Introduction to CERN KT

Giovanni Anelli
Giovanni.anelli@cern.ch
07.03.2022
CERN’s Mission

Science

Technology

Training

Collaboration
KT’s Mission

Maximise the technological and knowledge return to society, in particular through Member States industry

Promote CERN as a centre of excellence for technology and innovation

Demonstrate the importance and impact of fundamental research investments
From CERN Technologies...

... to Society
Knowledge Transfer Tools

**Funding Opportunities for CERN Projects**
- CERN Knowledge Transfer Fund
- CERN Medical Applications Budget

**Open Source**
- Open Source Software
- Open Hardware Licence

**Support for CERN Personnel**
- Formal and practical training in business, entrepreneurship & knowledge transfer
- Legal, business & intellectual property support

**Collaborations and Networks**
- Knowledge transfer networks
- Strengthening links with Member States (KT Forum)
- Relations with International Organisations
- Knowledge transfer in EC co-funded projects

**Entrepreneurship**
- Start-ups & Spin-offs
- Entrepreneurship Meet-Ups
- Business Incubation Centres
- Entrepreneurship Programmes

**Events**
- Knowledge Transfer Seminars
- Conferences with a significant contribution by the Knowledge Transfer group

**Intellectual Property Management**
- R&D collaborations
- Patent portfolio
- Licence, service & consultancy agreements
KT Framework

IP Policy (2010; 2020)
- Spin-Off Policy (2018)
- Patent Policy (2019)
- Software Dissemination Policy (2017)
- ...
Aerospace Applications

CELESTA

First full satellite tested at CHARM
Aerospace Applications

NASA

Radiation monitoring in NASA’s Orion vehicle and at the International Space Station

Image: NASA
Cultural Heritage

InsightART

Measuring the DNA of your art
Cultural Heritage

MACHINA

A compact transportable accelerator for art examination
Medical and Biomedical Technologies

Mars Bioimaging

First 3D colour X-ray of a human using CERN technology

Image: Mars Bioimaging
Medical and Biomedical Technologies

CERN-MEDICIS

New tools for precision medicine
Medical and Biomedical Technologies

**Therapeutic Particles**

Cutting-edge solutions for advanced cancer radiotherapy

Image: CNAO
HIL Applied Medical is developing a new class of ultra-compact, high performance proton therapy systems. CERN provided consultancy on magnet design for proton beamlines to HIL (2019 and 2020). The consultancy has contributed to, among other things, the definition of technical requirements and selection of third parties for system development.
ImmunoBrainCheckpoint (IBC) and CERN collaborating since 2019 to develop novel therapies that target the immune system and trigger brain repair to help combat neurodegeneration using agent based modelling. IBC today partner in the BioDynaMo consortium.
CEVA and CERN working on machine learning, aiming to make neural networks run faster and more efficiently. Two years collaborations successfully completed and currently extension of project in preparation.
How to collaborate with CERN

- Start a company based on CERN technology or know-how
- Service & Consultancy
- Licensing
- R&D Collaborations

Find out more at kt.cern/collaborate
Extra Slides