

# Highlights 2022



We would like to thank all those who contributed information, photography and quotes for this report.  
*Photo credit: IMD, p. 16*

## Table Of Contents

<b>Message From our Co-Directors</b> .....	<b>2</b>
<b>About Us</b> .....	<b>4</b>
<b>Our Year in Figures</b> .....	<b>5</b>
<b>Inspire: The Research Pillar</b> .....	<b>6</b>
<b>Train: The Education Pillar</b> .....	<b>10</b>
<b>Activate Change: The Innovation Pillar</b> .....	<b>12</b>
<b>Events</b> .....	<b>16</b>
<b>Partners</b> .....	<b>20</b>



E4S 2022 Team

## Message from our co-directors

“During the past year, E4S has made great strides towards the achievement of its mission. This has been possible because we have been able to overcome sectors’ fragmentation and build alliances across academia, the private and public sectors. Thanks to the support of our founding institutions and growing coalition of partners, we are creating a new narrative: today’s urgent challenges (from climate change to structural social inequalities) are not only necessary calls to act but also exciting opportunities to re-imagine our economies and societies towards a more sustainable future. We invite you to read the highlights of our 2022 activities to learn more about the most meaningful actions and tangible impact we are creating together.”



*Jean-Philippe Bonardi and Jean-Pierre Danthine, Co-Managing Directors of the Enterprise for Society Center (E4S)*

## The Future of E4S

On January 1st 2023, Florian Hoos (IMD) joined as Co-Managing Director. On May 1st 2023, Michaël Aklin (EPFL) completed the E4S Management Board while Jean-Pierre Danthine, who created the center in 2019, left his executive function.



# About Us

Enterprise for Society Center (E4S) is a research and action-oriented center created by three institutions of academic excellence: the University of Lausanne through its Faculty of Business and Economics (UNIL-HEC), the Institute for Management Development (IMD) and the Ecole Polytechnique Fédérale de Lausanne (EPFL), under the stewardship of its College of Management of Technology.

## Our mission

“ Our center aims to inspire and activate the transition to a resilient and inclusive economy within planetary boundaries, seizing the opportunities and addressing the challenges raised by scientific and technological change.

## Our pillars of action: Inspire, Train and Activate Change

### Research: Inspire social and economic transformation

Supporting interdisciplinary research in the following areas:

- Shaping institutions, policies, and norms (environmental policies, regulation and taxation, macroeconomics and globalization, social norms and behaviors).
- Transforming key industries (energy, mobility, health and life science, nutrition and agriculture, primary resources).
- Reimagining managerial norms and practices (work and leadership, data and AI, finance and risks, manufacturing and logistics, governance, strategy and reporting).

Get a snapshot of selected research output on p.6.

### Education: Train the next generation of responsible leaders

E4S coordinates the Master of Science in Sustainable Management and Technology, a joint program created by UNIL-HEC, IMD and EPFL for students who want to contribute to the transition to a sustainable, resilient and inclusive society.

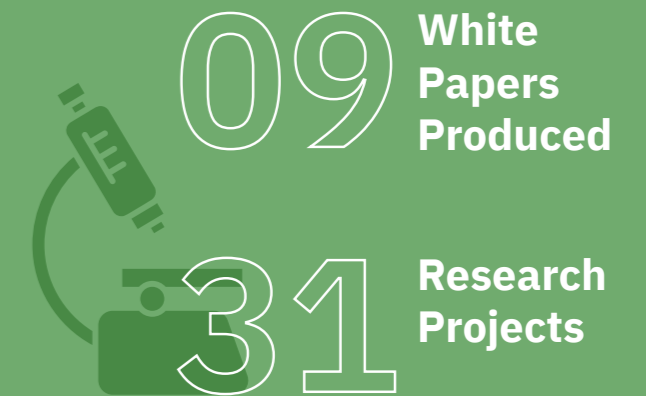
Learn more on p.10.

### Innovation: Activate change

- Translating research into impact: we support the spin-off of high-impact projects from our platforms and institutions.
- Realizing systemic innovation: we engage our community, stakeholders and partners to address systemic challenges together.
- Catalyzing the power of multistakeholder action: we build and strengthen cross-sector collaboration among actors.

Discover the innovation projects on p.12.

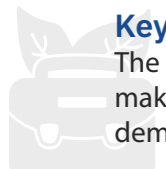
## Our Year in Figures




### Snapshot of selected research conducted in 2022

#### Green jobs

The project uses machine learning techniques to classify green jobs from the universe of job ads in Switzerland. It describes the demand for green jobs in the period 2012-2018, as well as the required skills.



**Key figures**  
The demand for green jobs, while making up a small proportion of total demand, grew from 2013 to 2018.

 Research output forthcoming

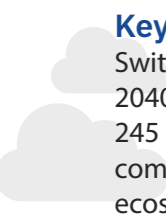
“Green jobs are key for the transition to sustainable economies - studying their characteristics and potentials is what our project tries to achieve.”



**Johannes Buggle,**  
Professor, University of Vienna, formerly Senior Researcher, UNIL

#### Swiss Negative Emissions Fund

Reaching Swiss net zero requires rapid decarbonization, plus removal of residual emissions. The proposed Swiss Negative Emissions Fund (SNEF) is a public fund, 100% polluter-financed, starting in 2025, and reaching annual net zero around 2040, accelerating the needed societal transition by over a decade. By focusing on nature-based solutions, biodiversity is restored, communities are empowered, and risky technological lock-in is avoided.



**Key figures**  
Switzerland can reach net zero before 2040, at a cost to polluters of CHF 245 per ton CO<sub>2</sub>, transferred to local communities to restore biodiverse ecosystems and sequester carbon.

 [Read research output here](#)

“A much better climate policy is within reach, if we combine proven levers: nature-based solutions, community-led ecosystem restoration, a public depollution fund, and the polluter-pays principle.”



**Sascha Nick,**  
Researcher, EPFL

#### The potential of cargo bikes: diffusion, uses, effects, and willingness for delivery

This project studied the potential of cargo bicycles, both for personal transport, and for the commercial delivery of goods. Results inform public policies to further develop clean transportation.

“If you want people to abandon their cars, you need to provide them with suitable alternatives. For a family, cargo bikes represent a good opportunity but only if appropriate road infrastructure exists.”



#### Key figures

Cargo bikes are diffusing rapidly and have great potential, as an owned vehicle and as a shared service. But its practice is still fragile: safety when riding in traffic, insufficient infrastructure, difficult handling. Owning a cargo bike helps reduce car trips and complement public transport and walking in urban areas.



**Virginie Lurkin,**  
Professor, UNIL


 [Read research output here](#)

#### True Cost of Food in Switzerland

Food systems have significant environmental, social and health impacts that are not reflected in the cost of food. In this project we put together a unified methodology for calculating the true cost of food metrics and identify implementation pathways by taking into account the economic, agricultural, food and health policies in Switzerland.

“It is not normal that a highly transformed industrial lasagna, made out of ingredients from various locations around the world, costs less than 3 organic zucchini produced by a nearby farmer.”

#### Key figures



CHF 37.4 billion is spent every year on food in Switzerland, while the external environmental, health and social costs are estimated to be at least twice this amount.



**Christian Schwab,**  
Executive Director, EPFL Food Center

 [Read research output here](#)

## Strategizing contributions to the UN SDGs

*This project aims to understand how the United Nations' Sustainable Development Goals (SDGs) can be meaningfully integrated into corporate strategy. We found that most companies engage with the SDGs superficially, few companies integrate them in a holistic manner.*

“We are happy to share examples of leading SDG integration as an inspiration for all to do the same.”



**Amanda Williams,**  
Research Fellow, IMD

### Key figures

Most companies engage with the SDGs superficially through communication and reporting, creating a high risk of SDG-related green washing. Companies that truly integrated the SDGs into corporate strategy took advantage of opportune moments for strategic renewal, conducted a very comprehensive SDG analysis, and developed their own custom approach for SDG engagement.



Research output forthcoming

## Going beyond GDP: the Green Domestic Product

*We propose a novel indicator of economic activity, the Green Domestic Product (GrDP), that extends the scope of the GDP by discounting the “external costs” (the depletion of natural, social, and human capital).*

“Our decisions are influenced by what we know and by what we measure. By considering the economic, environmental, and social dimensions, GrDP is a helpful indicator to make more informed and sustainable policy decisions.”



**Boris Thurm,** Senior Researcher, E4S

### Key figures

In Switzerland, external costs are decreasing but remain significant: in 2019, they were about CHF 25.3 billion or 3.5% of GDP.



Read research output here

## Active ownership: the keys to success

*How to facilitate the success of corporate engagement? When are companies more likely to comply with environmental, social, governance and investors' requests? And what to do when they do not? This analysis reviews the success factors identified in academic literature and discusses the steps to be taken when the company does not respond to engagement.*

“Smaller companies and laggards should not be left out. Increased engagement and collaboration with other actors such as bond investors and creditors can help when an initial engagement fails.”



**Florence Hugard,** Junior Researcher, E4S

### Key figures

Mature, ESG-conscious companies are most likely to comply with shareholder demands. Local institutional investors with a history of successful engagement with the company appear to achieve their goals more often. Collaborative engagements that are multi-level, address corporate governance or have a more aggressive approach appear to be more successful.



Read research output here

## Systemic risk and sustainability

*This project describes a strategy to build a portfolio of sovereign securities with progressively declining carbon footprints.*

“We make tools available to institutional investors willing to improve the carbon footprint of their sovereign bond portfolio.”



### Key figures

With our strategy, carbon footprint could have been reduced by 51.4% and total emissions by 81% relative to the benchmark between 2011 and 2020.



**Eric Jondeau,** Professor, UNIL

Read research output here

# Train

## The Education Pillar

### Master's degree in Sustainable Management and Technology

The Master of Science in Sustainable Management and Technology (SMT) is offered by E4S on behalf of its three partner institutions – UNIL-HEC, IMD and EPFL.

The program aims to equip the leaders of the future with the knowledge and skills enabling them to contribute to the transition towards a more resilient, environmentally responsible and inclusive economy while harnessing the power of technology.

The SMT seeks to build competences along three dimensions: technology and innovation, economics and management, and tools and skills for the development of sustainable

solutions. In comparison with existing programs organized around management, technology and/or sustainability, the SMT Master program is unique in focusing on all three dimensions simultaneously in a balanced manner.

Courses are taught by professors on the campuses of UNIL, IMD and EPFL, thus bringing together the expertise of three complementary academic institutions of international excellence.

[Learn more here](#)

#### About the Students



### Transformative projects

The Transformative Projects are part of the SMT Master program. They aim at solving applied, real-life interdisciplinary issues in the fields of technology, management, and sustainability.

Teams of 3-4 students from different disciplines work together on a topic provided by a company with the objective to propose new perspectives or solutions that can have the potential to transform an industry or societal practices.

Through Transformative Projects, students learn to apply the knowledge acquired in class to real-life, business-related problems, closing the gap between education and the corporate world.

[Learn more here](#)

List of the Transformative Projects realized by the students of the first cohort of the SMT Master program in 2022:

- Sustainable sourcing of key agricultural products in the consumer staples industry. *Partner organization: Economics of Mutuality.* Students: Evangelia Nteventzi, Nathan Sierro, Jasmina Djordjevic, Carla Schmid.
- Investment portfolio review and improvement. *Partner organization: Fondation Leenaards.* Students: Janes Spranger, Sybille Roemer, Max Haenssler, Éric Bolliger.
- Circular economy at swiss mountain resorts. *Partner organization: Isenau 360°.* Students: Louis Delessert, Elodie Savioz, Uilliam Weick.
- A biodiversity assessment tool for portfolio managers. *Partner organization: Asteria Obviam.* Students: Jeanne Fernandez, Massimo Poretti, Dario Scalabrin, Filippo Trapanese.
- Point-system guideline for sustainable sport events. *Partner organization: International University Sports Federation (FISU).* Students: David De Vitis, Mia Frey, Filippo Giustiniani, Soukaynah El Maliki.
- Towards an agroecological system in the European Union. *Partner organizations: EPFL LEURE Lab & European Environment Bureau.* Students: Mathieu De Terwangne, Hugo Fenoli-Rebellato, Oscar Keren, Rémy Kurum.
- Feasibility study for hydrogen heating. *Partner organization: Cartier.* Students: Yanis Cuhe, Thanusya Thambirajah, Nicolas Wille.
- Decentralized and circular cloud computing. *Partner organization: Deepsquare.* Students: Mathieu Bélanger, Oscar Vosshage, Lucas Spehler, Nelson Bolivar Ortiz Montalvo.

“SMT students are applying their knowledge to real-world issues through the Transformative and Master Projects in their final year. This is having a significant impact on helping organizations and businesses include sustainability in their operations and values.



**Olivier Gallay, Professor of Operations Research (UNIL) and SMT Master Program Co-Director**



# Activate Change

The Innovation Pillar

## Translating research into impact

We support the spin-off of promising applied research projects stemming out of E4S research platforms and institutions.

Our team provides projects with network, visibility and capacity-building to help them grow in the market.



Born from EPFL's research, Levo is an impact measurement methodology that grew into a digital platform. It supports startups and SMEs in the integration of sustainability at an early stage of their development. Levo provides company managers with the tools to assess, monitor, and continuously improve the sustainability and impact of their businesses.

[Learn more here](#)



SWITZERLAND INNOVATION  
Tech4Impact Initiative

The Switzerland Innovation Tech4Impact Initiative (SI T4I) supports research groups of Swiss universities, Universities of Applied Sciences and Research Institutes, as well as startups and SMEs working on groundbreaking technologies with one or more of the Switzerland Innovation Parks, with a one-year CHF 85'000 grant. In 2022, six grantees were selected:

[Discover them here](#)

## Fostering systemic innovation

We engage our interdisciplinary and diverse community to address key sustainability challenges and develop joint initiatives through our E4S Action Labs.

13.06.22

### Action Lab on green bonds

The first Action Lab on green bonds welcomed 20 key actors of the Swiss green-bond market from six different stakeholder groups. Participants discussed the state of the Swiss green-bond market and planned concrete actions to scale up green bonds. After this first event, we hosted a second session on September 12 2022, where participants reviewed specific project outcomes and their implementation. Further collaborative workshops are planned for 2023, with the aim to select the market-informed projects that E4S will carry on.

### Action Lab on the True Cost of Food (TCF)

We organized the first TCF Action Lab that gathered the Swiss food system stakeholders to address how to move from a sectoral approach to a more systemic approach to food systems, following the "True Cost of Food" (TCF) methodology. The Action Lab allowed our team to identify opportunities and barriers as well as implementation pathways for TCF.

06.10.22



## Catalyzing the power of multi-stakeholder action

We fuel a collaborative network between start-ups, corporations, NGOs, and academia through several multi-stakeholder events and programs that inspire and foster joint action.

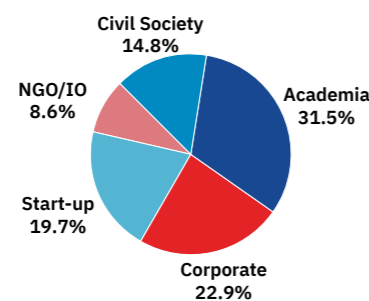


Showcase 2030 is the E4S flagship summit that brings together the leading actors of the sustainable innovation ecosystem. In 2022, our two-day summit welcomed 500+ people, 20+ keynote speakers and 30+ startups. The spirit of the event is to share expertise and inspiring case studies, work together on solutions, and challenge our way of thinking to accelerate the transition towards a more sustainable society and planet.

[Discover the 2023 edition here.](#)

### Highlights from Showcase 2030: 13-14 June 2022

- 500+ Participants
- 20+ Speakers
- 30+ Startups



Satisfaction Rate  
★★★★★

98.4% Would Attend Next Year



Reversed Boards is a program enabling students from UNIL, IMD and EPFL to advise a company's top management on key topics during a series of online and onsite working sessions. At the end of the program, two students are selected to join the company's CEO for a week in a unique journey. The 2022 edition was created in partnership with Nespresso and two students followed Nespresso's CEO Guillaume Le Cunff on a business trip to Brazil. Reversed Boards is a project founded by Reversed.cc and developed in collaboration with E4S.

[Discover the program here.](#)



# Events

06.05

**Conference**

En route pour net zéro en Suisse en 2050: la contribution du retrait du carbone @ EPFL

31.05

**Action Lab Roundtable**

Luxury transparency index @ IMD Campus



17.06

**Conference**

David Thesmar: The price of our values @ UNIL-HEC

Scaling up green bonds @ SwissTech Convention Center

14.06

Action Lab



12.05

**Workshop**

Corporations with purpose: a new age of governance? (joint with CEDIDAC, UNIL) @ UNIL-HEC



13.06

**E4S Event - Showcase 2030**

Scaling up solutions for a net positive planet @ SwissTech Convention Center

04.10

**Conference**

Building Bridges event - Markets for nature: a global index for biodiversity @ CIGG, Geneva

14.10

**Seminar**

Jobs and the sustainability transition @ EPFL



25.10

**Conference**

Sustainability 101 - Shifting perspective: How to use economic growth to avoid climate collapse @ EPFL

06.10

**Action Lab**

The True Cost of Food @ Bern, Switzerland



# Events for Students

09.05

**Conference**

Prof. Andrei Levchenko  
Global supply chains: fragility or resilience? @ IMD

11.05

**Conference**

Mr Gilbert Ghostine (CEO Firmenich)  
Business for good @ EPFL

05.10

**Conference**

Roland Decorvet  
Impact investment in Africa - Give less, invest more! @ EPFL

18.11

**Conference**

E4S Annual Summit 2022 @ IMD



15.12

**Poster Conference**

Key aspects and current issues of climate change @ EPFL



## List of 2022 Partners

### Coalition Leaders



### Coalition Partners

RICHEMONT



ERNST GÖHNER  
STIFTUNG

FONDATION  
**NOVANDI**  
JEUNESSE & ÉDUCATION



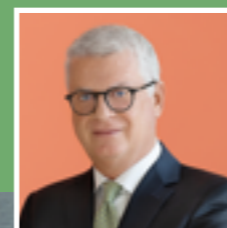
resilience  
institute®



“

We've backed E4S from the start. It was an easy choice for us, because what E4S is doing aligns with what we stand for at BCV. After all, sustainability is at the heart of our mission as Vaud's cantonal bank. As part of that, we're pleased to be helping initiatives like E4S bring together academics and entrepreneurs to rethink our economy and examine it through a long-term, responsibility-based lens.

Concretely, BCV is supporting E4S's Master of Science in Sustainable Management and Technology, which focuses on innovation research and promotion. The goal is to train a new generation of businesspeople who can move Vaud's economy forward sustainably.



*Pascal Kiener*  
CEO, Banque Cantonale Vaudoise



**Enterprise for Society Center  
EPFL CDM E4S - Station 5  
1015 Lausanne  
Switzerland**

**info@e4s.center  
www.e4s.center**