Knowledge Transfer
Accelerating Innovation

KT Forum - Introduction

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CERN Innovation Partnerships

CERN technologies for your innovation

Research Services · Meyrin · 2,108 followers

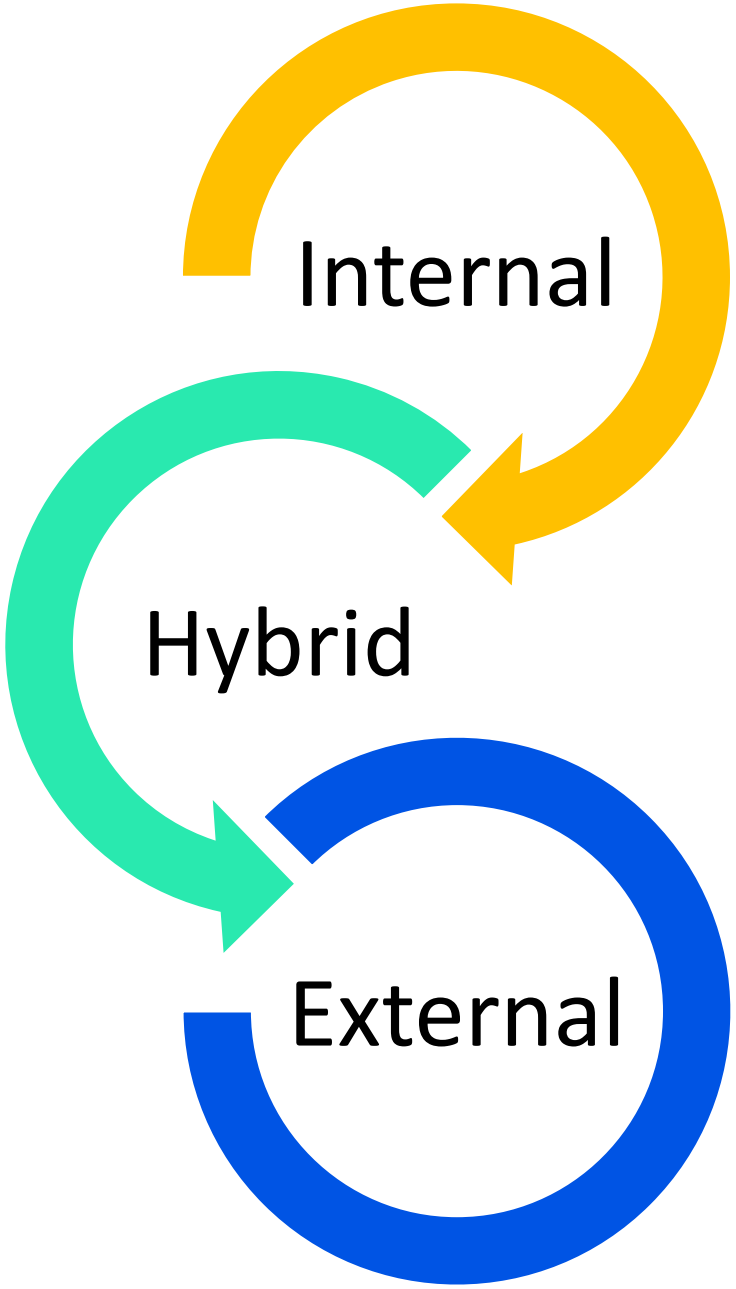
https://www.linkedin.com/showcase/cern-innovation-partnerships/

New channel: Follow us and share our posts


New brochure
Impact of CERN technologies:
from fundamental research to our everyday lives
https://cds.cern.ch/record/2861714/files/CERN-Brochure-2023-004-Eng.pdf

KT communication channels

See slides from Manuela/Marzena for a complete list of KT comms channels



CERN competences on Superconducting Materials

what

CERN uses a wide range of superconducting materials in the construction of its accelerators and experiments. Niobium titanium has been the workhorse for the LHC. Nb_3Sn is required to produce the high-field magnets needed for the high luminosity upgrade. A wide range of materials are being explored to enable the cables, magnets and devices required for the future.

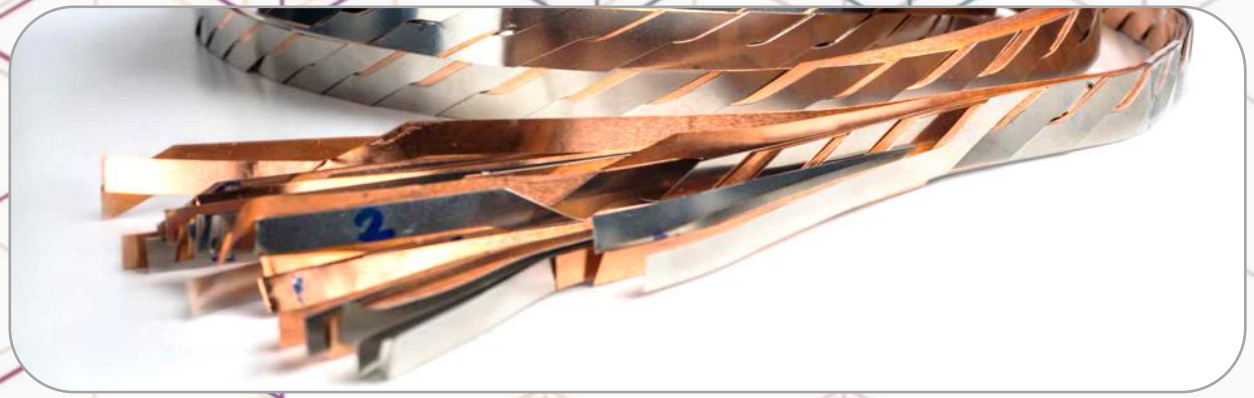
tech specs

Knowhow and experience with various SC materials like

- Niobium titanium (magnets and bus-bars)
- Magnesium diboride (superconducting link for high luminosity upgrade)
- Niobium tin (magnets for high luminosity upgrade)
- HTS cuprates, YBCO and BSCCO (current leads and future magnets)

Knowhow and experience with various techniques and forms

- Specification, analysis and collaborative development of wires and tapes
- Production and testing of Nb-Ti, Nb_3Sn and HTS cables
- Deposition of coatings and manufacturing of cavities



apps

- Medical imaging devices (for example MRI)
- Nuclear Magnetic Resonance (NMR) analysis magnets
- Energy generation, storage and grid management
- Supercomputing and data transmission
- Transportation (for example maglev)

Two new patents filed in 2023, we will share them as soon as they become available.

New technology in the CVC portfolio: ACCURATE 2 Integrated Circuit

ASIC capable of measuring femto amperes to Atto amperes.

Developed by Radio protection team at CERN to measure smallest possible currents.

Development boards ready in Feb 2023.

Documentation and dossier will be available at the end of year.

Accurate 3 chip in development. Will be ready in 2024.