




 Idea^s
Innovation for Change
 Young Talents | Real Challenges | New Technologies




 Scuola di Alta
 Formazione
 al Management





 Fondazione Giovanni Agnelli FONDAZIONE PIRELLI FONDAZIONE EDOARDO GARRONE COLLÈGE DES INGÉNIEURS

A unique project on Entrepreneurship & Innovation mgmt. connecting Top Talents with Cutting Edge Technologies to tackle Global Challenges



The Objectives:

- To* **empower high value resources**
- Tech PhDs and MBAs < 0.5% of our human capital
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- by* **improving their entrepreneurial skill set**
- Soft skills –Teamwork, Leadership, Communication, etc.
 - Hard skills – Business plan, Customer discovery, etc.
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- and helping them* **build sustainable ventures**
- How to create a successful business/start-up/NGO
 - Tech and social entrepreneurship
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- that* **create value and employment**
- What is value creation?
 - How to build thriving local economic eco-systems?
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- through* **inspiration from global challenges.**
- Global problems affect the majority of our human populace
 - Viable solutions towards solving them - huge market & impact

Ingredient I - The Challenges:



The Challenge Owners:

International Orgs or Companies who help define challenges with themes and topics that are closely related to their mission or industry

Example of Challenge Owner: **UNEP** (United Nations Environmental Program) for Water – Orgs & **Google** for Education - Industry

Example of Challenge from Challenge Owner: Smart real-time monitoring of water pollution in rivers & Low cost tele-education

Ingredient II - The Talents:

16 PhD's from Politecnico di Torino (www.polito.it)

- International & Italian PhD Students
- 8 scientists – chemical, electronics, Informatics, etc.
- 8 designers - industrial, architects, etc.



34 MBA fellows from SAFM (www.safm.it)

- 90% engineering & 10% economics backgrounds
- 1.6 years of average work experience
- Managers with a solid tech background

8 interdisciplinary teams consisting of **scientists, managers and designers** will be formed.

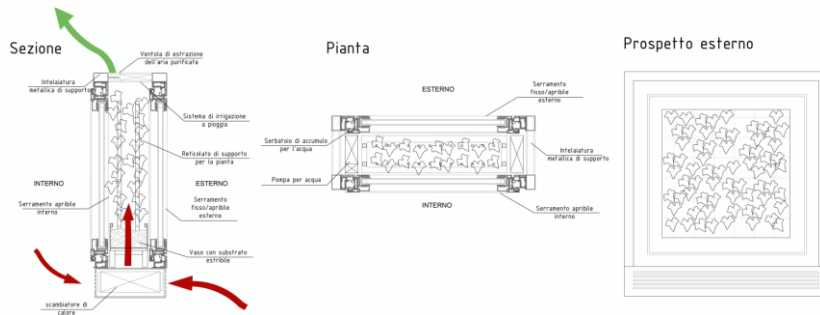
These teams will be **tasked with the following objectives:**

- Each team, will choose challenges given by the challenge owners in the 1st week of Feb in CERN
- They will work towards finding practical solutions in the next 5 months – Feb to June 2016
- These projects/solutions will be presented to the Jury & Investors on the 20th of June on demo-day
- If the projects manage to arrive at an interesting solution, they will be encouraged to launch as start-ups

Ingredient III - The Technologies:

Access to technologies and tech experts from CERN & Polito will be provided to the teams to help develop solutions to the challenges.

Examples of technologies →



Bio-filter to purify the polluted air

This invention relates to a method for conferring antibacterial properties to a substrate. The substrate is coated with a vitreous material, ceramic or glass-ceramic containing in its interior a metal having antibacterial characteristics. The coating takes place by means of radio frequency sputtering technique.



Evacuabile Flat Panel Solar Collector

Solar collectors, in particular flat panel solar collectors, are well-known devices which are usually used to absorb and transfer solar energy into a collection fluid. Principally, solar collectors consist of a blackened absorbing cylinder or plate contained in a housing which is frontally closed by a transparent window panel. Due to the diluted nature of solar light, in order to increase the operating temperature by reducing the thermal losses, solar collectors may be evacuated during use to eliminate gas convection and molecular conduction. Very high temperatures could also be achieved by light focusing. However, only direct light is focused, while diffuse light is lost.



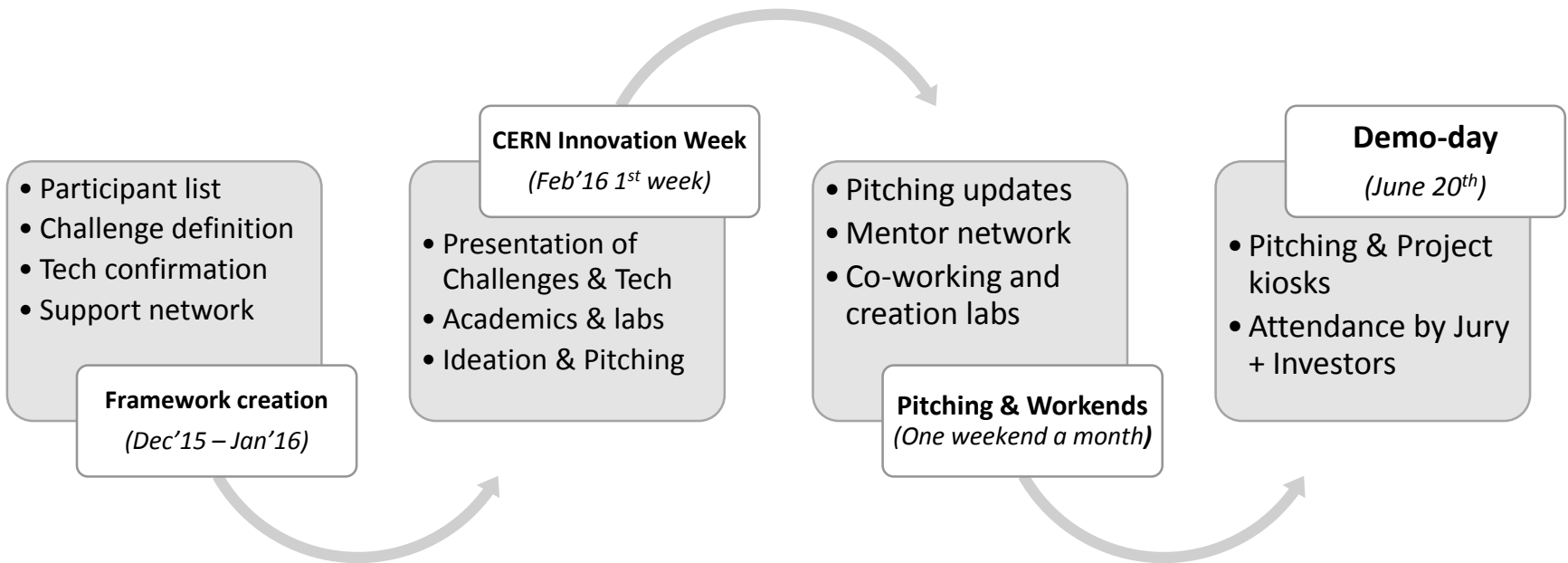
Antibacterial coatings

This invention is a modular ventilation system, composed of a vegetable substrate as a filter absorber of air pollutants, integrated in the outer casing of the buildings that allows air purification

The support:

Title	Definition	People
Professors	Academics and main feedback to the teams	Prof. Emilio Paolucci & Prof. Marco Cantamessa
Tutors	Provide constant support, feedback to the teams & organization of the project	Tuuli Utriainen & Raghu Movva
Organizational heads	Direct heads of the related organizations for the respective main-partners involved in the project.	CERN Ideasquare - Markus Nordberg SAFM - Silvia Petocci Polito – Shiva Loccasino
Theme Experts	Experts of the macro theme who will introduce the theme to the students and provide networking and mentoring to the respective themes	Water – Dr. Frank Raes ex-head JRC EU for Air pollution & climate change Air – Prof. Luca Ridolfi & Prof Maria Zanetti Professors of Politecnico di Torino
Tech Experts	Experts of the technologies being used by the teams for reference regarding usage, modifications, etc.	CERN – ref: Giovanni Anelli - Knowledge transfer team initially and then later inventors when the knowledge requirement is deeper Polito – ref: Simone Repandelli - Tech transfer team initially and then later inventors when the knowledge requirement is deeper
Tech mentors	Mentors who can guide, challenge and help in co-creation with regards to the technical aspects of the projects	CERN scientists & Polito researchers
Business mentors	Mentors who can guide, challenge and help with regards to the business and market aspects of the projects	Alumni of SAFM and Mentors4U communities
Communications team	Helping the project and the team by creating communication material like intro videos and interviews	Mr. Andrea Griva – Communications EXOR + Cinema Engineering department of Politecnico di Torino- Prof. Monaci + 3 Masters students

Schedule:



Challenge List:

Challenge Owner	Challenge	A short explanation
UNIDO	1. N ₂ O Emissions (Air 1)	Reduce emission of greenhouse gas through the reduction of the global anthropogenic nitrous oxide (N ₂ O) emission into the atmosphere. How to estimate agricultural N ₂ O sources in order to plan activities and possible interventions to overcome the challenges of projecting and mitigating N ₂ O emissions?
SMAT	2. Urban water leakage (Water 1)	One of the main challenges that is being faced by Water Industry is the huge quantity of drinking water that is lost along water distribution networks. In these context strategies, actions and innovative technologies aimed at the reduction and fast repair of water leakages is of great relevance.
ENEL	3. Wind forecasting (Air 2)	Improving the efficiency of forecasting wind and wind energy production to improve the business value of windfarms.
	4. Water for industrial use (Water 2)	Pre-treatment of water with a high salt content for industrial use . (eg. Reverse osmosis membranes at low cost or increase service life)
Barilla	5. Nitrogen cycle (Air 3)	How can we fix nitrogen from the atmosphere directly into the field by a self-regulated system?
MISE	6. Water shortage in urban areas (Water 3)	Low cost/ scalable solutions to counteract the eminent large scale water shortage that will be faced by most of the urban areas worldwide within the next decades – example of technologies – desalination, rain harvesting, condensation, recycling, etc.
	7. Reducing CO ₂ impact (Air 4)	How to reduce the CO ₂ impact/emissions in a city by engaging local urban and industrial communities. (eg: Reducing emissions by energy efficiency from heating & cooling)
Aquasis-solutions*	8. Improving efficiency of water use in Agriculture (Water 4)	A solution for measuring groundwater recharge and efficiently using the obtained water in North African fields.