



# WHO ARE WE?



**Business**

**Law**



## In the last 6 years

**600+** students

**50** companies

**26** industries

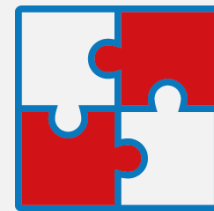
**100+** projects

**8** projects continued

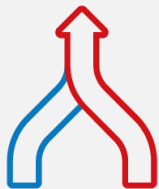
## Prototyping the Future of Education!



CHALLENGE DRIVEN



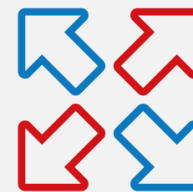
MULTIDISCIPLINARY



EXPERIENTIAL



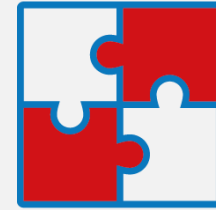
EXPERIMENTAL



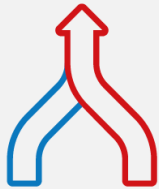
SOCIALLY RELEVANT  
& IMPACTFUL

Prototyping the  
Future of  
Education!

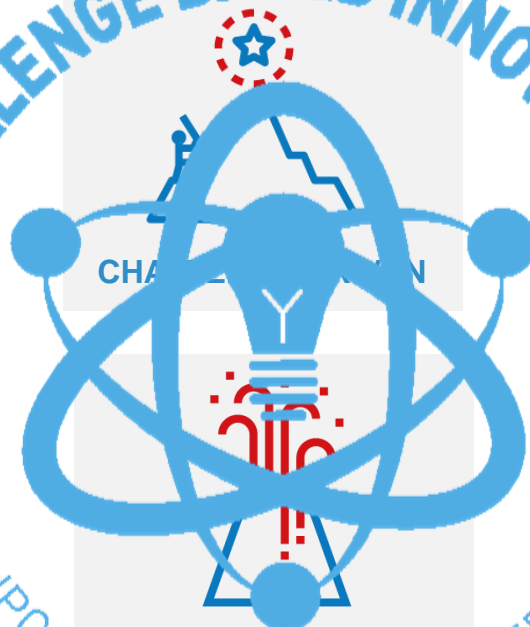
CHALLENGE BASED INNOVATION



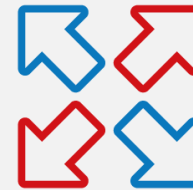
MULTIDISCIPLINARY



EXPERIENTIAL



EXPERIMENTAL



SOCIALLY RELEVANT  
& IMPACTFUL





**CBI has has  
a big media  
impact**

## Los alumnos españoles que diseñan el futuro de la ONU

Un grupo de estudiantes de la Universidad de Barcelona, liderados por el profesor de Ingeniería de Sistemas de Información, han diseñado una plataforma de colaboración que permitirá a los estudiantes de todo el mundo trabajar juntos en proyectos de investigación y desarrollo. La plataforma, llamada 'CERN', es una herramienta de colaboración en línea que permite a los estudiantes de todo el mundo trabajar juntos en proyectos de investigación y desarrollo. La plataforma, llamada 'CERN', es una herramienta de colaboración en línea que permite a los estudiantes de todo el mundo trabajar juntos en proyectos de investigación y desarrollo.



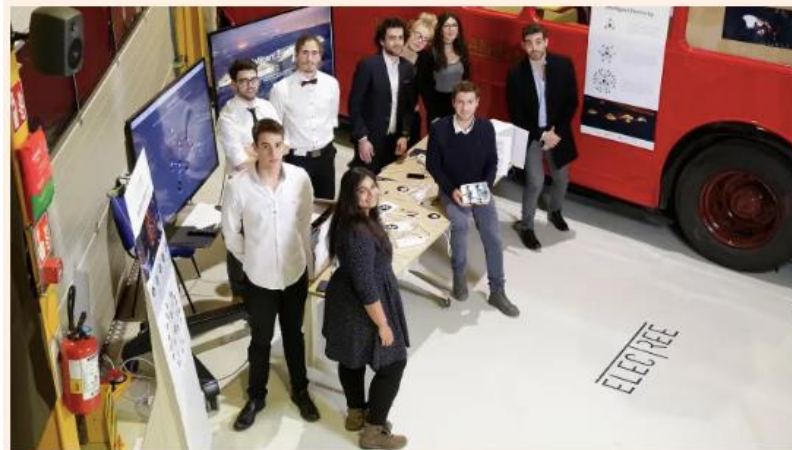
## La sociedad de los jóvenes con 'poder nuclear'

El mundo de los jóvenes está cambiando. Los jóvenes de hoy en día son más conscientes de su poder y están más interesados en la tecnología y la innovación. Los jóvenes de hoy en día son más conscientes de su poder y están más interesados en la tecnología y la innovación. Los jóvenes de hoy en día son más conscientes de su poder y están más interesados en la tecnología y la innovación.

# FINANCIAL TIMES

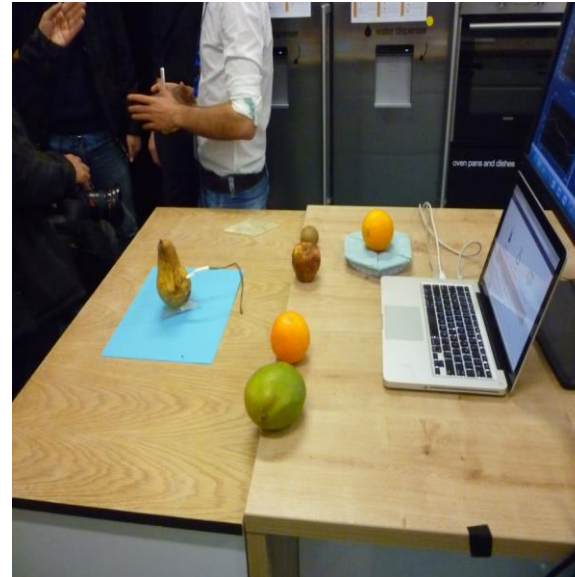
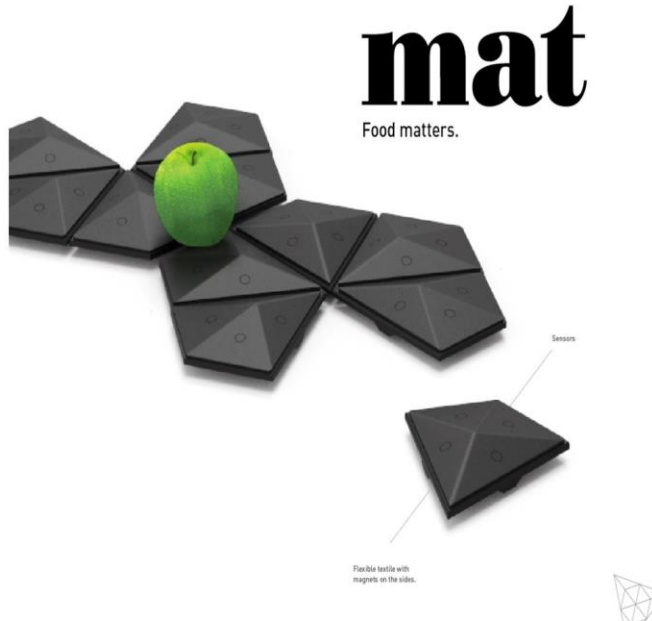
## MBA project at Cern develops device to bring electricity to refugees

Students worked with scientists at particle physics facility to help displaced people



Problem solving: the ElecTree team promote their project at Cern © Darrin Vanselow

2014



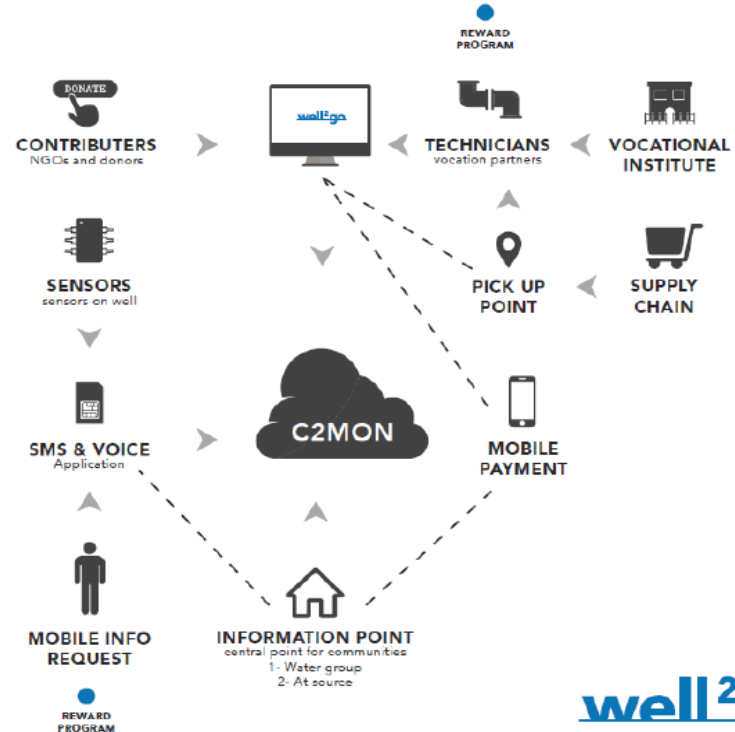
**Food security:** Device for detection of the state of food, with the objective of avoiding domestic food waste.

2015



**Water safety:** 78% of wells not fully working

- sensor + sms-based network to identify failing wells
- platform to manage and finance wells repairing



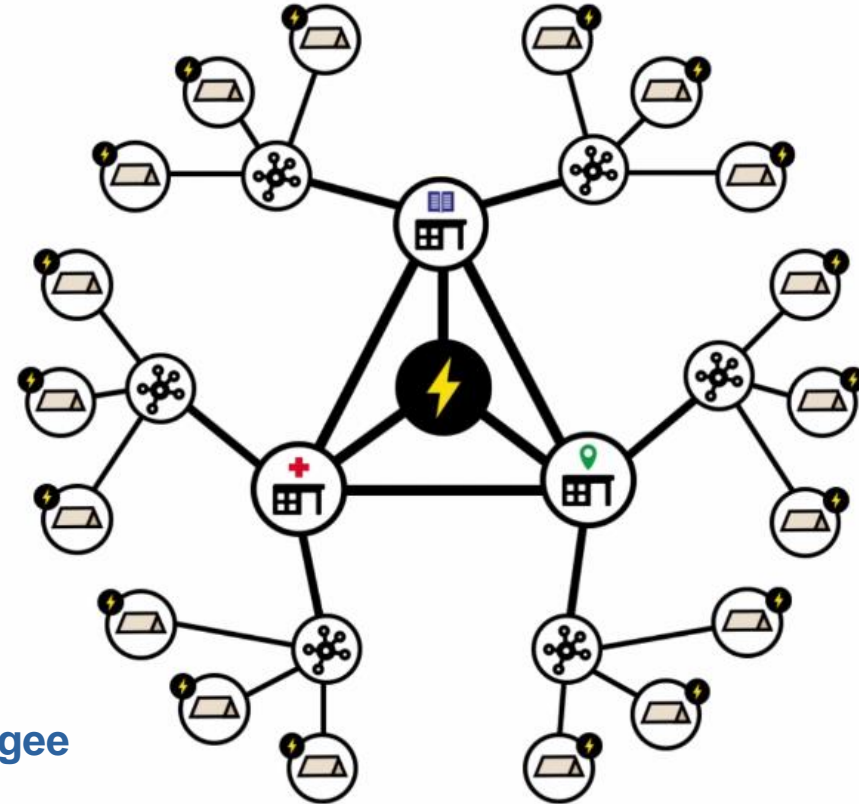
well<sup>2</sup>go



2016



**Improvement of quality of life of people at refugee camps:** smart energy distribution for shelters



2018



WATER  
WALL



WE BE

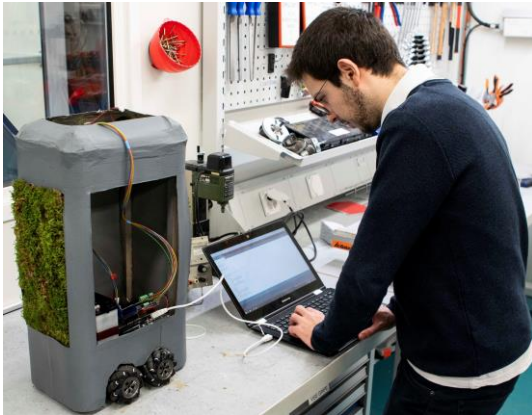


THE LEAF PROJECT

2019

TARGET

11-6



TARGET

11-6



TARGET

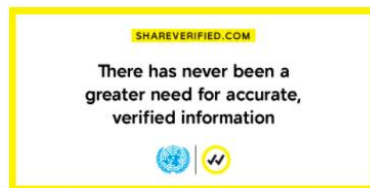
11-2



2020



**COVID-19  
RESPONSE**



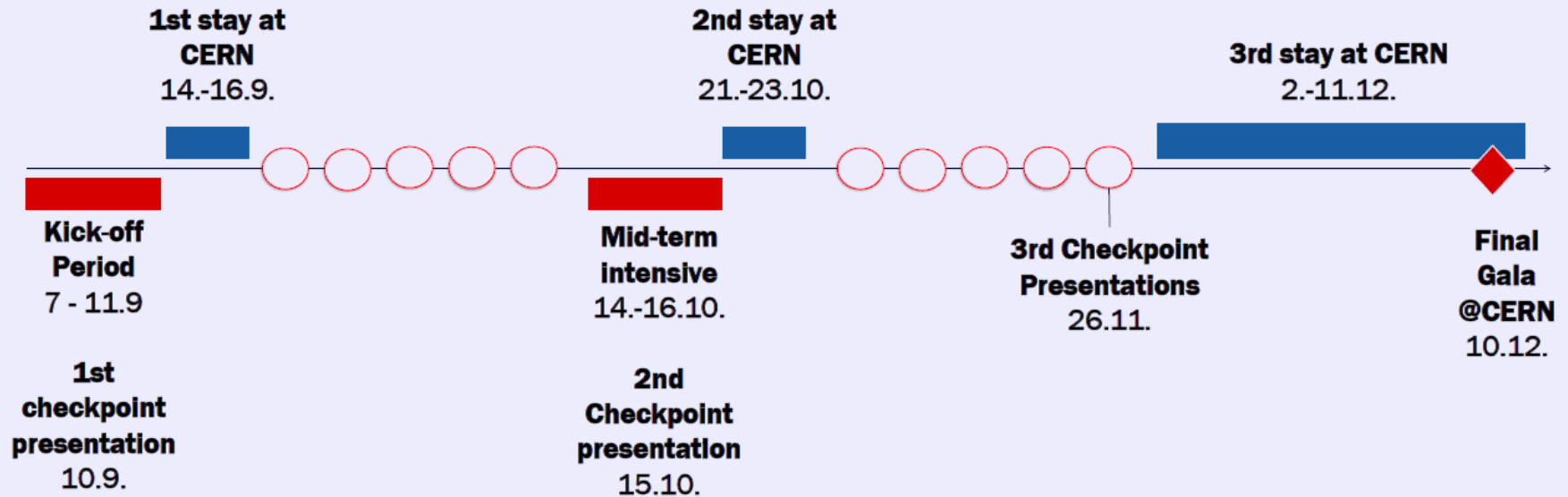
**1. Urban  
Mobility**

**2. Education  
& Learning**

**3. Work  
& Life**

**4. Information**

# CBI-course timeline & overview



○ *Weekly CBI day @ Fusion Point (every Thursday outside of CERN periods)*





Idea<sup>s</sup>

SOCIETY



SUSTAINABLE  
DEVELOPMENT  
GOALS

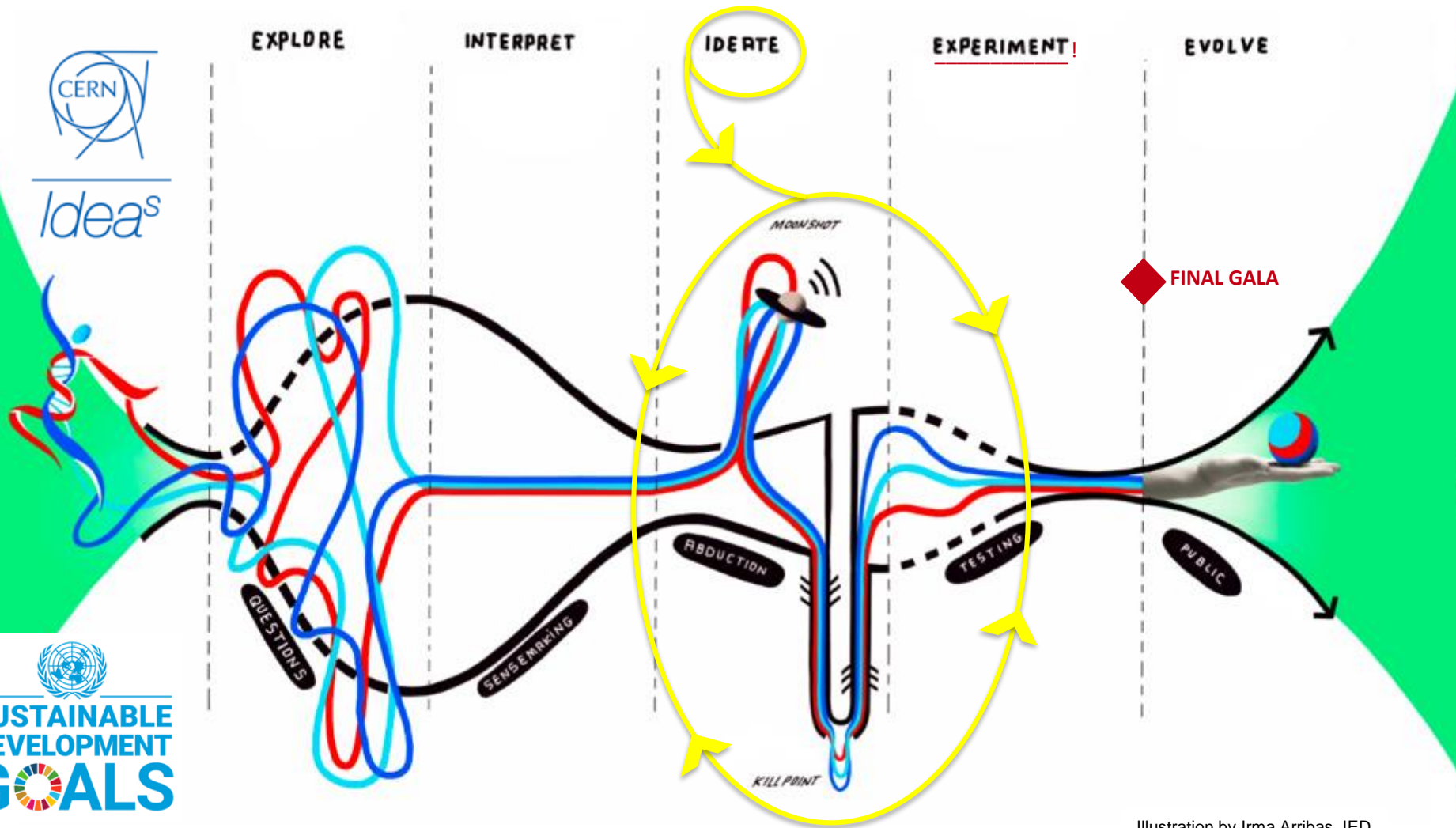
EXPLORE

INTERPRET

IDEATE

EXPERIMENT!

EVOLVE



## Key Learnings / Key Challenges

- Key role of multidisciplinary
- Key role of interaction with CERN/IdeaSquare
  - Singularity of the institution -> High motivation
  - Inspirational environment
  - Possibility of contact with top notch scientists
  - Possibility of contacts at the Geneva ecosystem
  - Advantages of intensive periods “confined” at IdeaSquare
- Difficulties in identifying opportunities of using CERN technologies
- Limitations in continuing the projects
- Need of measuring outcomes
- Human & financial resources needed for courses like CBI

## Academic Research

- Research areas
  - Challenge-Driven Education - Measuring Learning etc.
  - Methodology: Tools & Approaches
  - Science with and for Society (CBI/ATTRACT/TESI)
  - Responsible Research and Innovation - positive social impact
  - *Fantasy-Imagination-Creativity & Artificial Intelligence*
- 1 PhD thesis in Engineering Education in course
- 3 conference communications, 1 more accepted
- 2 papers (in review process). Innovation-related skills in CBI engineering students
  - quantitative analysis of surveys
  - qualitative analysis of students' reflection documents

Skills Category	CBI vs PDP
Creativity	>>
Leadership & Entrepreneurship	>>
Networking	>>
Impact	>>
Teamwork	>
Personal & professional skills	~
Experimentation and knowledge discovery	<
Planning & Managing	<<

## Impact on the students

- **Transformative experience in most cases**
- **Very positive feedback**

“I think each one of us contribute in a different way because all of us were unique and with different opinions, but the combination of all the points of view turned out very satisfying results. Furthermore, I realized the importance of working in a multidisciplinary team because every discipline contributed in a different way, but all of them were important and made the whole process much easier. That is one of the reasons why I think the research and ideation of our solution was that accurate and complete.”

## Quote

