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Innovation & Entrepreneurship

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Knowledge Transfer






The Globe of Science and Innovation

A long, dimly lit tunnel, likely part of the CERN particle accelerator. The tunnel is filled with complex machinery and pipes. On the left side, a large, cylindrical structure, possibly a superconducting magnet, is visible. The floor is marked with a white line, and the walls are lined with various equipment and cables. The overall atmosphere is industrial and futuristic.

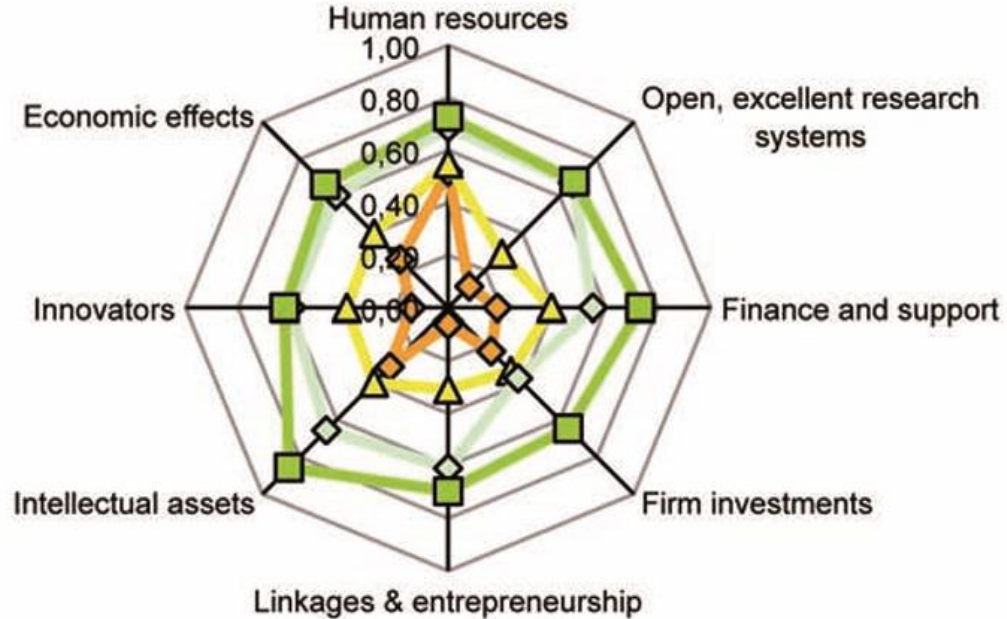
CERN: A UNIQUE ENVIRONMENT TO PUSH TECHNOLOGIES TO THEIR LIMITS

Why an I&E Event at CERN?

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- **Innovation** can happen in many ways
 - By chance
 - As a consequence of major changes or crisis
 - By explicit effort to improve
 - **Research** is a powerful source of innovation
 - Direct improvement of processes and technologies
 - Unexpected side-effects
 - How can we maximize the **Impact** of our research?
 - Not only for advancements in Physics
 - Industrial excellence, societal impacts, return on investment, value creation

What drives innovation?

- ◆ Modest innovators
- ▲ Moderate innovators
- ◇ Innovation followers
- Innovation leaders



Some examples

MIT¹

In the early 2000s,
25 800 companies
funded by MIT alumni,
employing 3.3M people,
annual revenues of \$2T
(11th largest economy
worldwide)

EPFL²

192 start-ups since
2000
44 in 2012-2014

EMBL EMBLEM³

16 start-ups
503 registered inventors
total income > 52M €
(1999-2013)

¹ <http://web.mit.edu/facts/entrepreneurship.html>

² http://tfo.epfl.ch/EPFL_start-up_e

³ http://issuu.com/embl/docs/embl_annual_8_lr

The background features two street signs on a wooden post. The top sign is tilted and reads 'Exploration Dr'. The bottom sign is horizontal and reads 'Innovation Dr'. The text on the signs is in a light, sans-serif font, and the background is a solid dark blue color.

What can we do at CERN to promote
innovation and entrepreneurship?

Especially for the younger generations of
scientists and engineers

Many ongoing activities
Opportunities for collaboration

CERN openlab in a nutshell

A science – industry partnership to drive R&D and innovation with over a decade of success

Evaluate state-of-the-art technologies in a challenging environment and improve them

Test in a research environment today what will be used in many business sectors tomorrow

Train next generation of engineers/employees

Disseminate results and outreach to new audiences



ORACLE

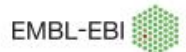
SIEMENS



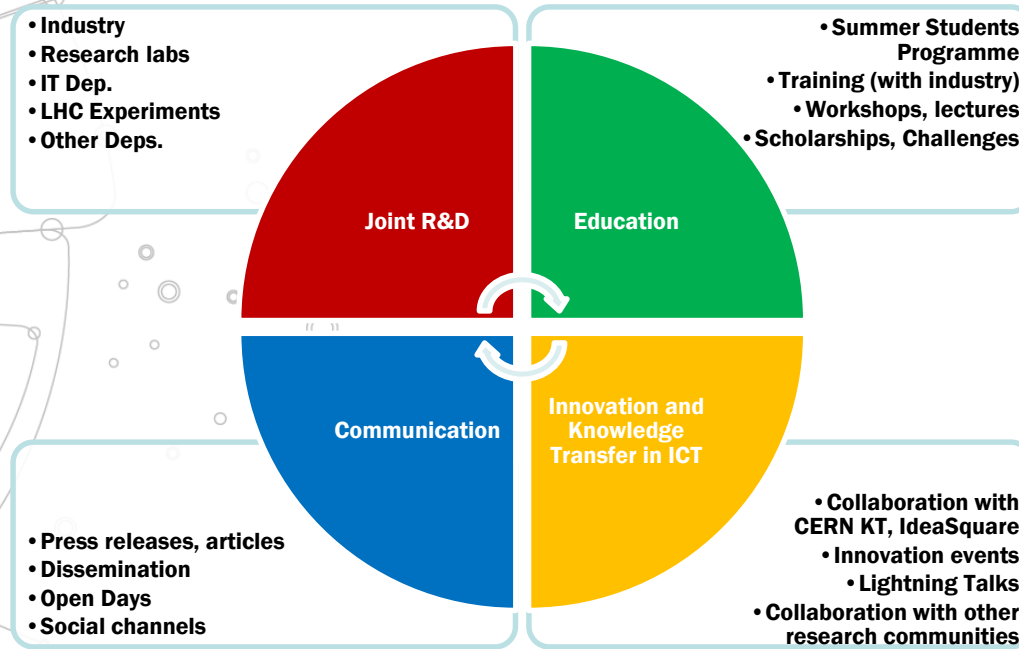
BROCADE



Yandex



CERN openlab Areas of Activity



The Innovation & Entrepreneurship Project

- Collaboration among CERN openlab, the CERN KT Office, IdeaSquare and Intel
- Goals:
 - Assessing the **requirements** and **benefits** of supported I&E activities
 - Provide **information**, training and **support** to people with innovative ideas
 - Provide **input** to I&E @ CERN (technical, financial, administrative, policies, etc.)

Knowledge Transfer Group

Mission: Maximizing the technological and knowledge return to the Member States industry and society

Entrepreneurship and spin-off support at CERN:

- Provide information and advice on how to comply with CERN rules and regulations during spin-off company formation and operation
- Give access to CERN intellectual property at favorable rates and provide help and advice on these matters
- Help with creating business models and business plans
- Access to internal and external training programmes
- Networking with innovation partners in the member states

cern.ch/kt

CERN Entrepreneurship Meet-up

Informal meetings every other “Wednesday” at 18:00

Started March 2015, for people interested in innovation and entrepreneurship to meet, discuss, share experiences and learn

Next meet-up – December 2nd

- Topic: Review & revise, 2015 & 2016
- Place: Room C – 61/1-009

cern.ch/kt/meet-up



Pitching competition 2015

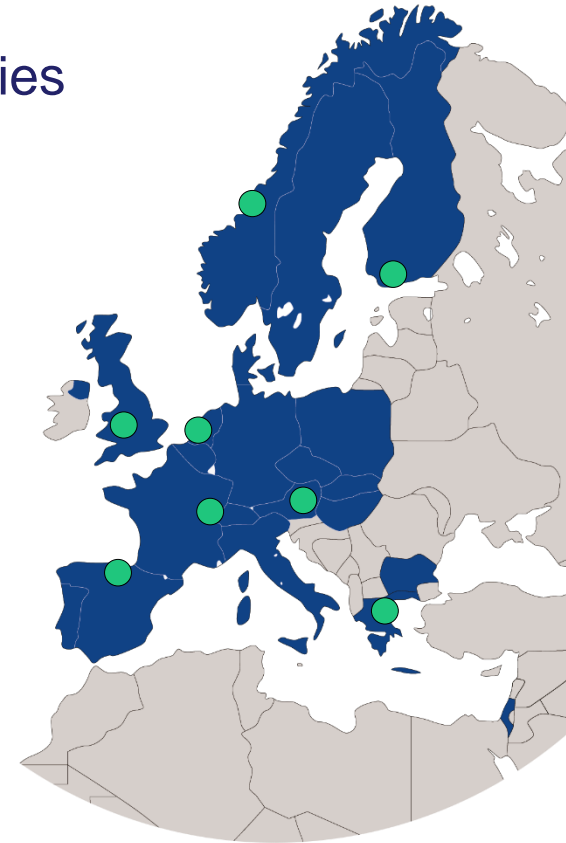
CERN BIC Network

Assist entrepreneurs using CERN technologies
or expertise reaching market reality

Established incubators:

- UK – STFC-CERN BIC
- Netherlands – NIKHEF-CERN BIC
- Norway – NTNU BIC of CERN Technology
- Greece – Technopolis BIC of CERN Technology
- Austria – Austria BIC of CERN Technology
- France – InnoGEX BIC of CERN Technology
- Finland – Finnish BIC of CERN Technology
- Spain – Spanish BIC of CERN Technology

cern.ch/kt/bic-network



IdeaSquare



IdeaSquare hosts detector R&D initiatives and MSc-level student projects, having a connection to Society

In parallel, IdeaSquare facilitates CBI, the Challenge Based Innovation course, a MSc-level, cross-disciplinary student programme involving some 50 students from six countries



When the building is not in full use, it can host short, dedicated innovation events (e.g. Hackathons) or contribute to special schools (e.g. CERN openlab Summer School). It also provides rapid prototyping facilities and a 3D printing lab.

Organization and Logistics

- Plenary talks in the morning on different innovation and entrepreneurship aspects and experiences
- A networking lunch
- A series of F2F meetings with the invited experts

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