

Knowledge Transfer at CERN



Turkey – CERN Industry Day
Ankara, October 5th 2015

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Knowledge Transfer Group
CERN



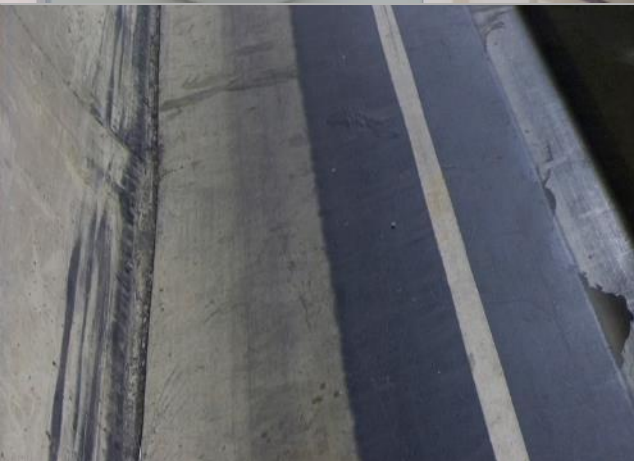
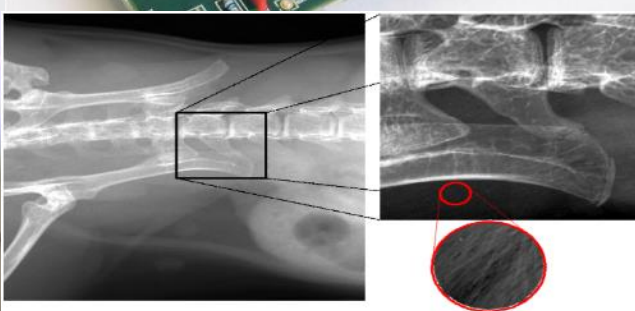
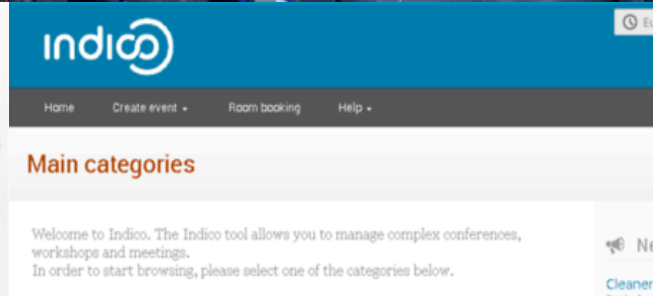
Accelerators



Detectors



Computing



KT Mission

Maximize the technological and knowledge return to Society, specially in the Member States

Promote CERN's image as a center of excellence for technology



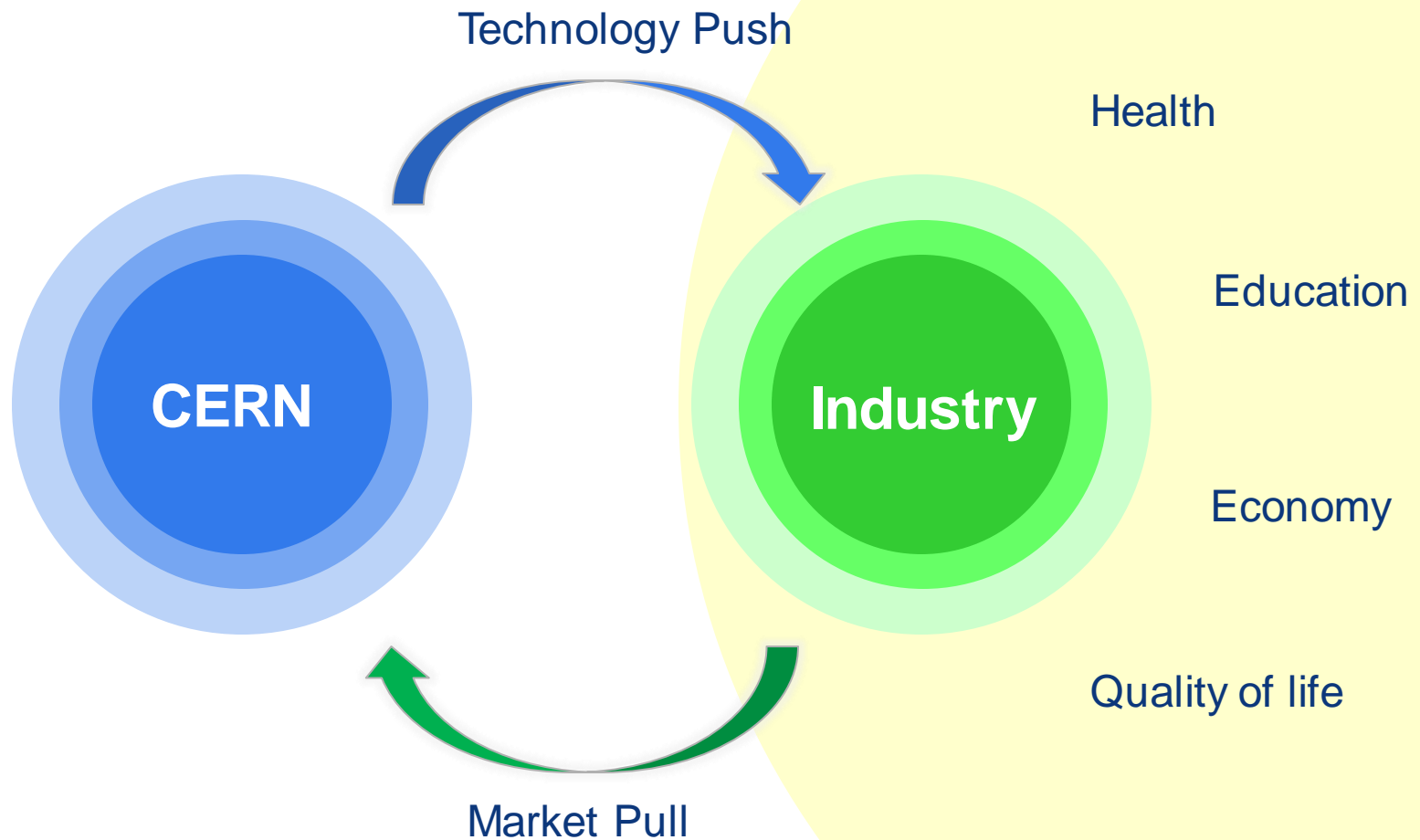
Key words: dissemination and impact!



KT Modes



Crossing the bridge to industry



CERN Core Competences

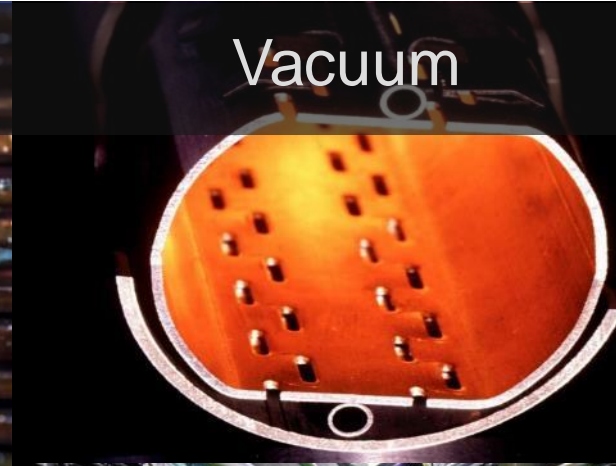
Cryogenics



Superconductivity



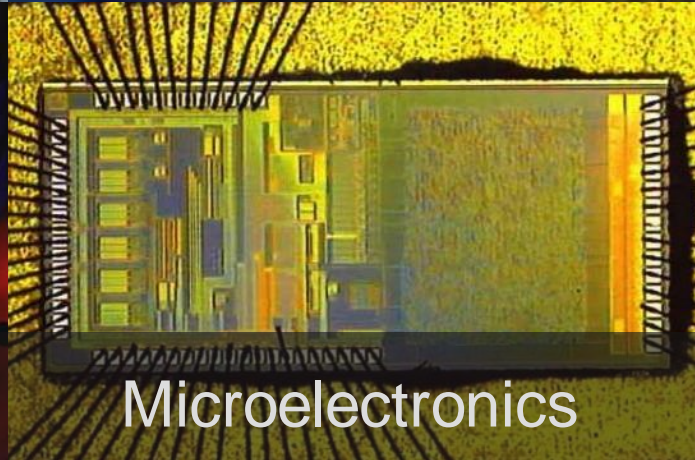
Vacuum



Magnets



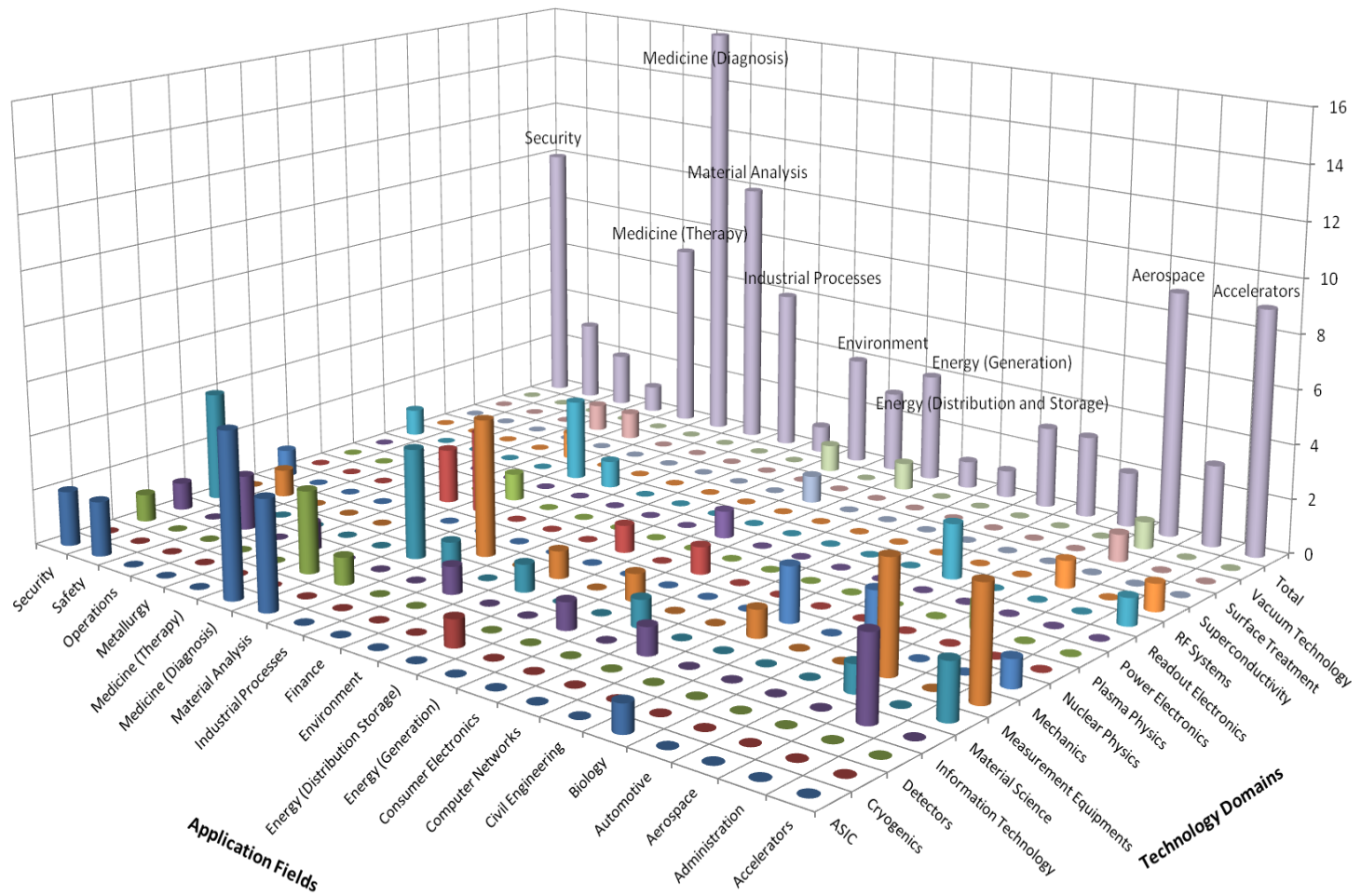
Microelectronics



Data Processing



CERN's Technology Portfolio



From high vacuum... to solar energy



CERN Technology

Non-Evaporable Getter Coating

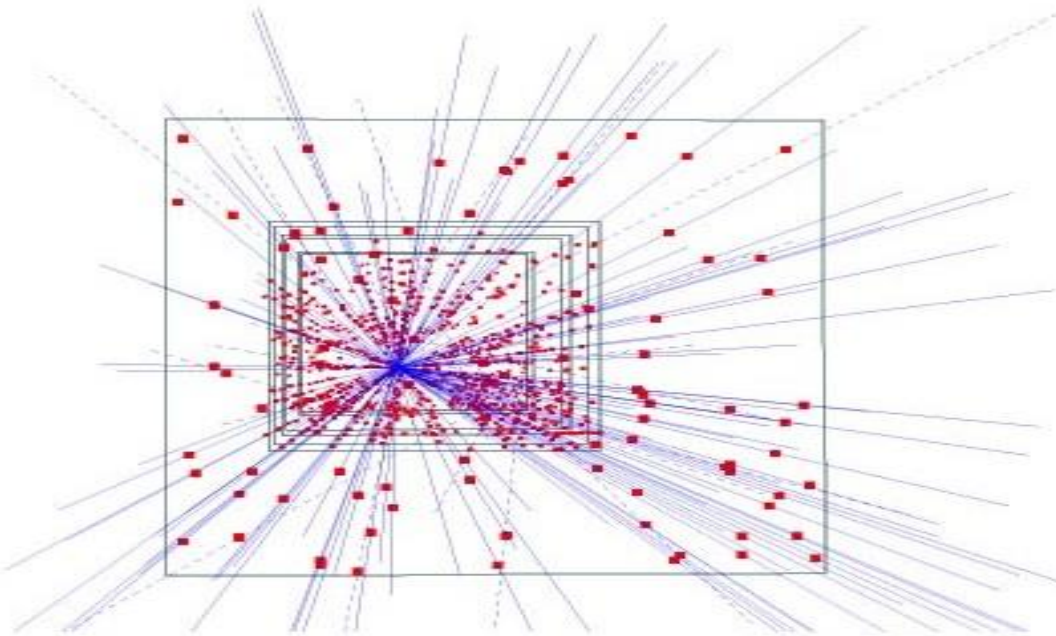


Industry (spin-off):

High Efficiency Solar Collectors



From silicon pixel detectors to X-Ray diffractometers



CERN Technology

Hybrid silicon pixel detector

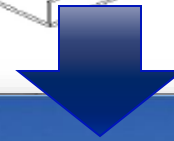
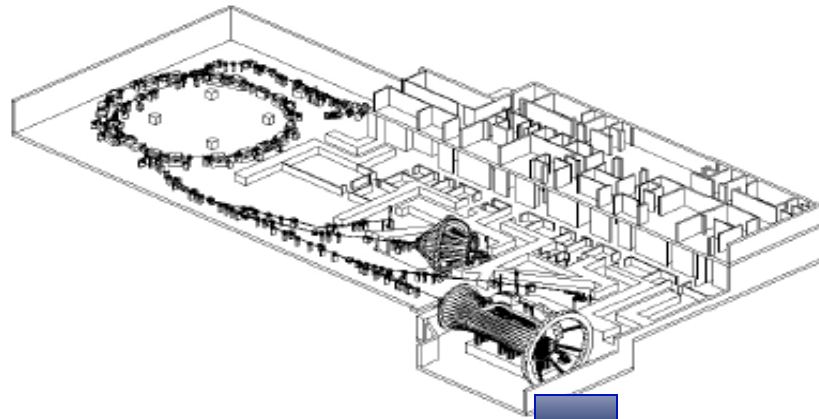


Industry (license):

X-Ray Diffractometer



PIMMS Study 2000
CERN in collaboration with
INFN and TERA
has led to:



ENLIGHT



CERN physics into health field

- Common mutual interests
- Identify challenges
- Share know-how
- Share best practices
- Harmonise standards
- Provide training
- Innovate
- Lobbying

Coordinate



> 150 institutes

> 400 people

> 25 countries

(with >80% of MS involved)





ICTR-PHE

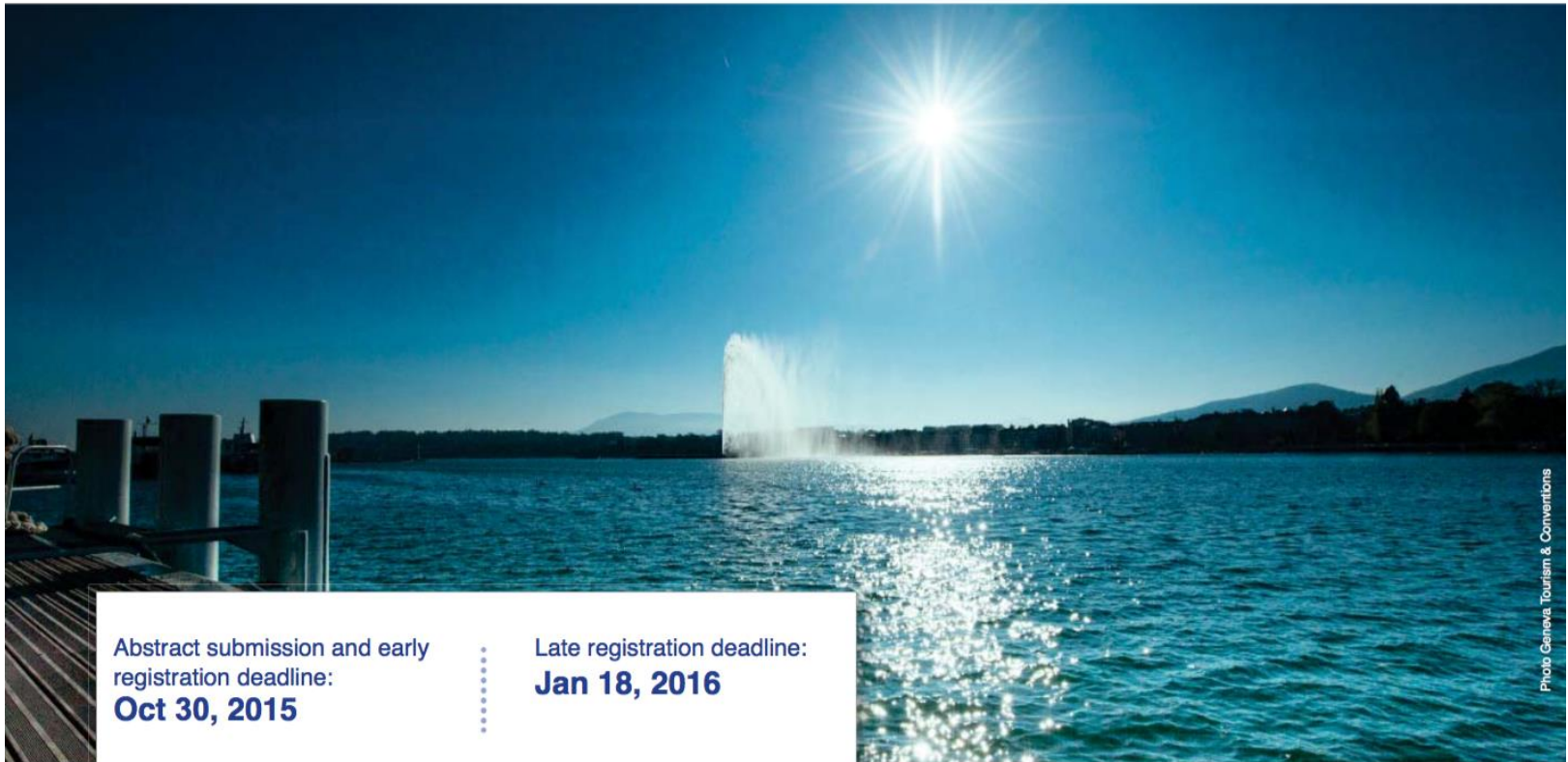


2016



INTERNATIONAL CONFERENCE ON TRANSLATIONAL RESEARCH IN RADIATION ONCOLOGY | PHYSICS FOR HEALTH IN EUROPE

February 15 – 19, 2016 CICG, Geneva, Switzerland



Abstract submission and early
registration deadline:
Oct 30, 2015

Late registration deadline:
Jan 18, 2016

Photo Geneva Tourism & Conventions



Business Incubator Centres (BIC) of CERN Technologies

Established incubators:

UK	STFC-CERN BIC
Netherlands	NIKHEF-CERN BIC
Norway	NTNU-CERN BIC
Greece	Technopolis-CERN BIC
Austria	accent-CERN BIC
France	InnoGex
Finland	Finnish BIC of CERN Technologies



Turning CERN technologies into new business opportunities

 **STFC**


technology

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Welcome to the STFC CERN BIC

High energy physics accelerating business

Creating innovative new products, services and business opportunities from high energy physics technologies

The STFC CERN Business Incubation Centre (BIC) offers funding, business support and technical assistance to entrepreneurs and small high-tech companies seeking to accelerate their innovative business concepts.

Focused on developing new products and services using technologies originally developed for use in high energy physics research, this pilot scheme draws on the world-leading capabilities of the Science and Technology Facilities Council (STFC) and the European Organization for Nuclear Research (CERN), home of the Large Hadron Collider.

The BIC combines the incubation experience of STFC with the unique opportunity to access STFC and CERN intellectual property (IP), technologies and expertise. It will help businesses to grow from technical concept to market reality, from small start-ups into thriving high-tech companies.

There is an open call for applicants to join the scheme and the deadline for applications is **June 2013**.

For all the latest news, information and opportunities at the STFC CERN BIC, follow us on twitter [@STFC_B2B](#) .







spin-off



technology



supplier

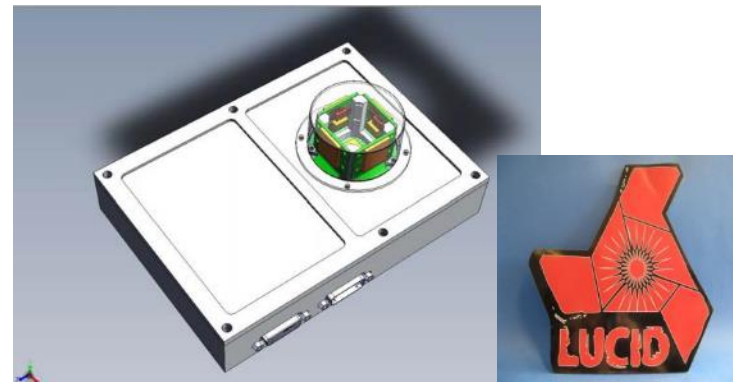


CERN in Society

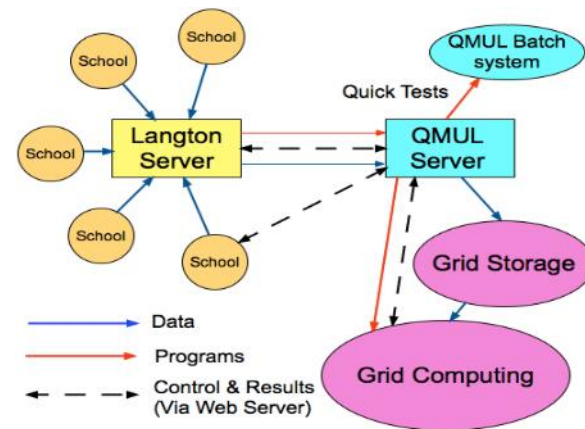




CERN@school allows students to use a Timepix chip in the lab to visualise radiation









Langton Ultimate Cosmic ray Intensity Detector uses 5 Timepix chips to monitor the radiation environment in Space



Data from LUCID and CERN@school detectors will be uploaded to the Grid and made available for students to analyse

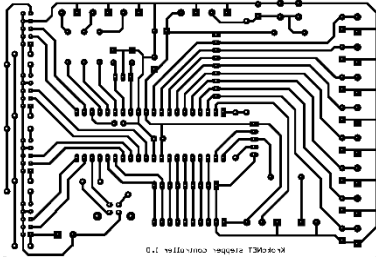


Open Source Software

Originating from CERN	Contributed to by CERN
  	  

And many more

Open Source Hardware and CERN Open Hardware Licence (OHL)

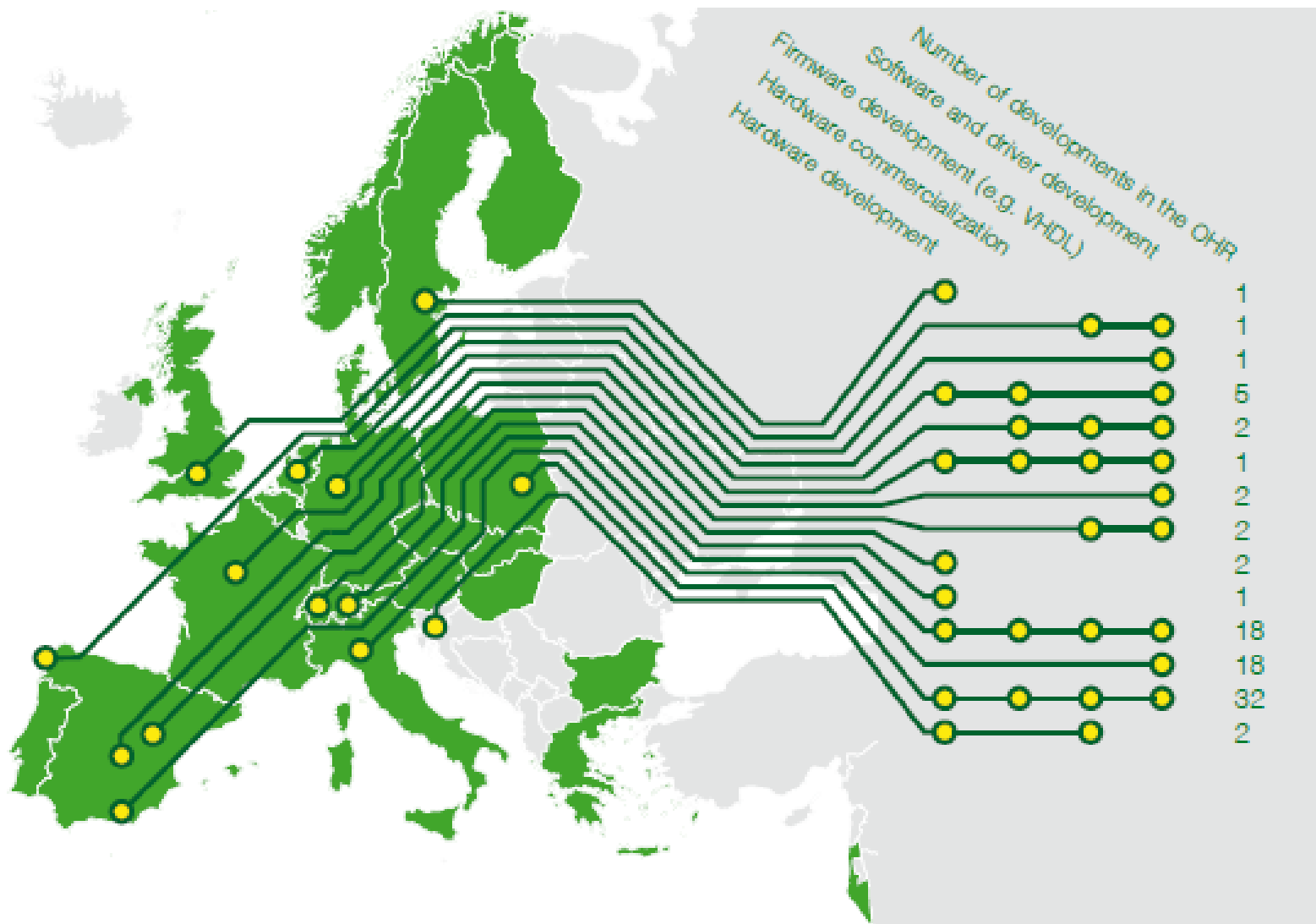


www.ohwr.org

A legal framework to facilitate knowledge exchange across the electronic design community.

Governs the use, copying, modification and distribution of hardware design documentation, and the manufacture and distribution of products.

CERN OHL: it is making an impact!

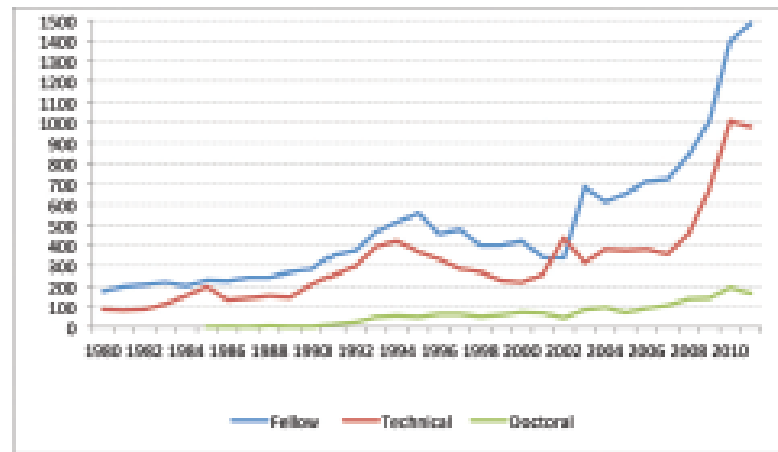


Knowledge Transfer through People

Every year, hundreds of students come to CERN to contribute to our research programs

An opportunity for young people to learn in a multicultural environment

Not only for physicists!
Also engineers,
computer scientists,
administrative
students...



European KT Networks



Forum for European Intergovernmental Research Organisations



EEN, Enterprise Europe Network

Business Support on Your Doorstep



TTN, Technology Transfer Network (aka HEP Tech)

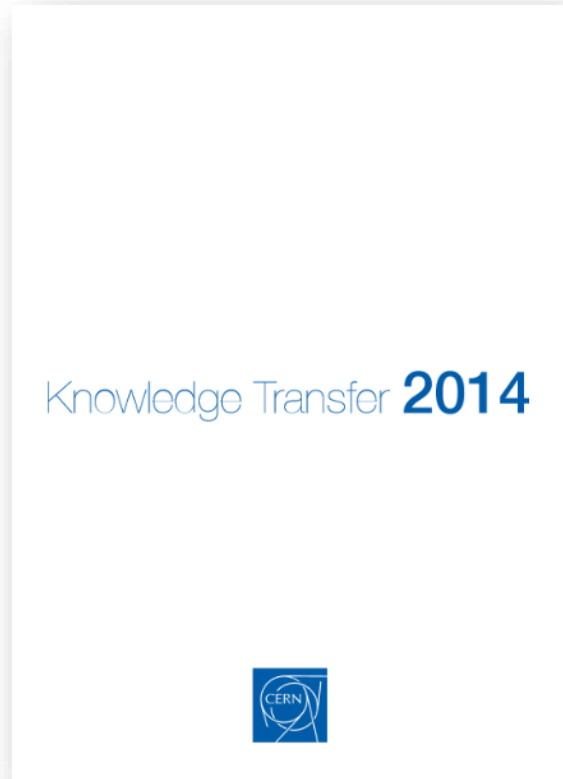


TTO Circle - European Technology Transfer Offices Circle



The European Network for LIGht ion Hadron Therapy

Publications



cern.ch/kt

Visit our website
to have a look at
our technology
portfolio in detail

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Knowledge Transfer

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Technology portfolio

All CERN technologies listed below are available for licensing and/or research collaborations with industry or institutes:

- 3D Magnetic sensor calibrator
- Compact cryogenic cooling pump
- CRISTAL
- Cryogenic optical fiber temperature sensor
- Cryogenic Saving Unit
- Diaphragm System
- Evacuatable Flat Panel Solar Collector
- Fast front-end readout electronics for photon and electron counting applications
- Gas electron multiplier
- High performance time to digital converter
- High power high frequency loads for energy recovery
- Hood clamshell tool
- Indico
- Integrated CO₂ cooling system
- Invenio
- MammoGrid
- Medipix2
- Method for the production of carrier-free radioisotopes
- Micro Chemical Vias
- Micro-stimulation particle detector for hadrontherapy
- Mounting mechanism for cantilever with high precision positioning
- Multifunctional detector
- Neutron-driven element transmuter
- NiceAdmin
- NINO
- Non-evaporable getter (NEG) thin film coatings
- OrinOx Data compression
- Palladium thin-film coatings
- PHOSWICH
- Power converter with integrated energy storage
- Pulse tube refrigerator/cryo-cooler
- Quantum osimetry
- Reduction of SEY by magnetic roughness
- Resistive MicroMegas
- RF Waveguide Vacuum Vial
- ROOT
- Single layer 3D tracking semiconductor detector
- Thermally insulatable vessel
- Titanium polishing

[View technologies by domain »](#)





CERN Knowledge Transfer Group

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