



EssentialTech Centre

**Sustainability and
extreme vulnerability**

**Dr Klaus
Schönenberger**
Director




Human vulnerability - environmental vulnerability



25.09. 2015, United Nations GA adopts res. 70/1:

“Transforming our world: the 2030 Agenda for sustainable development”.



“This agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen **universal peace** in larger freedom. We recognize that **eradicating poverty** in all its forms and dimensions, including **extreme poverty**, is the **greatest global challenge** and an **indispensable requirement** for sustainable development. “

“As we embark on this great collective journey, we pledge that **no one will be left behind**. Recognizing that the dignity of the human person is fundamental, we wish to see the Goals and targets met for all nations and peoples and for all segments of society. And we will endeavor to **reach the furthest behind first**.”



Vision

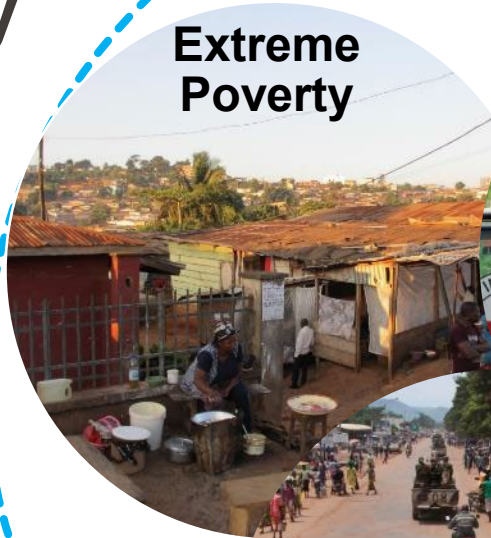
A world without extreme vulnerability

Causes of vulnerability

Planetary boundaries

Extreme
Poverty

After decades of decline: **8.4%→9.3%**



Crises/
Disasters

Forcibly displaced: **>110m**
Need hum.Assist.: **>362m.**



Conflicts
/violence

Armed conflicts:
84:2010→182:2022,
Avg. duration: **x2** in 10y.



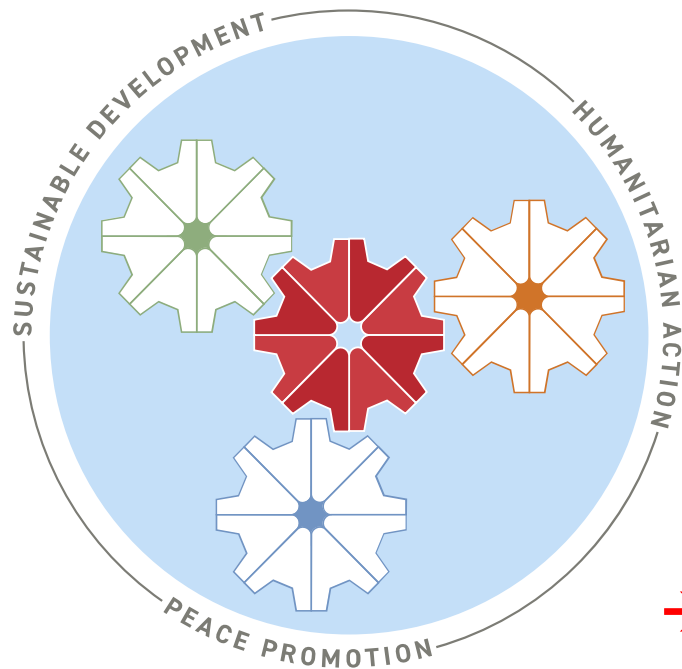
→ **Role of STEM?**

Mission

Harnessing science and technology

- *to drive sustainable development,*
- *humanitarian action,*
- *and peace.*

→ sustainable impact at scale!



→ examples



*Harnessing science
and technology
...to drive **sustainable
development.***



Example: Health technologies



Wilhelm Conrad Röntgen
(1845-1923)

First physics Nobel laureate
(1901).

First x-ray image



1895



2024

2/3

OF HUMANITY HAS NO ACCESS



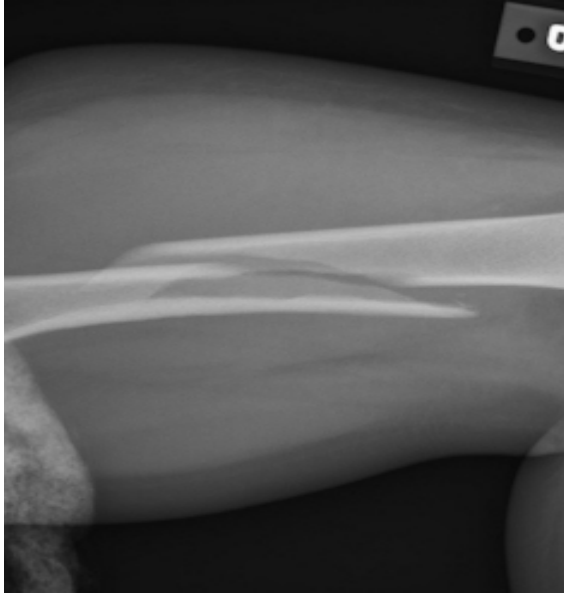
World Health
Organization

1974

EPFL



Essential tool: 60% of all medical imaging exams.



Trauma
Road Accidents



Tuberculosis



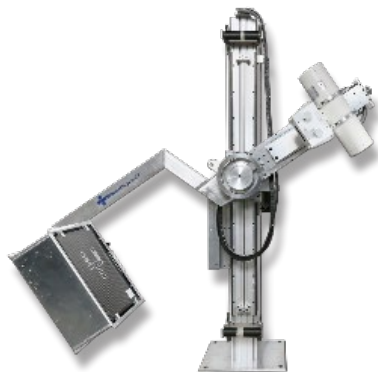
Pneumonia

Röntgen's discovery to become accessible to all humankind!



EPFL starts project
GlobalDiagnostiX

2011



First Academic
Demonstrator

2015



Final prototype,
business model,
EPFL Spin-off.

2018



PRISTEM
Sustainable Healthcare

Full commercial solution,
CE marked

2022

Deployment started!

2 imaging centers in South African townships.

Accessible to the poor AND Economically profitable!



Impact:
500 patients
diagnosed so far!

**→Scaling-up # of
imaging centres!**





Harnessing Science and
technology
... to support **humanitarian
action.**

The EssentialTech Centre and the ICRC present

Conference

Digital Dilemmas

Building Digital Resilience in Humanitarian Crises



In collaboration with The Center for Digital Trust



Welcome statement
Martin Vetterli
President of EPFL



Introduction
Gilles Carbonnier
Vice-President of ICRC



Closing statement
Anna Fontcuberta i Morral
EPFL, Associate Vice President
for Centers and Platforms



Moderation
Grégoire Castella
EPFL, EssentialTech Centre
Head of Humanitarian Division



Panelist
Carmela Troncoso
EPFL, Associate Professor
Security and Privacy
Engineering SPRING Lab



Panelist
Katharina Frey
FDFA, Deputy Head of
Division for Digital Foreign
Policy



Panelist
Anton Aschwanden
Google, Head of Public Policy
for International Geneva &
Switzerland



Panelist
Ariane Bauer
ICRC, Regional Director for
Europe and Central Asia



EPFL

21 May 2024 - 18:00 - 21:00
EPFL Forum Rolex - RLC E 1 240

Music, cocktail, inspiring talks and panel discussion



EXHIBITION

Digital Dilemmas

Humanitarian
Consequences

3.5.–
14.7.2024



Harnessing Science and
technology
...to counter all forms of
violence

EPFL

PEACETECH HACKATHON

Building a more peaceful and secure world


9 - 10 March 2024




4 thematics



Disarmament,
arms control and
humanitarian demining.



Cyber-peace and
peace-by-design.



Counteracting gender-based
violence and violence against
vulnerable minorities.



Conflict prevention and
post-conflict recovery.

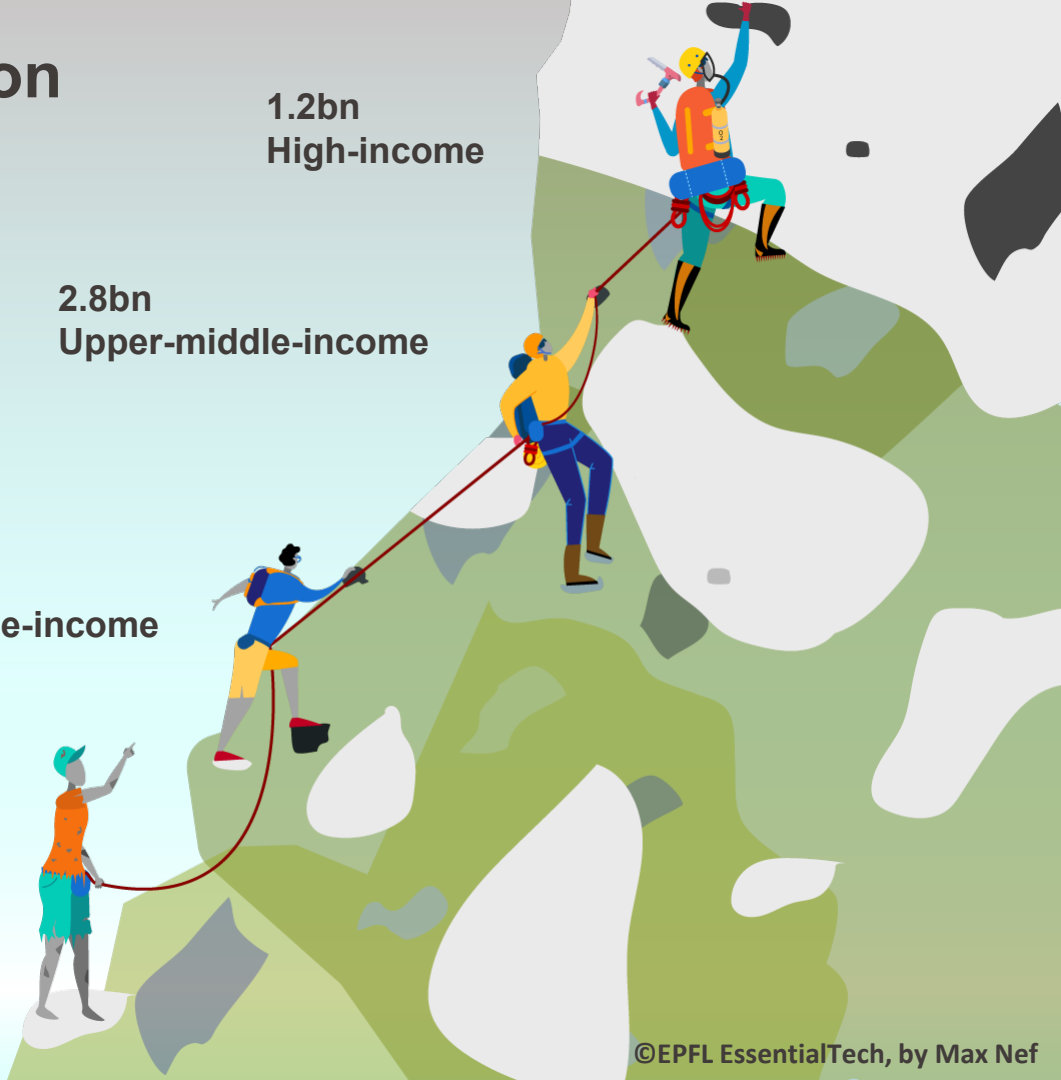
Conclusion

1.2bn
High-income

2.8bn
Upper-middle-income

3.2bn
Lower-middle-income

700m people
Low-income



**Leave no one behind &
Reach the furthest behind first.**

Thank you!

