europe’s clean energy future.

Project website
www.reveal-storage.eu

“The main thing is that someone develops this technology up to the level that it can replace the fossil fuels we use now.”

Actors
SPF FH OST

Fields
Energy Research

SUN-to-LIQUID

Advancing clean energy solutions

In November 2021, a Consortium of ETH Zurich and partners won the 22nd Energy Globe World Award with the SUN-to-LIQUID project.

Actors
ETH Zurich
Synhelion

Fields
Energy
Research

SUN-to-LIQUID is a pioneering Horizon 2020 project that redefined what is possible in sustainable aviation. Coordinated by Professor Aldo Steinfeld at ETH Zurich, together with leading European partners, the project demonstrated the production of liquid hydrocarbon fuels, such as kerosene, from water, CO_2 and concentrated solar energy. The result is solar jet fuel with over 80 per cent lower net emissions compared to conventional alternatives.

The project had its kick off in January 2016 and ended in December 2019. SUN-to-LIQUID contributed to the EU energy roadmap for 2050, which aims at a 75% share of renewables in the gross energy consumption. The project won the 22nd Energy Globe World Award for its breakthrough development of renewable “drop-in” fuels based on solar energy.

SUN-to-LIQUID proved not only technically feasible but also commercially promising. ETH spin-off Synhelion, founded by Dr Philipp Furler, is now scaling the project’s technology for industrial production, bringing solar aviation fuel closer to market. In 2024, Synhelion inaugurated DAWN, the world’s first industrial-scale solar fuel plant. This marks the transition from research to real-world climate impact and the beginning of a new chapter in sustainable aviation.

Project website
www.sun-to-liquid.eu

Spin-off website
synhelion.com

SustainSahel

New ways for a sustainable Sahel agriculture

Fields
Agriculture
Research

Actor
FiBL Switzerland

SustainSahel promotes sustainable agriculture by combining agroforestry’s integrative approach with a strong participatory design.

The Horizon Europe project Sustain Sahel, led by the Swiss Research Institute of Organic Agriculture FiBL, promotes sustainable agriculture by combining agroforestry’s integrative approach with a strong participatory design. The aim of SustainSahel is to introduce practices that that can promote a positive synergy between crops, trees and livestock, leading to the enhancement of soil fertility and farmers’ revenues.

As an international research project, it brings together 17 partners from nine countries, representing the European and African continents. Involving farmers and local stakeholders ensures that their economic interests can be met, while creating a sustainable and resilient agriculture in the Sahel.

The social dimension is the backbone of the project as it is crucial for research that aims not only to generate new data but also to create a positive impact for farmers’ livelihoods. Therefore, farmers’ perspectives are essential, not only to determine which practices they would be willing to implement and how new and existing agricultural practices can be well integrated, but also to incorporate existing local knowledge.

Although the project is coming to a close, the lessons and techniques learned will live on, thanks to initiatives implemented for long-term knowledge transfer, including the innovation platforms, dissemination events and the training of young talented researchers.

Project website
www.sustainsahel.net

Swiss DeCode

A success story for chocolate and beyond

Food safety remains a critical global challenge, with contamination and adulteration posing significant risks to consumers and supply chains. SwissDeCode, a Lausanne-based start-up, is addressing these issues with advanced technologies that enable early detection of food contamination, safeguarding quality from farm to table.

Founded in 2016 on patented technology developed at the University of Geneva, SwissDeCode quickly gained recognition, joining the EIT Food's "Rising Food Stars" and ranking among Switzerland's top 100 start-ups for three consecutive years. Supported by Swiss and European agencies and programmes, including InnoVaud, Innosuisse, Horizon 2020, EIT Food and the EIC Accelerator, SwissDeCode has developed automated food certification platforms and COVID-19 environmental testing technologies.

SwissDeCode's impact goes beyond Europe. In collaboration with Mars Wrigley, it developed a rapid on-site DNA test for Cocoa Swollen Shoot Disease (CSSD), a virus devastating cocoa crops in West Africa. This innovation helps safeguard the livelihoods of 14 million farmers and a sector supplying 70% of the world's chocolate.

By bridging Swiss and European ecosystems, SwissDeCode exemplifies crossborder innovation, combining funding, expertise and networks to tackle global food safety challenges and deliver solutions across sectors like dairy, grains, coffee and chocolate.

Project website
www.swissdecode.com

"The European Union is the world's largest chocolate exporter, so you can imagine the industry that is supported by our rapid on-site test."

Actors
Brij Sahj
Gianpaolo Rando

Fields
Food
Innovation

VIBES

Entrepreneurial competences for virtual teamwork

The shift to virtual communication and collaboration since the COVID-19 pandemic has highlighted the growing need for strong digital skills in both education and the workplace. In response, the Erasmus+ funded project VIBES – 'Virtual Businesses Skills Framework' – developed training courses to strengthen students' abilities in virtual teamwork and entrepreneurial skills across vocational, secondary and higher education.

VIBES developed bottom-up training modules based on the EU's Entrepreneurial Competence Framework (EntreComp), aimed managers. These modules aim to equip students with the skills needed for current and future roles, while fostering entrepreneurial competences and a mindset of lifelong learning.

The University of Applied Sciences of the Grisons (FHGR) was a key contributor to the project consortium. Despite Switzerland's non-association with Erasmus+, FHGR was able to participate with support from Movetia. Being part of this project boosted FHGR's expertise in virtual teamwork and strengthened its international profile. Professor Forster, FHGR's coordinator, emphasised that the project's success was due to strong partnerships and partner commitment.

Although the project concluded in 2023, several new initiatives inspired by VIBES are underway, ensuring its legacy continues. A follow-up, VIBES 2.0, is also planned to build on this foundation.

Project website
www.virtualskills.eu/project/

The rapid digitalisation requires the right skills. The successful Eras-mus+ project VIBES created training courses for effective virtual collaboration.

Actor
FHGR

Fields
Virtual skills
Education

ViSuAL

Bringing digital pedagogy forward

Video-based learning can be effective and collaborative. The ViSuAL knowledge alliance with Swiss participation demonstrates how to do it.

Actor
SFUVET

Fields
VET
Education

When Frank de Jong, Professor at Aeres University of Applied Sciences Wageningen, and Alberto Cattaneo, Professor at the Swiss Federal University for Vocational Education and Training (SFUVET), met at a European conference, they agreed that video-based learning is too often ineffective due to teachers frequently simply showing videos. The pair decided to join forces, and the Video-Supported Educational Alliance (ViSuAL) was born. ViSuAL, a knowledge alliance funded by the Erasmus+ programme, demonstrates that video-based learning can be effective and collaborative.

The alliance brought together six higher education institutionsin the field of teacher education from Estonia, Finland, the Netherlands, Portugal and Switzerland, as well as six educational technology companies from Finland, Switzerland, Portugal and the UK to co-create a new evidence-based pedagogical model for video-supported collaborative learning. The participation of a Swiss partner in the consortium was special as SFUVET became a full member in the project alliance and was therefore eligible to receive funding from the Erasmus+ programme. Institutions from non-associated countries may participate fully in knowledge alliances if they offer essential added value, as was clearly the case with SFUVET's recognised contribution to ViSuAL.

The impact ViSuAL has had on improving teaching and video-based learning demonstrates once again the value of Swiss-EU collaboration. These partnerships enable internationalisation and increase the knowledge of best practices and concrete methods to improve, in this case, the teaching provision.

Project website
visualproject.eu

WiPLASH

Swiss simulations for advanced European processors

EU-funded project WiPLASH is delivering on disruptive wireless on-chip communication and Swiss knowledge is a crucial part of it.

Actor
ESL at EPFL

Fields
ICT
Innovation

In the race for faster and smarter computing, the EU-funded WiPLASH project advanced disruptive wireless on-chip communication to boost processor performance. By replacing traditional fixed wiring with hybrid circuits using technologies like graphene antennas, the project opened the door to reconfigurable chips, an essential step for data-intensive applications such as artificial intelligence and high-performance computing.

A key contribution came from the Embedded Systems Laboratory (ESL) at the Swiss Federal Institute of Technology Lausanne (EPFL). Led by Prof. David Atienza, ESL developed an advanced simulation framework to evaluate the performance and energy efficiency of wireless on-chip communication. Dr. Alexandre Levisse and Dr. Giovanni Ansaloni enabled a feedback loop within the European consortium, allowing researchers to test, refine and optimise their circuit designs through virtual models before hardware production.

Thanks to ESL's upgraded open-source tools, these simulations remain available to industry and academia, accelerating future innovation. WiPLASH, supported under the EIC Pathfinder pilot, laid the foundation for more adaptive, energy-efficient chips, crucial for AI and high-performance computing.

Project website
www.wiplash.eu

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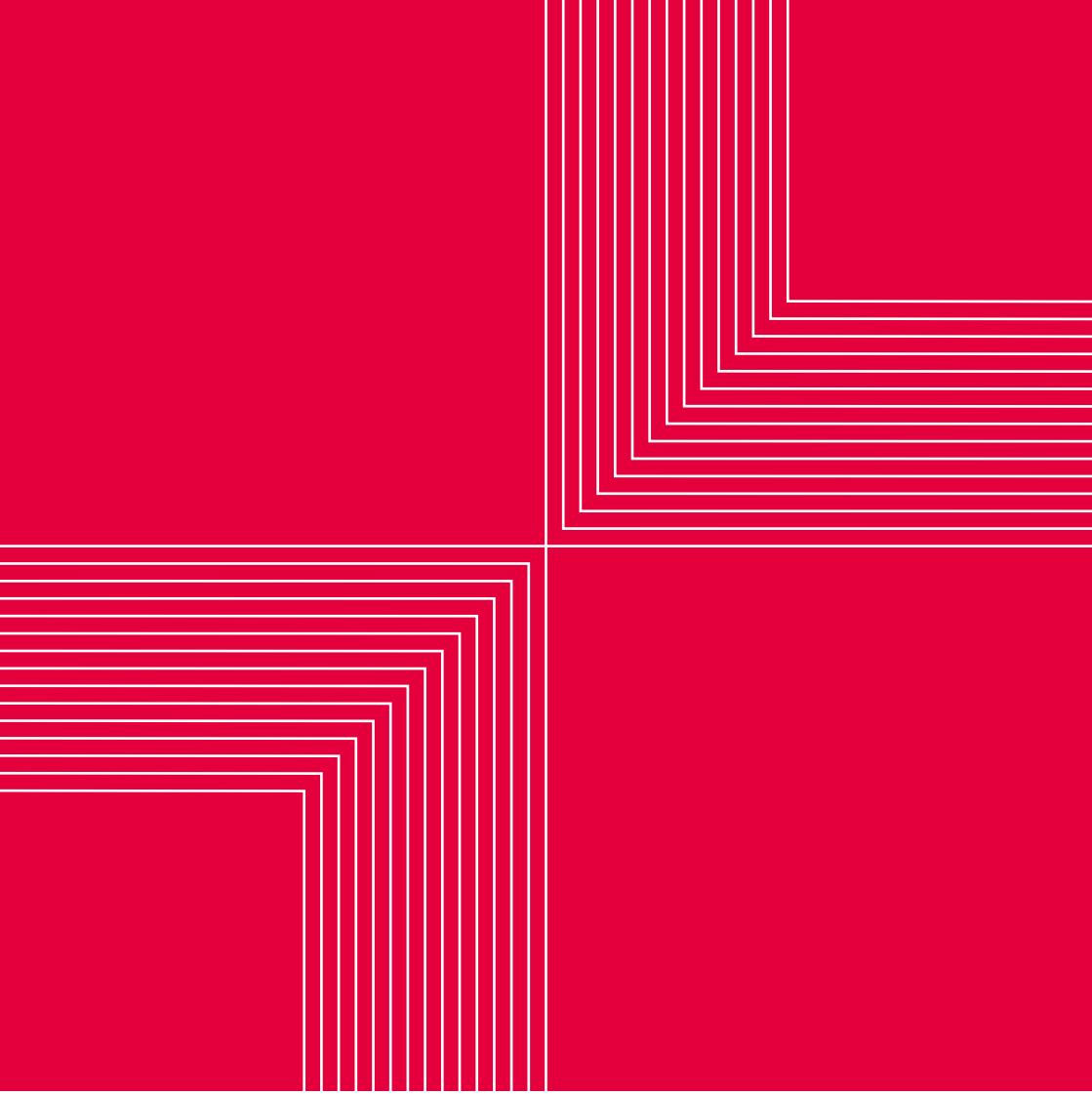

SwissCore 30 Years

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