



CEMETS

Center on the Economics and Management of
Education and Training Systems



"I believe this was one of the best things I have participated in outside the General Assembly programmatically hands down. This is a paradigm shift that can change young people's lives."

CEMETS participant
2023

CEMETS: Reforming education systems worldwide

The Center on the Economics and Management of Education and Training Systems (CEMETS) is the reform lab at the Chair of Education Systems of ETH Zurich. We perform and translate research to help reform leaders re-engineer their education systems, generating better outcomes for youth and society.



Our mission

We are dedicated to improving education systems worldwide. Education systems must be permeable to achieve equity: the best education systems should allow individuals to progress from any starting point to any endpoint. We also focus on determinants of program quality and on generalizing lessons from the best education systems to help every education system improve in its own context.

System-level education reforms are highly complex and long term. These projects require evidence-based planning and leadership to achieve impact. Complex reforms usually demand simultaneous engineering, requiring numerous reform leaders engaging in a concerted effort toward a long-term vision or strategy. Capacity building is therefore central to successful reform implementation.

We are committed to translational research. We transfer research findings to practice in cooperation with reform leaders. To that end, we deliver CEMETS institutes for international reform leaders. These combine scientific and practical input with support for developing evidence-based reform plans. Participants design and plan to implement education reforms with lasting effects.



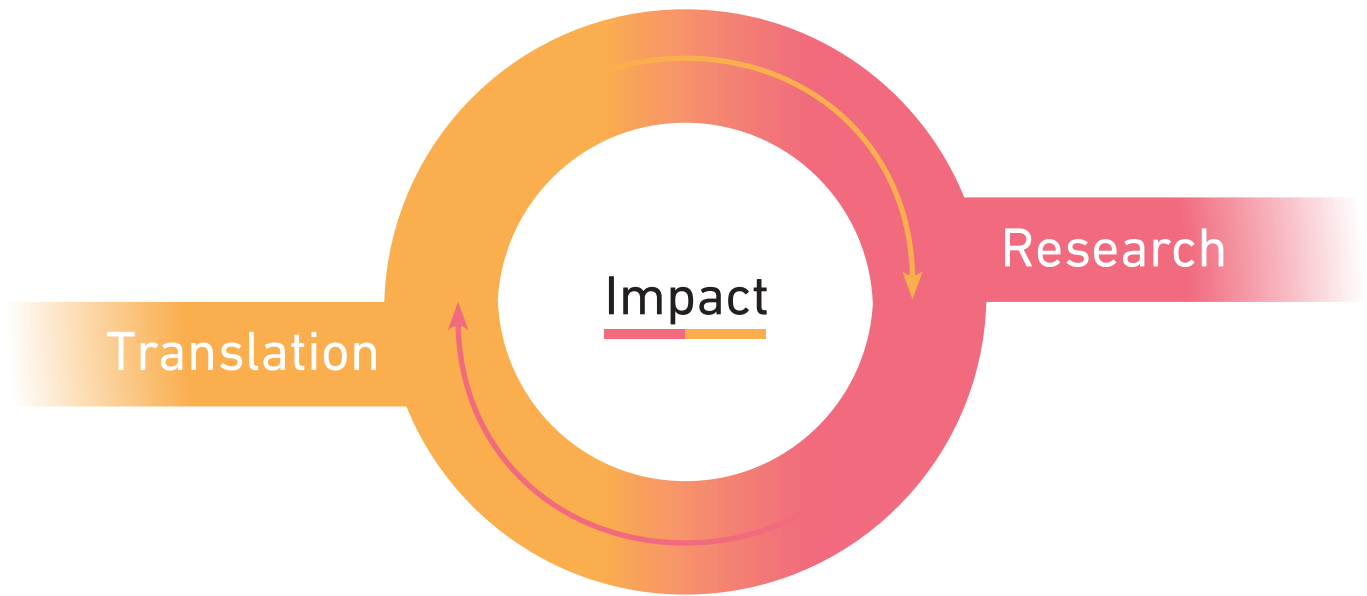
cemets.ethz.ch

Chair of Education Systems

The Chair of Education Systems (CES) conducts highly relevant theoretical, empirical, and translational research. The aim of CES is to generate meaningful research that has an impact on the education and employment systems of countries around the world.

As part of the chair, CEMETS focuses specifically on education reforms.

Driving impact



Education systems all over the world are facing a crisis. For the last century, most countries have focused on delivering a quality primary and secondary education to all students, and in the past few decades that has increasingly expanded to tertiary-level education. However, many education systems have limited options at the secondary and tertiary levels, and young people only discover after graduation that they lack the skills they need to find employment, pursue their goals, and succeed in life.

Digital transformation and the ever-increasing speed of technological change only compound this problem. As labor markets change rapidly, education systems can struggle to keep up. This only exacerbates the gaps between countries and between individuals.

Many young people are dissatisfied with education options that are costly and mismatched to labor market demand. At its best, education should be a source of social mobility. Too often, today's education systems reproduce society's problems and inequalities.

Re-engineering education systems is an urgent issue. Research alone can provide some guidance for evidence based reforms, but it needs to be translated to reform leaders and policymakers to maximize impact. At the same time, researchers need to interact with education leaders, young people, and employers to understand the problems and challenges they face. At CEMETS, we drive impact by combining research with translation to the real world.

At CEMETS, we prioritize not only developing scientific knowledge but also translating it into tangible benefits for society. We deliver institutes to work with reform leaders directly, develop diagnostic tools to put findings into practice, and support implementation and evaluation of reform projects. This interaction with the "real world" of education systems and reforms inspires new research questions and agendas, creating a **cycle of impact**.



"Thank you for challenging me to be a real change maker in my country!"

CEMETS participant
2023

CEMETS Institutes

The first step to evidence-based reform is understanding the evidence and how it relates to your own problems. As part of translating research to practice, CEMETS offers a professional development course and four institute types to support education systems re-engineering.

	For whom?	When?	Where?	Cases	Scope
Advanced CEMETS Alumni Institute	Individual strategic leaders	Every few years (next 2025)	Switzerland	International showcases	Global
Advanced CEMETS Advanced Institute	Strategic leader teams	Upon request	On location	Regional strategic cases	National / regional
Inter-mediate CEMETS Summer Institute	Strategic leader teams	Annual	Switzerland	Reform planning cases	Global
Basic CEMETS iLab	Implementer teams	Upon request	On location	Implementation cases	One state / country
Basic CEMETS Professional Development	Individuals	Ongoing	Online	No cases	General content

CEMETS Summer Institute



The CEMETS Summer Institute is our **flagship program** and is usually the point of entry for new cases. Participants attend in teams of reform leaders from education, industry, and other important stakeholder groups. The institute's goal is to train these strategic leaders to understand the evidence related to their problems, and help them develop reform implementation plans for their own systems.

We have been operating the CEMETS Summer Institute since 2015, and have worked with teams from every inhabited continent.

Our CEMETS alumni are a [unique community of worldwide reform leaders](#). The CEMETS Alumni Institute in Zurich brings together individual CEMETS alumni to learn about the next level of theory and evidence, tackle shared strategic challenges, and develop an international community of education systems reform leaders. We highlight advanced showcases, presented by reform leaders. These demonstrate how to overcome implementation hurdles. The next CEMETS Alumni Institute will be our 10-year anniversary institute in 2025.

CEMETS Alumni Institute

CEMETS Advanced Institute

After multiple teams from one country or region have attended the CEMETS Summer Institute and begun working on their individual reform plans, we typically see a need for [strategic alignment across projects](#). The CEMETS Advanced Institute serves teams of alumni from the CEMETS Summer Institute to help them align across individual projects for a regional or national strategy that accelerates all projects. This institute focuses on developing a set of unified strategic goals and key priorities at the national or regional level.

The goal of the CEMETS Implementation Lab - or iLab - is to [build capacity for reform implementation](#). An iLab is specific to one state or country that has already sent a team of strategic leaders to the CEMETS Summer Institute. Using the reform plan those leaders developed, we design an iLab for teams of on-the-ground implementers to accelerate and align key projects.

CEMETS iLab

CEMETS Professional Development

Project teams that have developed their plans based on evidence need new members of the team to understand their shared language. The CEMETS Professional Development course is a short, on-demand, and fully online option for [bringing new team members up to speed quickly](#).



“Having attended other extended institutes and educational forums, this was by far the best. The context experiences (with employers and apprentices) and a broad range of participants led to learning and ideas I could not have imagined.”

CEMETS participant
2019

Prof. Dr. Ursula Renold (CEMETS) and Dr. Usha Bhandari (Nepal) during the CEMETS Alumni Institute 2023.

CEMETS Summer Institute 2023 participants on a site visit to Swisscom.





All participants of the CEMETS Summer Institute 2023.

Participants from the U.S. during the CEMETS Summer Institute 2023.

"It was absolutely amazing to truly connect with countries and see what it means to slowly become a worldwide movement."

CEMETS participant
2019

"This experience transformed the way I think about higher education."

CEMETS participant
2017



International partners & projects

We are proud to work with education reform leaders from all over the world. We have hosted teams at the CEMETS Summer Institute from every inhabited continent. The hard work teams are doing in their own countries and states has started to generate impact on education systems and young people's opportunities.

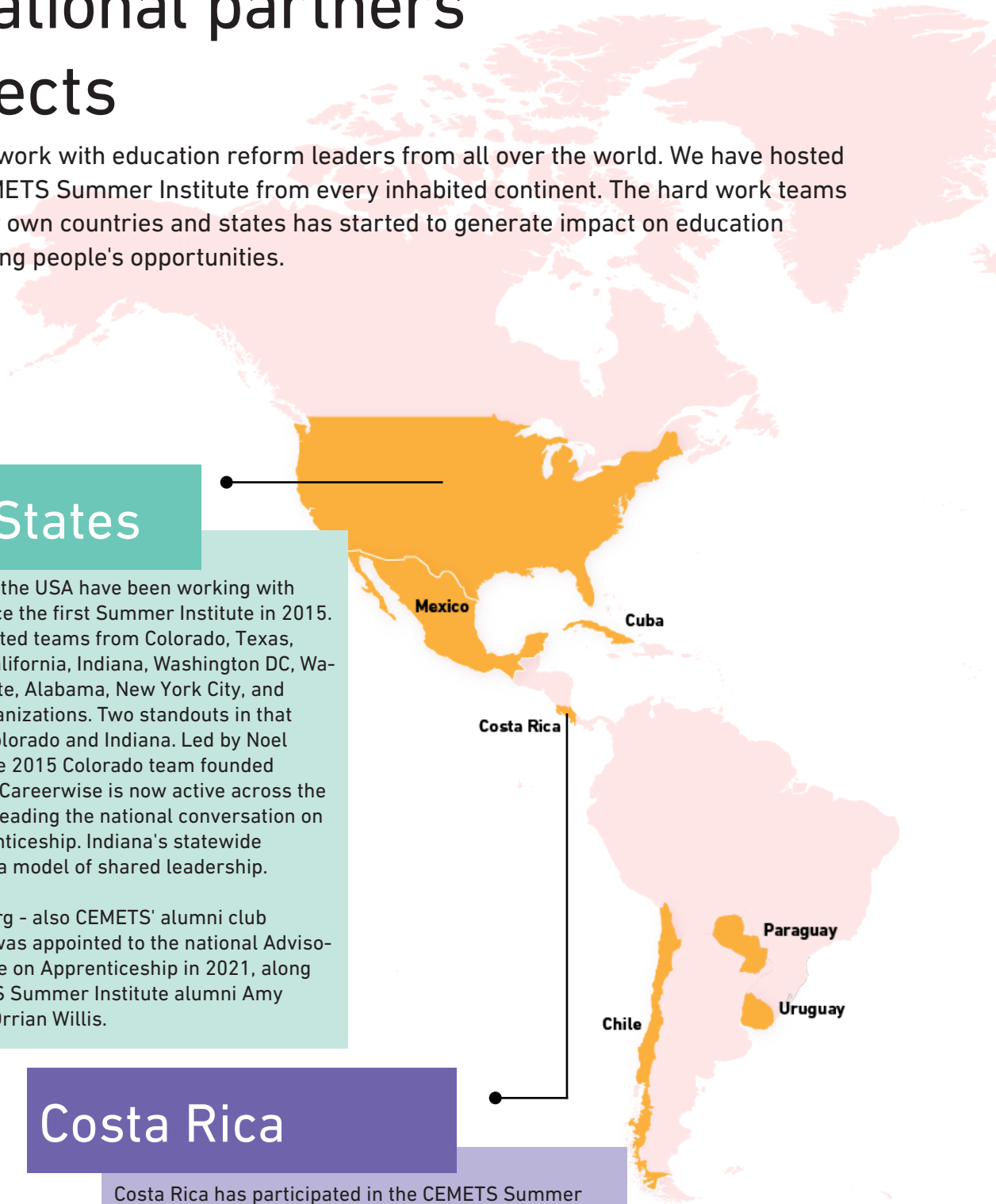
United States

Teams from the USA have been working with CEMETS since the first Summer Institute in 2015. We have hosted teams from Colorado, Texas, Kentucky, California, Indiana, Washington DC, Washington state, Alabama, New York City, and national organizations. Two standouts in that group are Colorado and Indiana. Led by Noel Ginsburg, the 2015 Colorado team founded Careerwise. Careerwise is now active across the USA, and is leading the national conversation on youth apprenticeship. Indiana's statewide approach is a model of shared leadership.

Noel Ginsburg - also CEMETS' alumni club president - was appointed to the national Advisory Committee on Apprenticeship in 2021, along with CEMETS Summer Institute alumni Amy Kardel and Orrian Willis.

Costa Rica

Costa Rica has participated in the CEMETS Summer Institute since 2017 with several teams led by current ministers, among others. Based on diagnostic research, teams have developed strategies to strengthen cooperation between actors from the education and employment systems. In 2022, a presidential decree regulated this new institutional collaboration (SINEFO-TEC - National System of Technical Vocational Education and Training). The University of Costa Rica established an observatory to support SINEFOTEC implementation with research.



Nepal

Switzerland has a long history of supporting the technical and vocational education and training (TVET) sector in Nepal. After a new constitution created a federal system in Nepal, CEMETS began supporting the federalization of the TVET sector. Nepal has sent teams to CEMETS Institutes since 2016, and CEMETS has produced research supporting TVET federalization since 2017.

Nepal is also part of a Swiss National Science Foundation-funded project from 2017-2024 alongside Benin, Chile, and Costa Rica.



CEMETS alumni from Nepal attending the CEMETS Alumni Institute 2023.

United Kingdom

Bosnia & Herzegovina

Ukraine

Uzbekistan

Korea

Senegal

Benin

India

Singapore

Micronesia

Australia

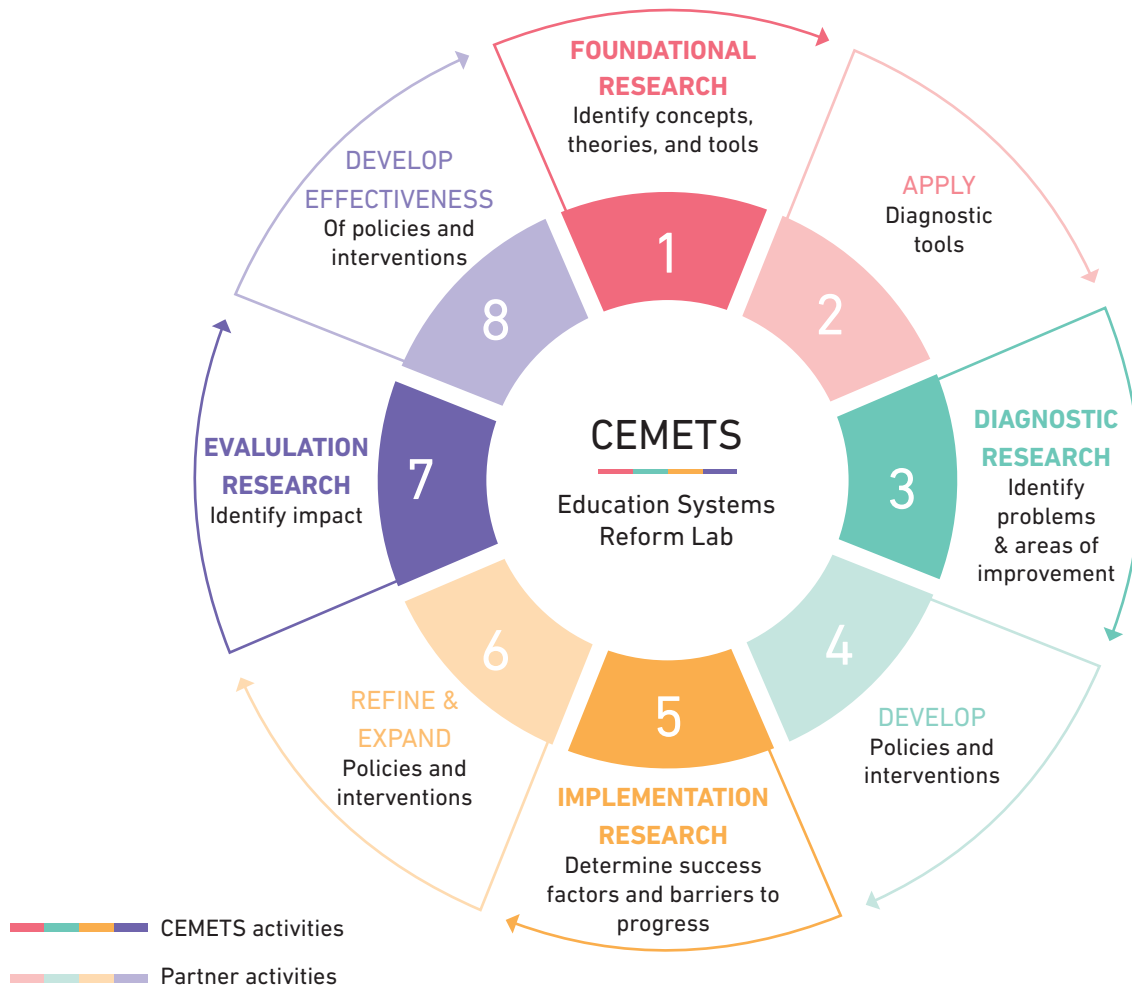
Serbia

At a conference in 2016, Prof. Dr. Ursula Renold met then-Prime Minister of Serbia Aleksandar Vučić, who was inspired by her presentation of benchmark instruments and data to compare high performing education systems. He spearheaded the drafting of the Law on Dual Education, aiming to transform VET in Serbia. Starting in 2018, Serbia sent teams to CEMETS Institutes and CEMETS did implementation research to support the development of VET in Serbia.

South Africa

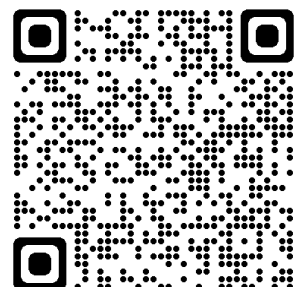
South Africa sent its first team to CEMETS in 2017, representing the Department of Higher Education and Training's office for artisan development. The team started working towards a permeable education system with dual or apprenticeship-style TVET options. In 2022, the team published The National Apprenticeship and Artisan Development Strategy 2030. South African teams continue to attend CEMETS institutes to support implementation of the strategy.

Translational research



CEMETS is committed to **translational research**. This means we not only conduct research that is highly relevant for the scientific community, but also transfer our findings to the real world. We bring our findings from "**bench**" (our reform lab) to "**bedside**" (practice).

Visit our research page:
cemets.ethz.ch/research_new



Better education, better outcomes, and making education more effective

Does better education lead to better outcomes?

It's intuitive that better education programs and systems should improve young people's employment, job quality, wages, quality of life, and other key outcomes. We are part of the field of academic research examining this issue. We use **theoretical concepts** from economics, sociology, and more to identify how education might improve youth outcomes, then test if those **causal relationships** are true. You can read about this on our research page and in the CEMETS blog (cemets.ethz.ch/blog).

What exactly do we mean by "better education" and "better outcomes"?

A huge variety of factors go into defining the quality of education, and an equally diverse set of outcomes are important for young people and society. Based on what we learn from foundational research, we can **define tools** that measure the most important and universal factors related to better education and better outcomes. The **Education-Employment Linkage Index**, **Governance Index**, and **Youth Labor Market Index** are all examples of these tools.

How do we move toward more effective education?

Even once we know what matters for improving young people's lives and we know how to measure it, we still need to know how reform leaders can make changes to the quality of their education systems. **CEMETS institutes** are designed to translate evidence so reform leaders can design projects to improve their own systems. Still, implementation is a complex process and the available evidence is weak. We can bring foundational research to bear on this problem, too, and we do so by focusing on how reform leaders can **reshape social institutions** as they lead reforms.

How do we know we're making progress?

With our research experience, we can help reform leaders design evaluations to **assess progress** both on education quality and on their desired outcomes. This helps reform leaders find impact with their projects while helping us **identify new questions** to shape the next generations of foundational research.



“This is an excellent program indeed by global comparative standards.”

CEMETS participant
2017

Leadership



Prof. Dr. Ursula Renold
Professor of Education Systems, CES
Chairperson and co-director
of CEMETS

ursula.renold@mtec.ethz.ch



Dr. Katherine Caves
Director of CEMETS

katie.caves@mtec.ethz.ch



Visit our website for more information on the co-directors, advisory board and other team members of CEMETS:
cemets.ethz.ch/people

ETH Zurich

Chair of Education Systems
CEMETS

Stampfenbachstrasse 69

8092 Zurich

www.ces.ethz.ch

www.cemets.ethz.ch

