ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE | ENERGY CENTER

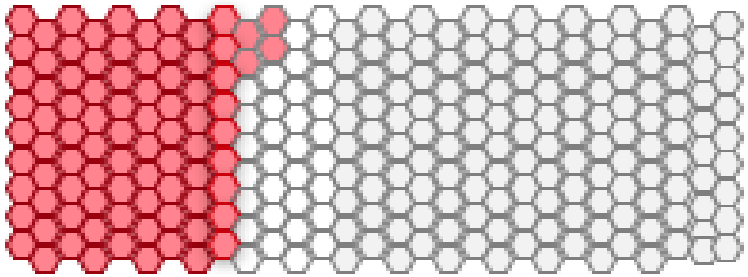
Energy at EPFL

Prof. Mario Paolone
Chair of the EPFL Energy Center Directorate

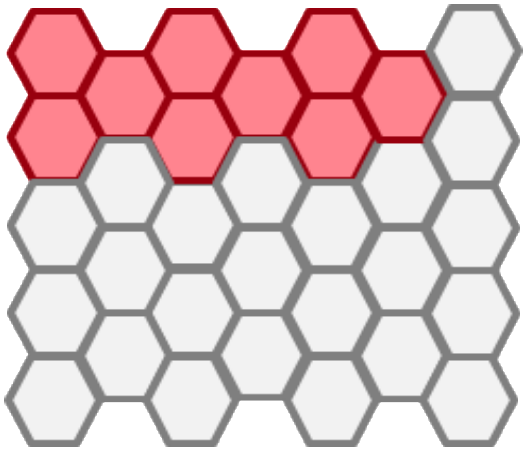
Lausanne, Aug. 20th, 2018

Energy research spans across the entire EPFL

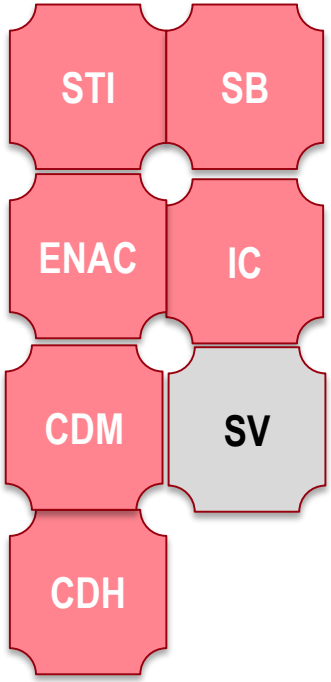
95 / 360
Laboratories



9/33
Interdisciplinary Centers



6 / 7
Faculty / Colleges

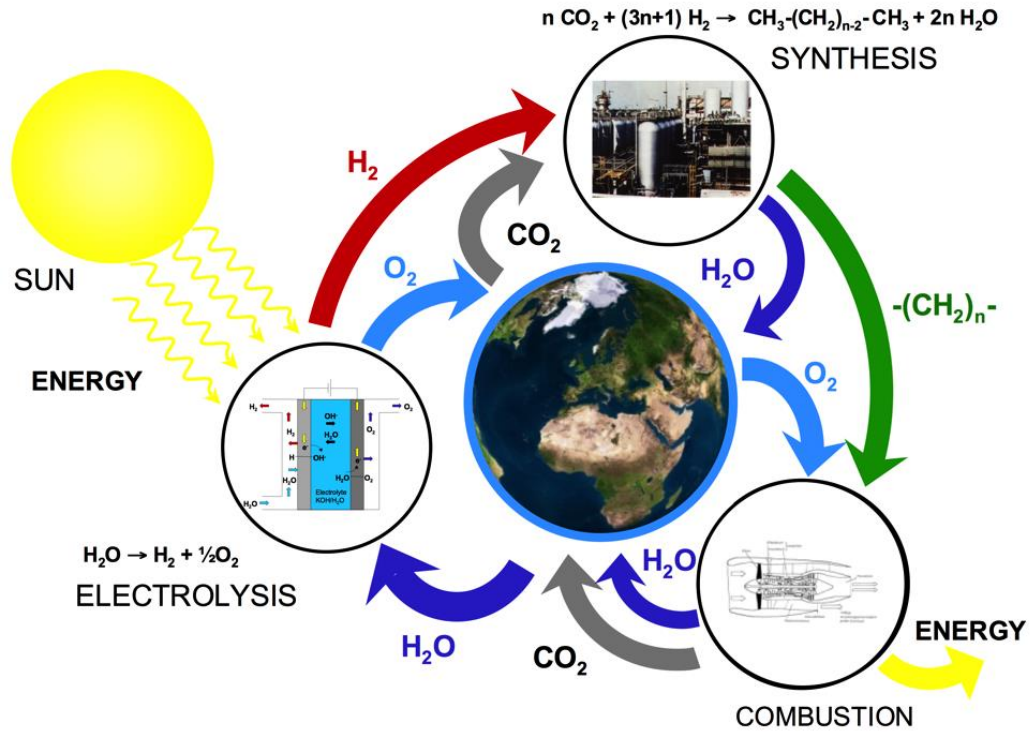


EPFL research on 4 out of 5 campuses

4/5 Campuses

- Lausanne
- Sion
- Neuchâtel
- Fribourg
- Genève

Energypolis – Demonstrator for synthetic fuels



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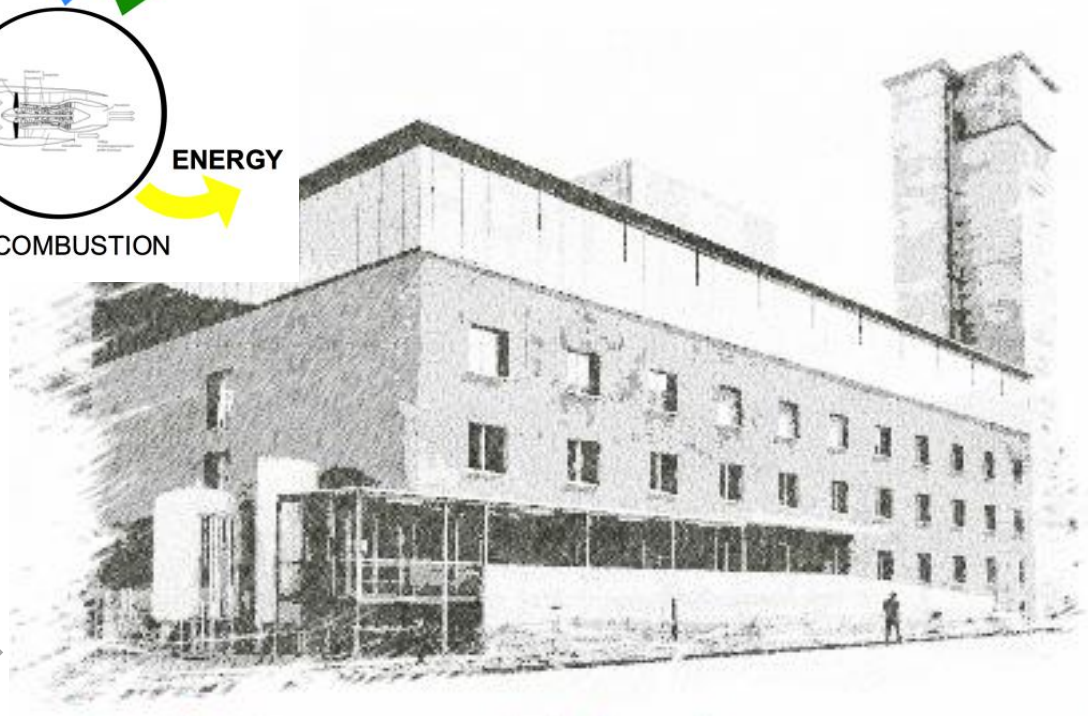
VALAIS WALLIS



Photovoltaics in Neuchatel

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PV-lab IMT NEUCHATEL

csem PV-Center

EPFL
IMT/PV-Lab (1984)
- Fundamental research
- Advanced devices

CSEM, RTO
PV-Center (since 2013)
- Focus on techn. transfer
- Dev. for industry, innovation

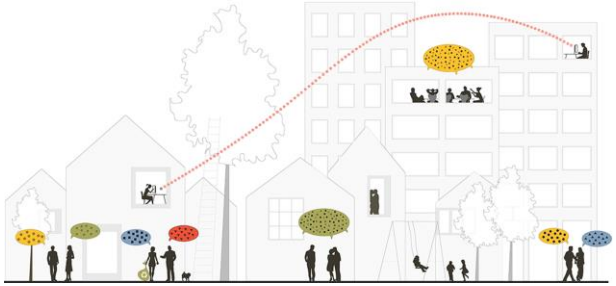
Production and commercialization

Industrial partners
Spin-off, Start-ups

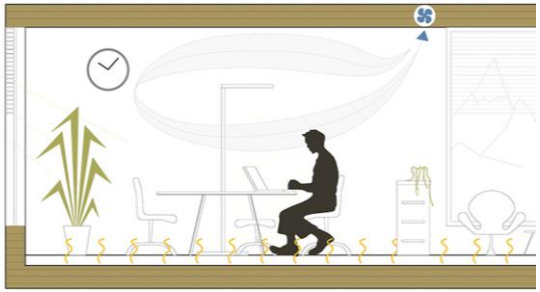
In contracts with over 40 companies

The Smart Living Lab offer transdisciplinary R&D

Interaction & Behaviour



Comfort & Perception

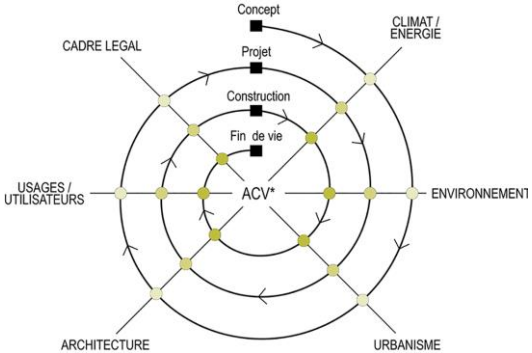


Adaptability of cities

smart living lab

Energy networks and economics

Active system control



Integrated design

EPFL energy activities

Energy Systems

Grid

Renewable energy

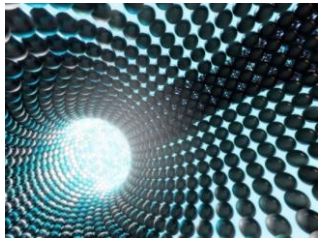
Energy and digitalisation

Mobility and transport

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Energy & environment

Materials for energy



Energy efficiency

Energy storage

Socio-economics

Nuclear

Collaborative energy research at EU level

H2020 on energy

- EPFL has 37 ongoing H2020 research projects on energy (signed contracts with PIs since 2014)
- … of which 6 ERCs and 14 MCSAs
- … for a total grand financing of MCHF 23

EPFL Cleantech start-ups

Sample of EPFL “Cleantech” start-ups

BlueWatt ENGINEERING

OsmoBlue ENERGY

Zaphiro Technologies

hydrique.

Iprova INVENT FIRST

Estia

AMF Advanced MicroFluidics

AQUAVISION

greatcellsolar Global leaders in hi-tech solar

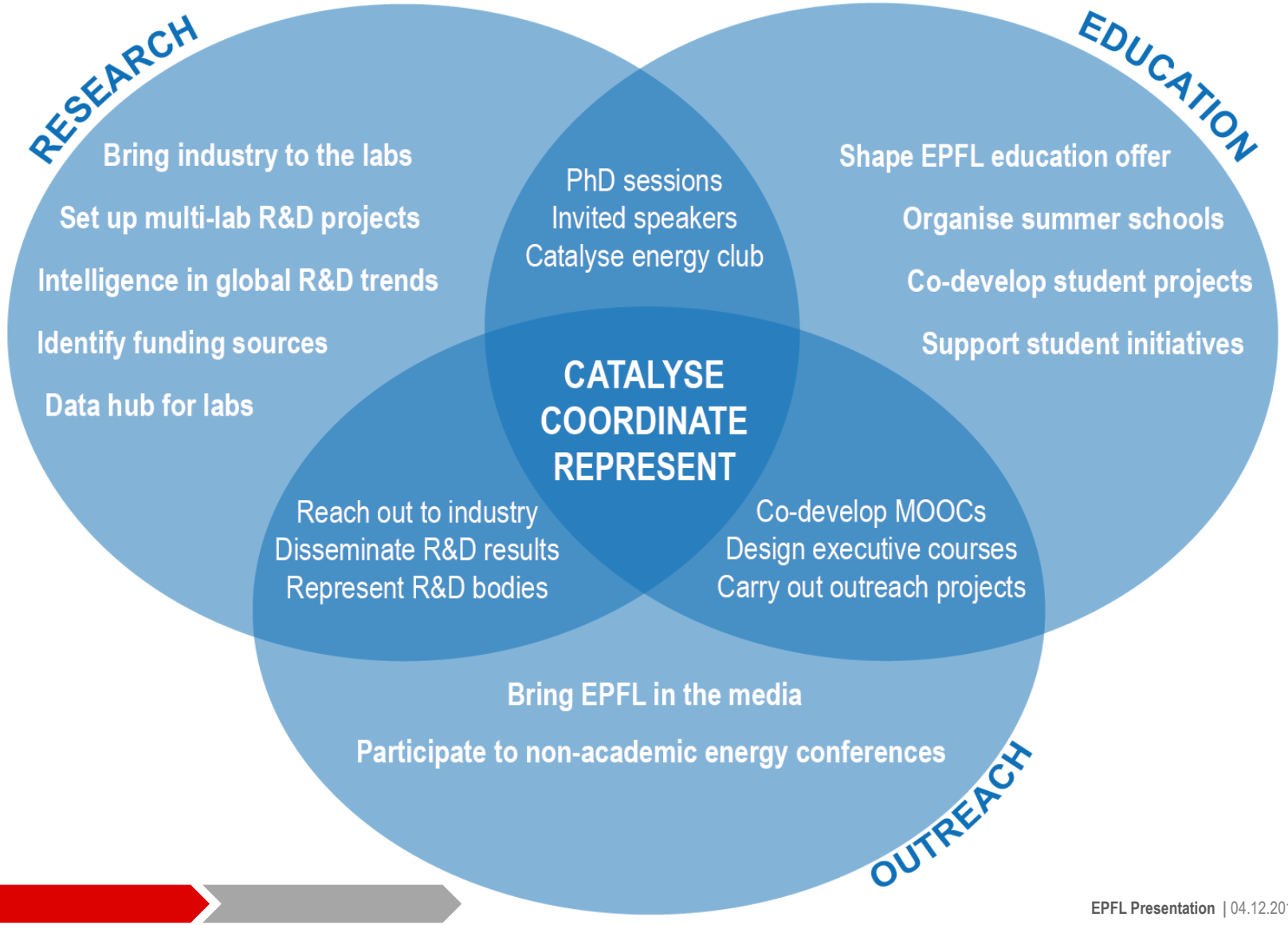
GridSteer

The Energy Center (CEN)

CEN mission

To catalyse energy research led by EPFL laboratories, notably in collaboration with industrial and institutional partners, and enhance EPFL's impact and image as a world leading research and education institution contributing to the transition towards a sustainable energy future.

CEN activities



CEN structure

VP Research

Board of Directors

Official Swiss and EU research bodies (ETH-RAT, SNF, CORE, EERA, etc.)

EPFL
- 95+ Energy labs
- 5+ relevant Centers

Executive Director

Outside world
- Industry players
- Government bodies
- Agencies (WEC, IEA…)
- Associations (AES,
- Media

Admin

Communication

Scientific support

Outreach projects

Academic Ranking in Energy science

ACADEMIC RANKING OF WORLD UNIVERSITIES SINCE 2003

Home | About | Rankings | Survey | Universities | GRUP | Initiative | Conference

Home>> Global Ranking of Academic Subjects 2018>> Energy Science & Engineering

ShanghaiRanking's Global Ranking of Academic Subjects 2018 - Energy Science & Engineering

2018

Field: Engineering Subject: Energy Science & Engineering Methodology

World Rank	Institution*	Country/Region	Total Score	Score on PUB
1	Nanyang Technological University		273.7	56.7
2	Swiss Federal Institute of Technology Lausanne		255.7	49.3
3	Stanford University		252.5	55.4
4	Massachusetts Institute of Technology (MIT)		250.3	61.5
5	University of California, Berkeley		249.7	71.9
6	Tsinghua University		242.0	100
7	University of Chicago		229.3	63.6
8	Technical University of Denmark		226.3	68.9
9	Georgia Institute of Technology		222.3	53.2
10	Imperial College London		221.7	60.9
11	Northwestern University		216.4	29.1