IdeaSquare as a prototype for ATTRACT: exploring new avenues

Pablo G. Tello, Romain Muller, Oday Darwich
EU Office/IdeaSquare
CERN

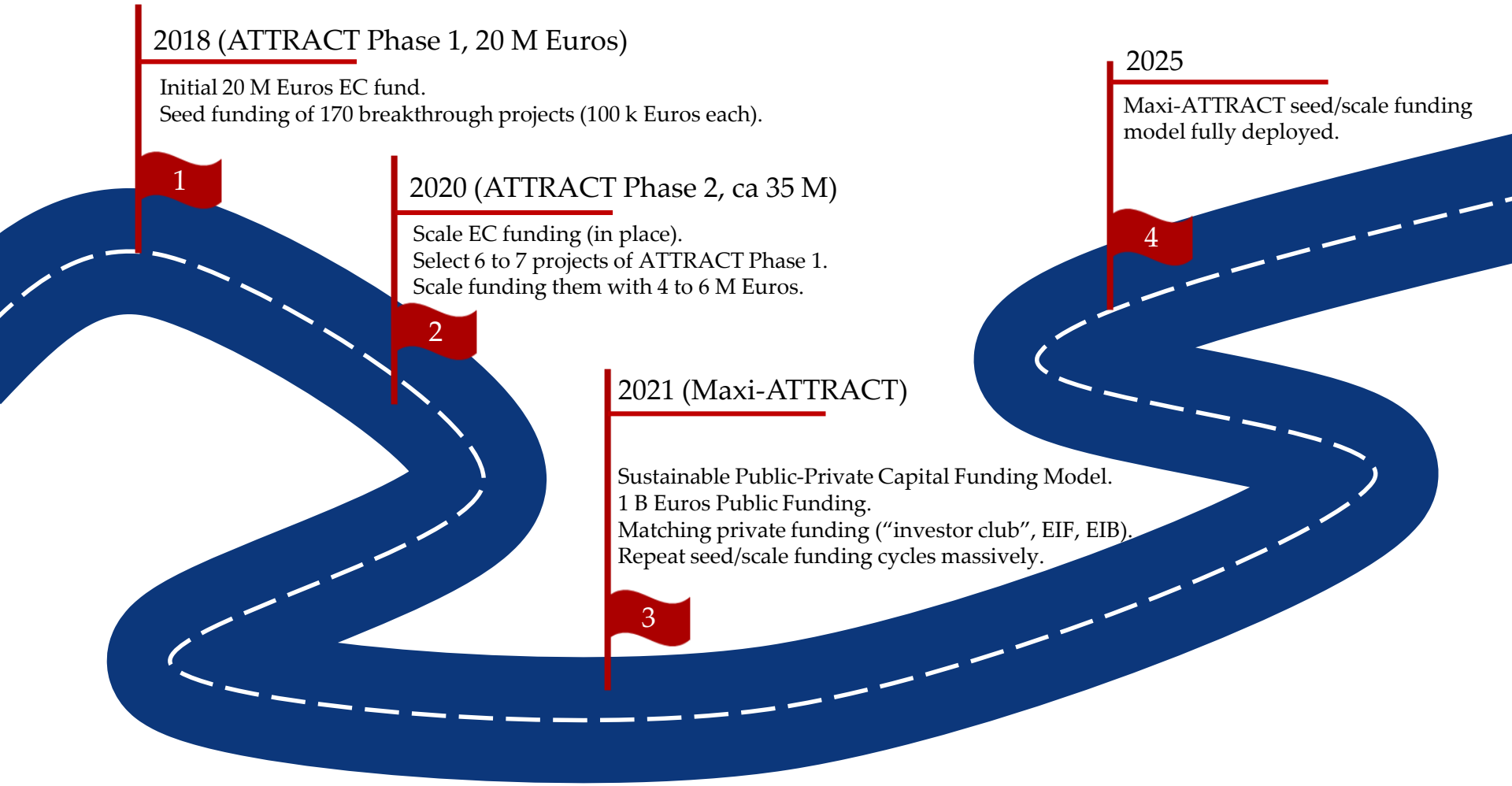
Why?

Philosophical Principles

- The main mission of big labs like CERN is exploring the limits of fundamental science.
- This mission generates value not only knowledge related but in the form of breakthrough instrumentation.
- This last one is seldom exploited in the industrial realm except by serendipity.
- Is it possible to create an instrument for systematizing serendipity?

CERN Ideas · Aalto University · CERN · eirma · EMBL · ESADE Universitat Ramon Llull · ESO · ESRF The European Synchrotron · European XFEL · Neutrons for Science Institut Laue-Langevin

ATTRACT Roadmap



ATTRACT: Main Strategic Actors

Value Generators

Value Extractors

Research Infrastructures

ESRF

NEUTRONS FOR SCIENCE

CERN

ESO

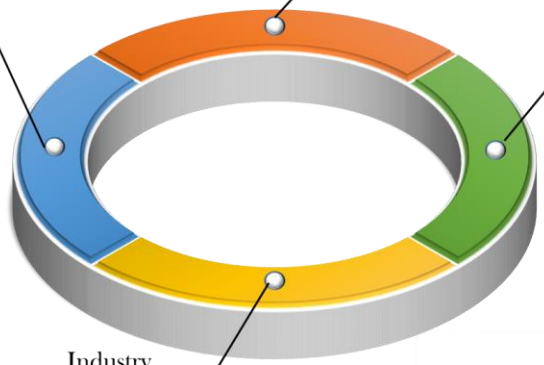
EMBL

European XFEL

Business & Innovation Experts

Aalto University

ESADE Business School



Risk absorption

Public & Private Investment

European Commission

Industry

eirma

Value Captors

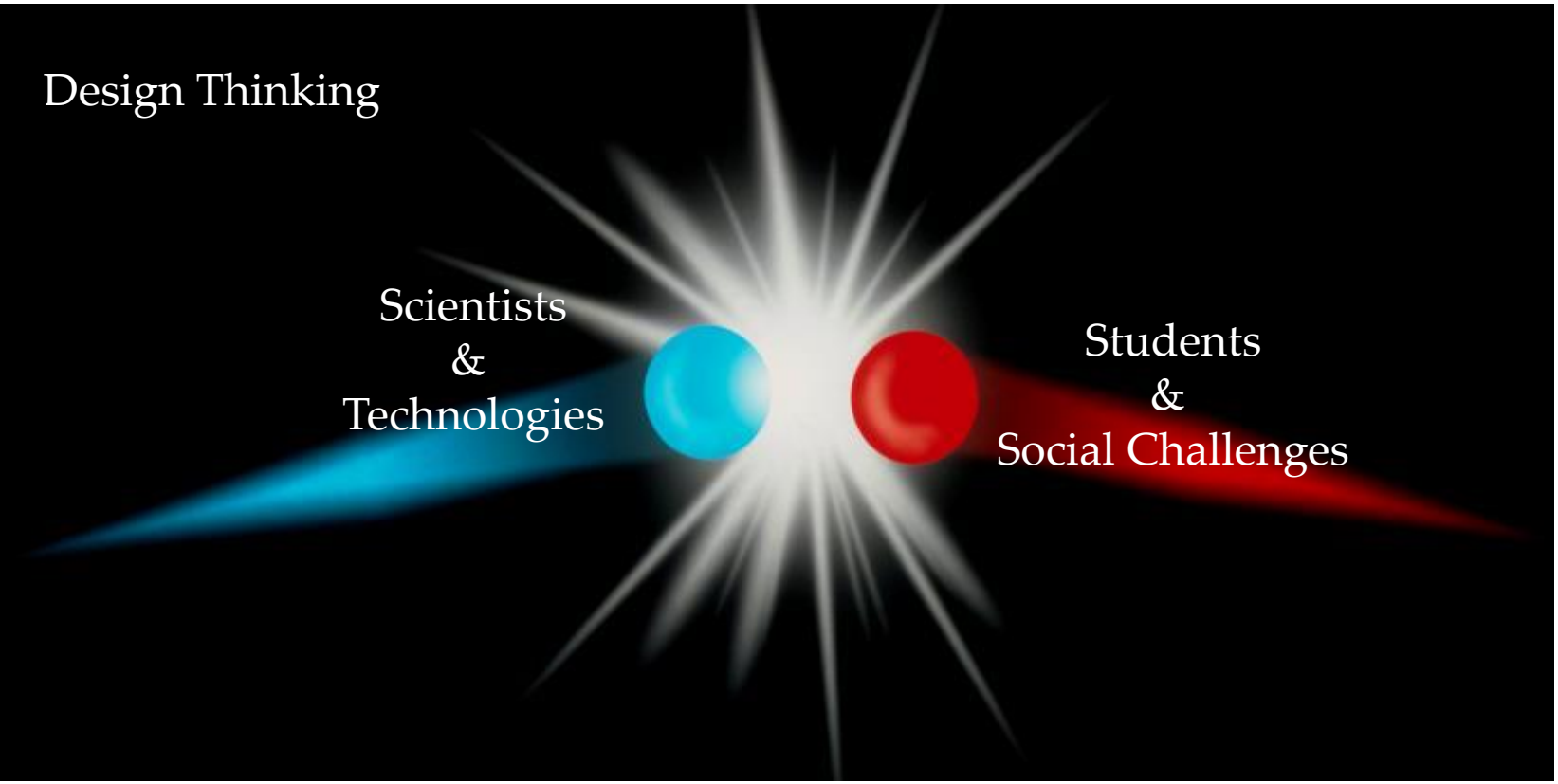
Industrial and Business value is ensured
but
what about social (innovation) value?

CERN Idea^s

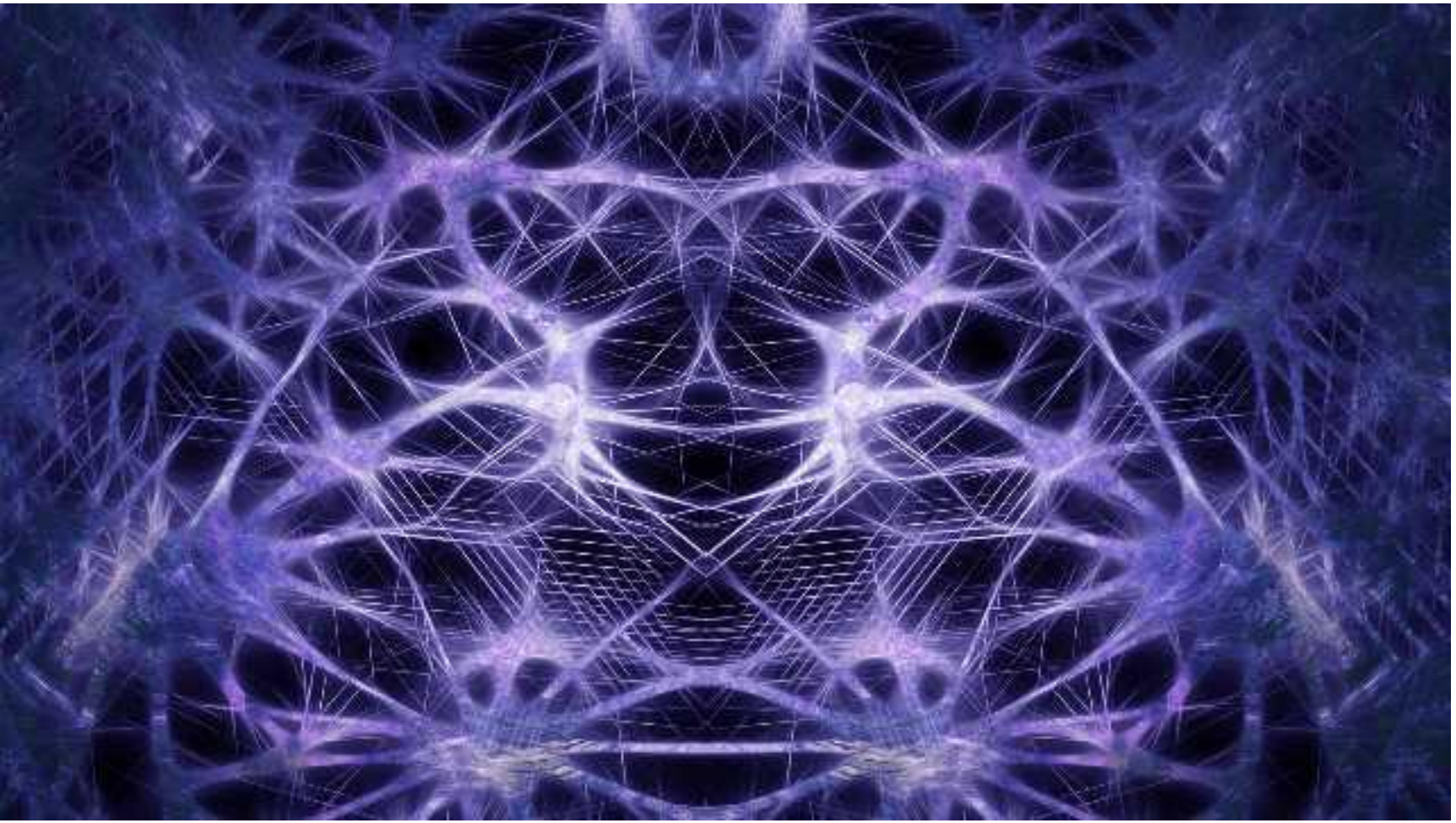
ATTRACT: Young Talent

- ATTRACT aims to create a new pathway to favour innovation linked to entrepreneurship and "out of the box" thinking.
- IdeaSquare has been experimenting for a long time this approach in many ways.

Challenge Based Innovation (collision representation)



ATTRACT (2020 and beyond)



- Connectome of collisions for social innovation
- Using R&D&I funded projects as nodes
- Student teams as edges

Exploring New Avenues

Why?

- We are aware of our constraints and we explore ways to overcome them.
- All these years of hands-on activities and project have given us a better idea of what aspects are more interning for our visitors and collaborators.
- We also are eager to try new things by experimenting and push our own personal limits.
- Some examples follow…

CERN
Ideas

Could we overcome physical space limitations for CBI?

The High Speed Initiative

Some reminders

Philosophy of the initiative

- Student driven collaborative challenge
- Supervised by experts
- Open to anyone willing to contribute

Challenge

- Produce a holistic concept for a supersonic, economically viable, 300 passenger aircraft
- Many interlinked aspects need to be considered

Goal

- The final concept could become a paper/report to be published
- All contributors will be authors

Systems

Operation, Logistics, Business

Flight Controls & Avionics

Materials & structures

Design & Integration

Propulsion –Combustion

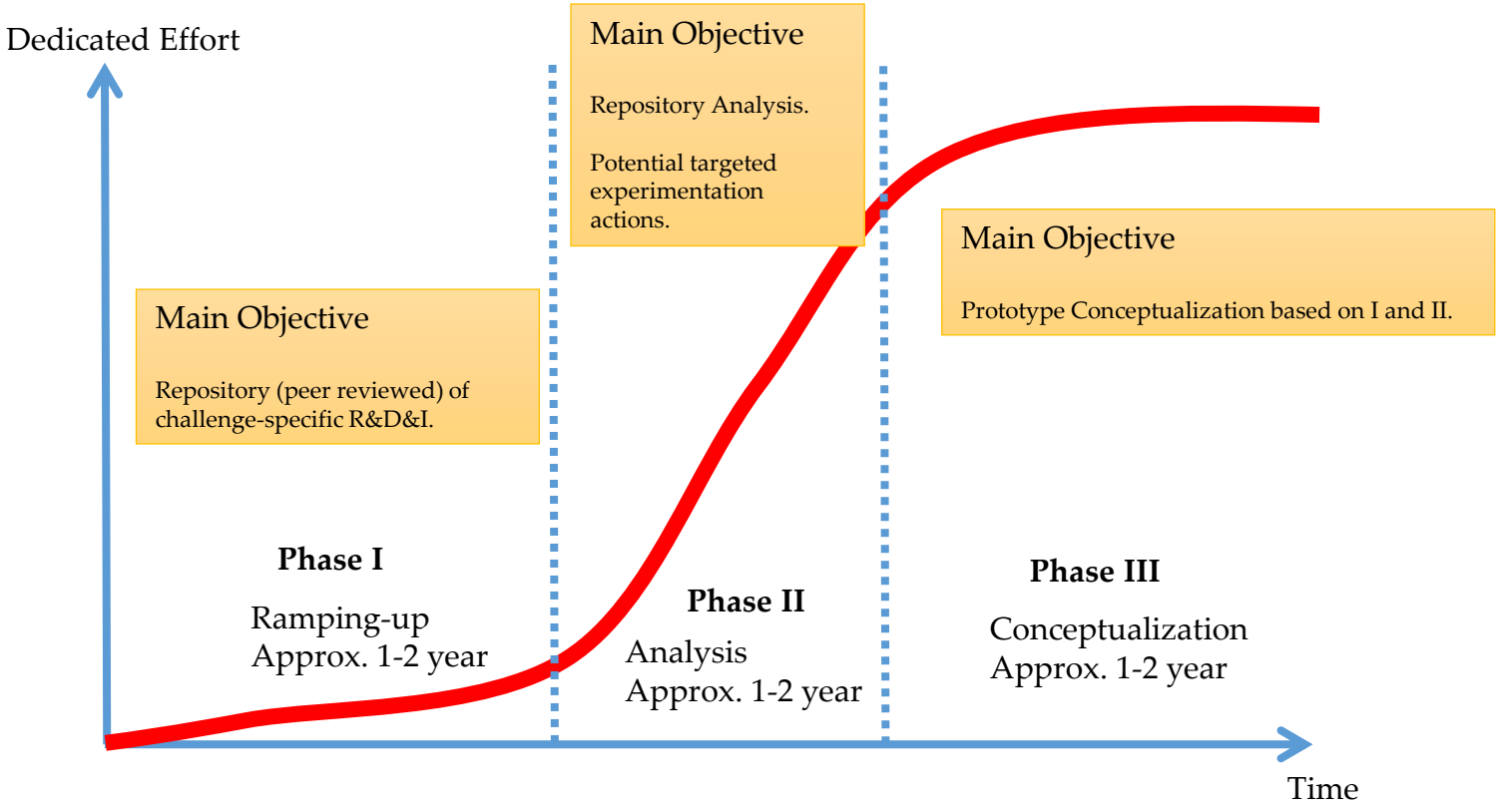
Environmental issues

CERN

Ideas

Initiative overview

More information at
https://indico.cern.ch/event/570268/timetable/#20161021



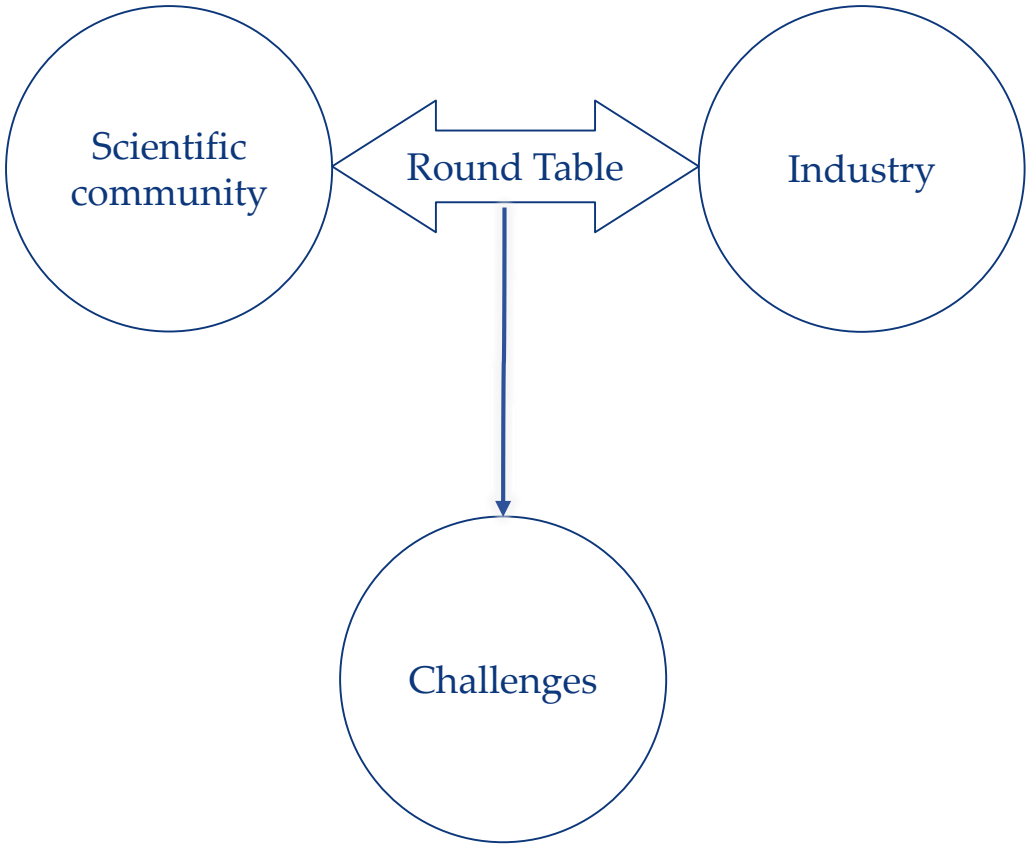
General Characteristics of the Platform

- Familiar layout (Wikipedia format) especially for students
- Access http://wiki.highspeed.education/index.php?title=Main_Page
- Versatile (many functionalities possible, upload different document formats, video, etc)
- CERN-IdeaSquare owns the domain
- Wiki site makes an automatic log of all the changes.
- Extensive information and tutorials exist on Wikipedia.
- Accessible through any case of interfaces (PC, tablet, smartphone, etc).

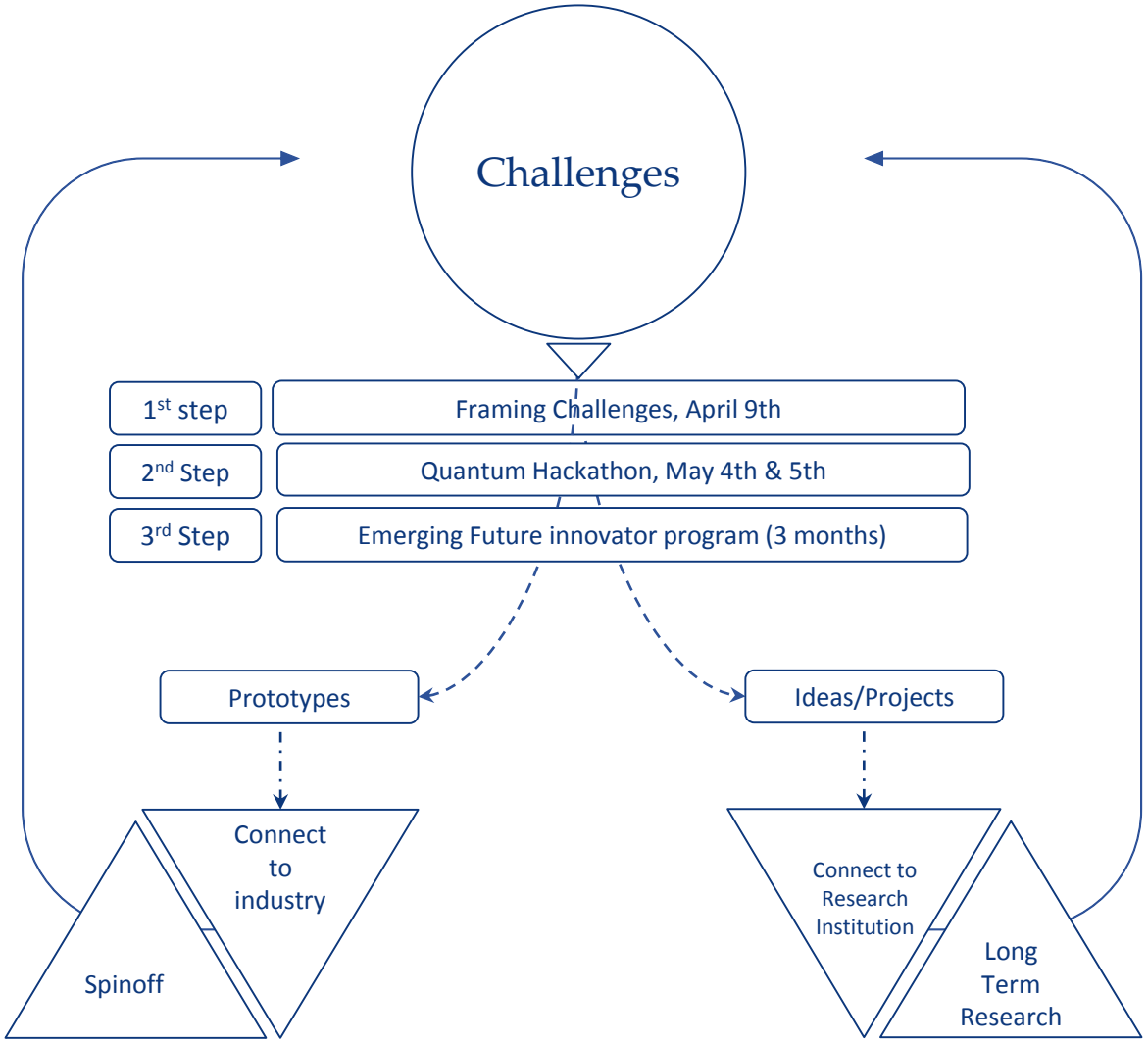
Could we introduce future technology challenges to CBI students?

The Quantum Future initiative and ATTRACT iStore

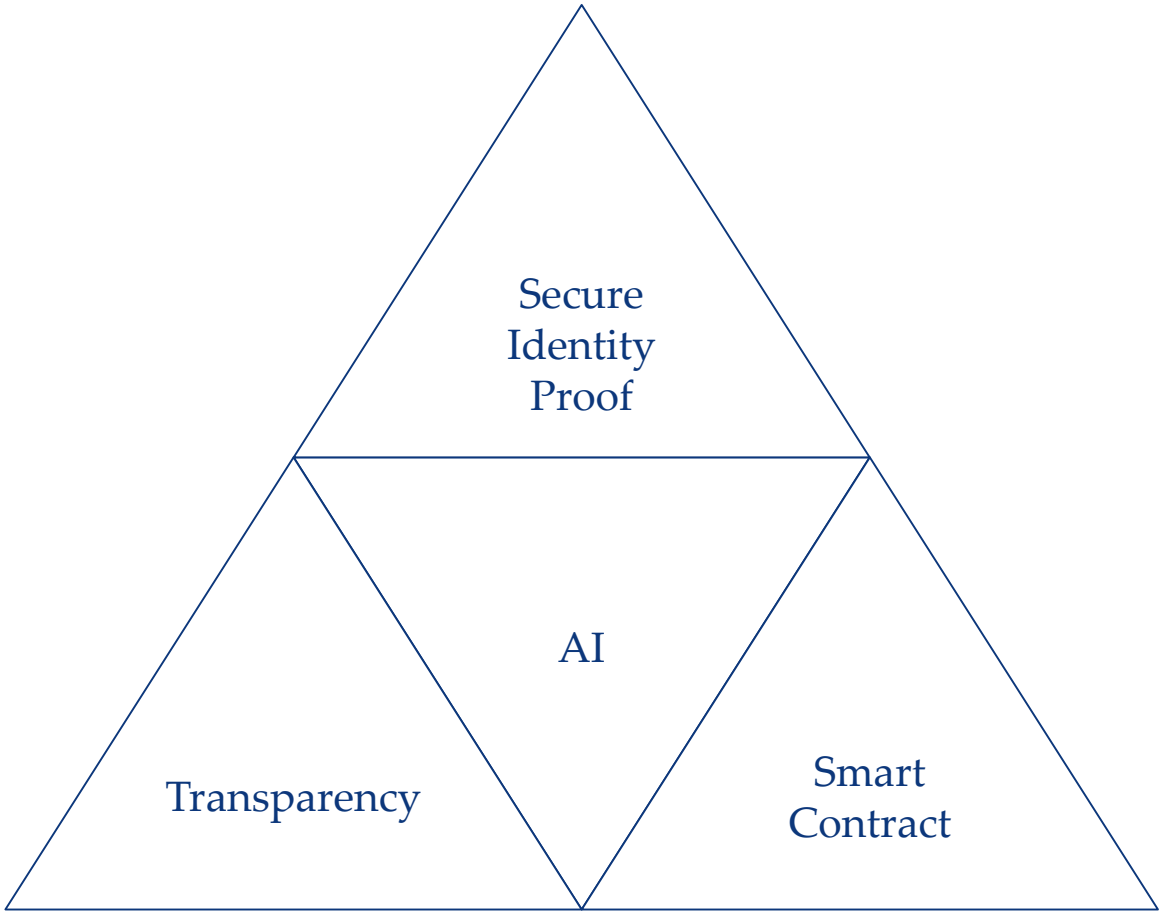
Future Emerging Innovator



Future Emerging Innovator

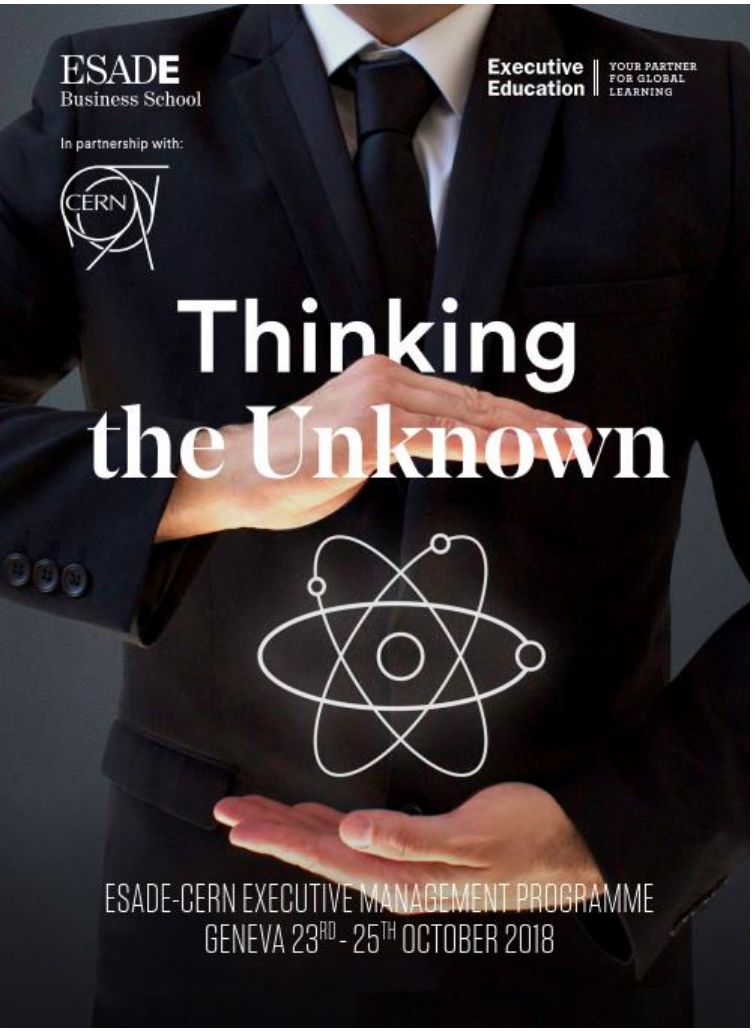


Attract Innovation Store



Is CERN mindset approach to innovation interesting for executives?

ESADE-CERN IdeaSquare executive courses



- Immersive hands-on experience into a thinking mindset necessary for embarking on daunting projects with extremely uncertain goals.
- Pilot and first edition successfully completed.
- More editions this year and next in the pipeline.

CERN
Ideas

Could we go beyond traditional Design Thinking methodology?

Multiverse Thinking

What I have personally learnt from the CBI students?

- While at CERN we teach them to think big but while at their institutions Design Thinking (DT) is applied "by the book" (= incremental mindset).
- CERN technologies are very abstract for a traditional DT.

My controversial conclusion

"Let's invent a new methodology based on breaking assumptions, thinking big and liberate the poor students from the incrementalism constraints"

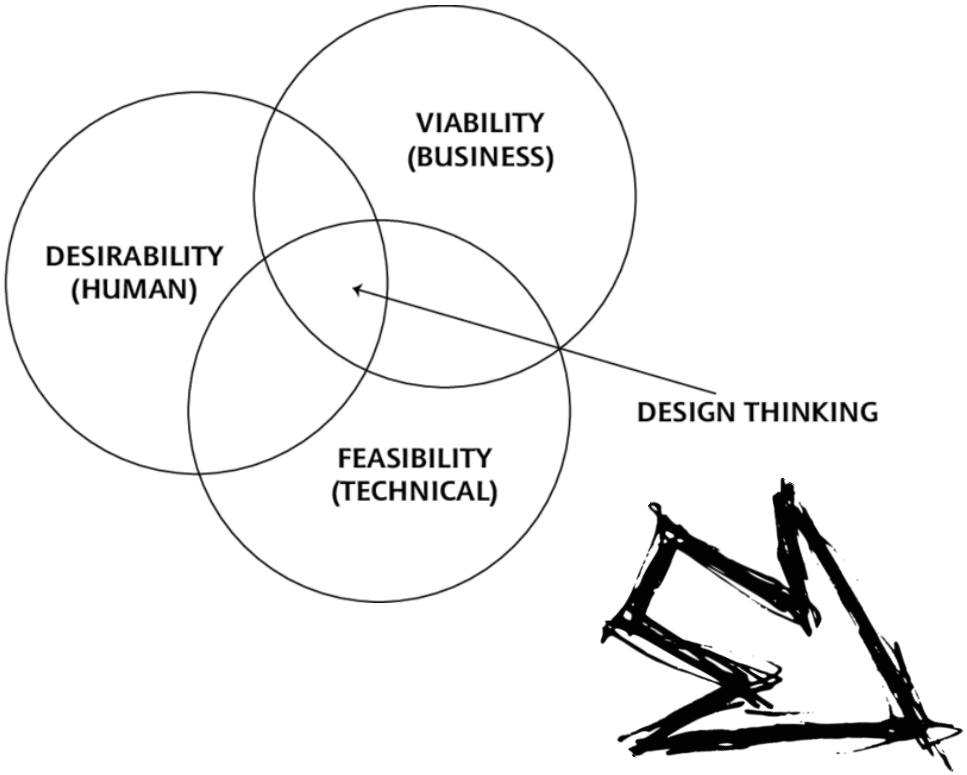
In other words…

More in line with CERN DNA.

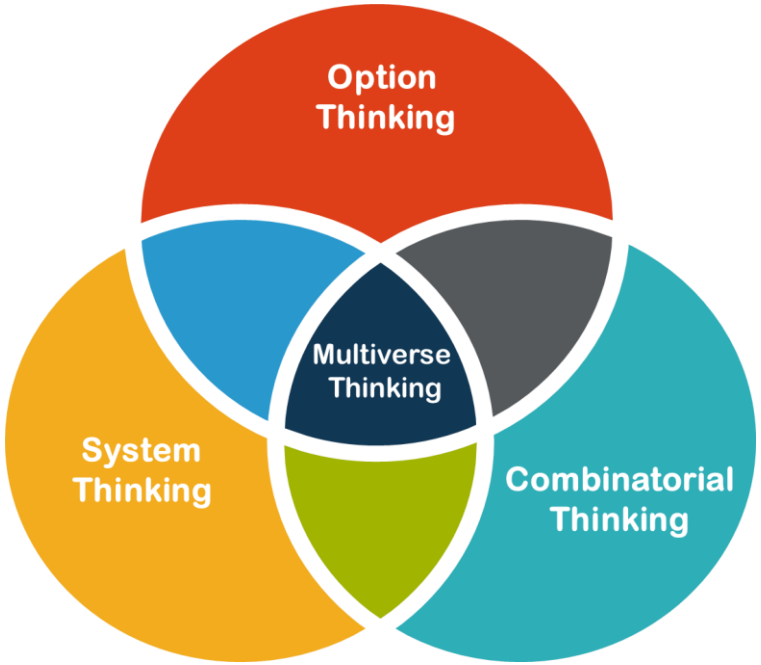
CERN

Ideas

From here…

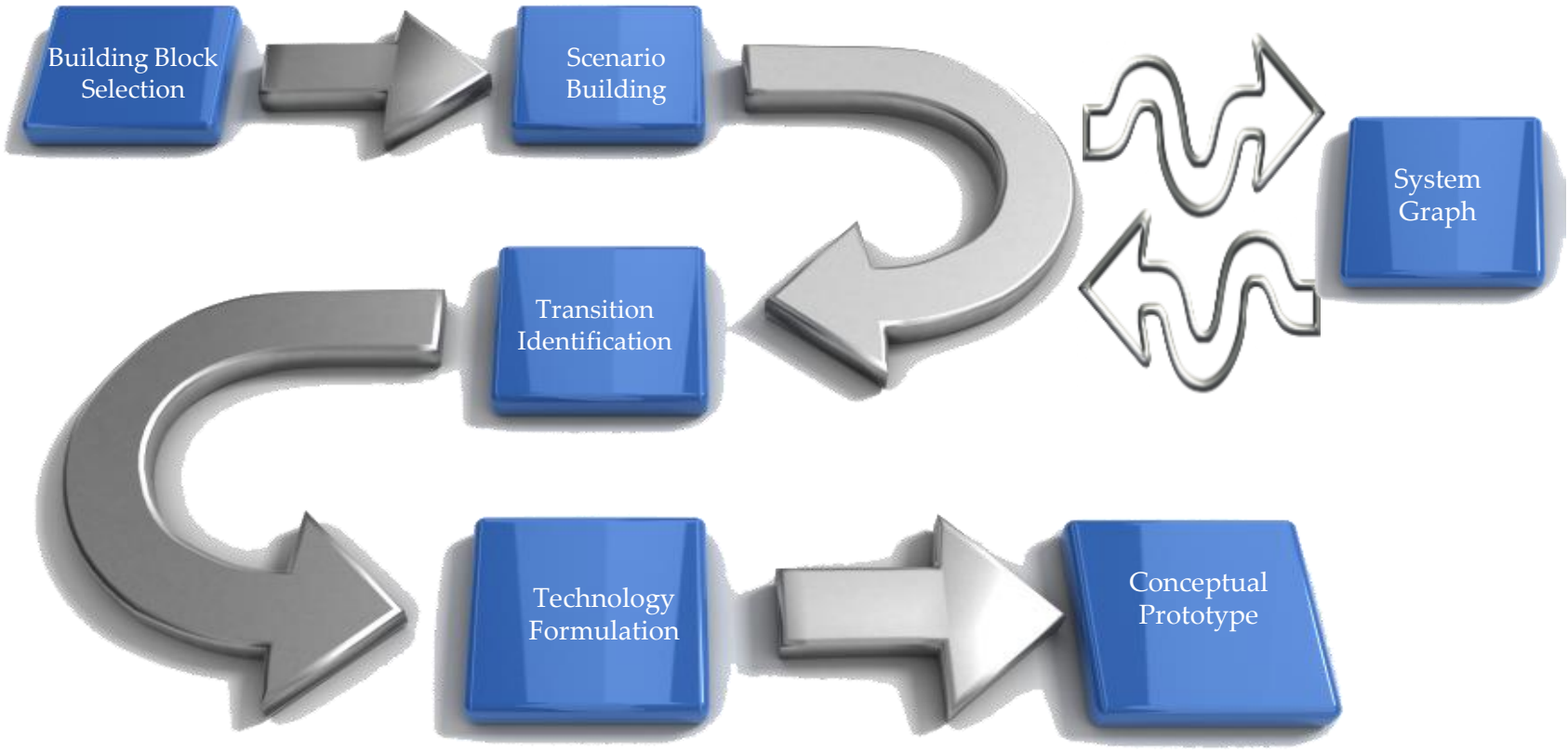


to here…



CERN
Ideas

The MT process steps



The MT Main Characteristics

- Starting on how the World is today it focuses on (far) future scenarios.
- Social Constructs and Resources are taken as methodologic building blocks.
- Scenario building uses today as starting point and imagines the future by combinatorically relating Social Constructs with Resources.
- This relationship (tension) provides the transformative specs for a not yet existing technology.
- Technology is interesting only if it is transformative of scenarios (feasibility is not an issue).
- Technology options are formulated based on modes of production, distribution, consumption and revenue in conventional and unconventional ways.
    - Conventional ways: potentially legal or socially accepted ways for production, distribution, consumption and revenue in a future scenario.
    - Unconventional ways: potentially not legally or socially accepted ways (e.g. distribution through a dark internet in the future, piracy, etc) in a future scenario.

Experimenting with MT

- Successfully tested with MSc level students (20 in total from Basque Country University and Tampere University).
- Further test as part of the ESADE MBA teaching programme (46 students).
- Increasing demand for new editions (planned for November).

This experience has changed my mind completely, opening my mind and making me think about assumptions that I didn't even realise before they were.

I will apply it for future entrepreneurial activities. Also, I believe it has been very useful for life in general, to get a view people normally don't use.

This experience will let me approach new projects from different angles, also I can interact and use the space for presentations and my life. I think everything we have learnt at IdeaSquare is going to be useful for our professional and personal future.

I'm sure I will do things in a different way I would have done it without it.

Future explorations linked to Multiverse Thinking:

- alteration of the perception of time and how this can trigger innovative ideas

- Social Presencing Theatre within Theory U and innovative artistic practices : how can the group dynamic and awareness support the emergence of the not-yet-realised?

How the way we move can teach us how to innovate?

- Alteration of the perception of space through movement proposals that questions the objective representation of space
- Which innovation did not change the perception of space?
- Become your own prototype in changing the perception of space

CERN
Ideas

Thank you

Any questions?