



Participation of CERN in EU projects

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20 Jan 2023 / HEARTS kick-off meeting

Added-value for CERN from European projects

The participation of CERN in EU projects:

- ✓ is a **useful complement** for activities which are part of the Medium-Term Plan of the Organization, e.g. accelerator and detector R&D, and computing;
- ✓ provides **additional resources** for activities, which are not part of the main scientific programmes of the Organization, e.g. medical applications and technology transfer;
- ✓ allows CERN to recruit and provide valuable training and work experience to a large number of **young scientists and engineers**, from technical student to post-doc and early career level, most of whom leave CERN afterwards and pursue a career in industry or research;
- ✓ provides a collaborative framework for strengthening and developing new links with **academic and industrial partners from the CERN Member States**;
- ✓ is a major avenue for the contribution of CERN to the **implementation of the European Research Area** in domains such as research infrastructures, EOSC, Open Access and international cooperation;
- ✓ strengthens the **relations with the EC**.

CERN in Horizon 2020: some key figures

Over the 7 years of Horizon 2020 (2014-2020), CERN participated in **98 H2020 projects** and **coordinated 35 of these**.

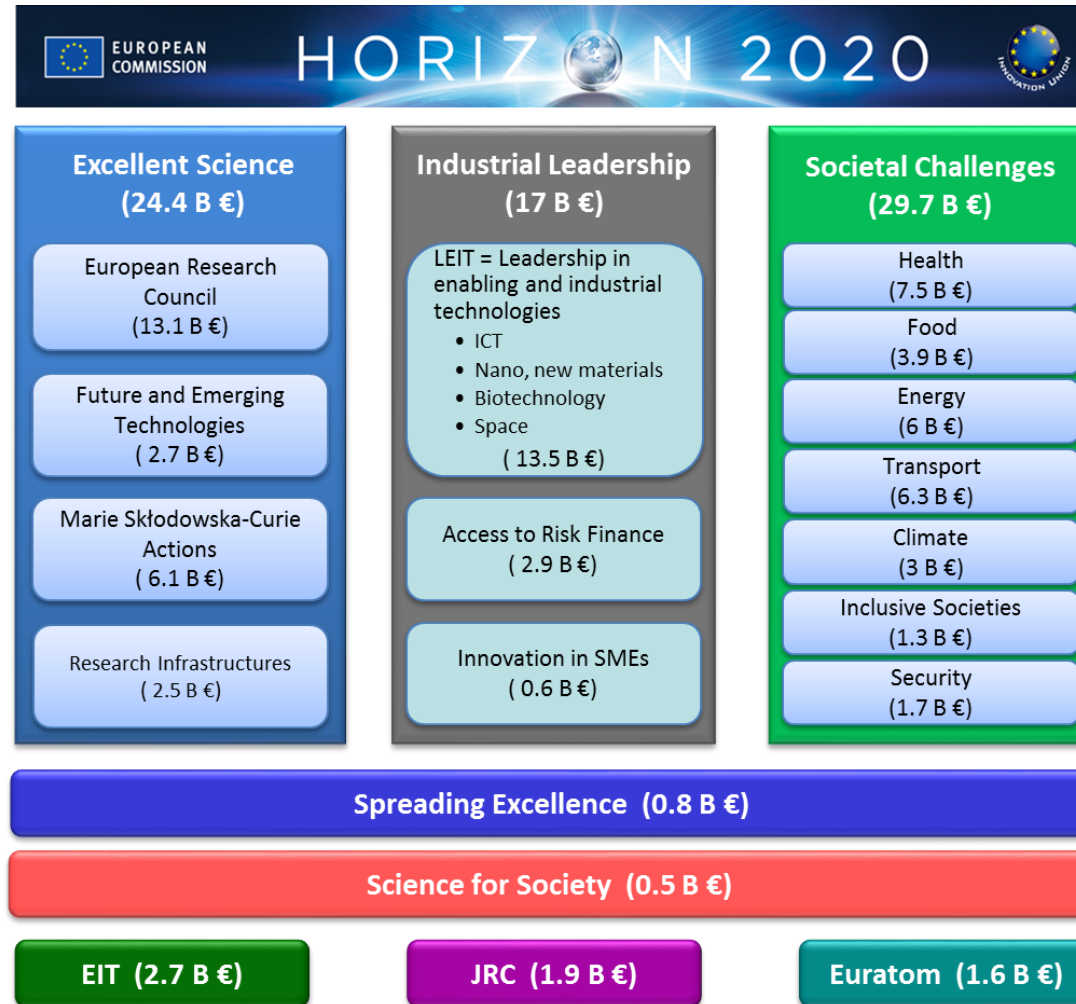
The **total EC funding** for the 98 projects amounts to **640 M€**, out of which **72 M€** represents the **EC funding for CERN**.

The remaining EC funding was distributed primarily among participants from the CERN Member & Associate Member States (553 M€).

In total, CERN collaborated with **797 partners** from **57 countries** through H2020 projects, out of which **487 academic** (research organisations, universities), and **223 industrial companies** (incl. SMEs).

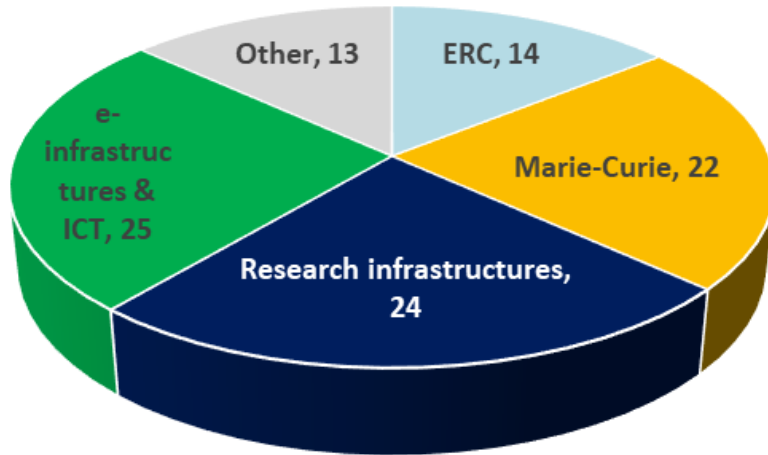
Horizon 2020 (2014-2020) at a glance

76% of CERN H2020 projects and 80% of EC funding for CERN for H2020 projects



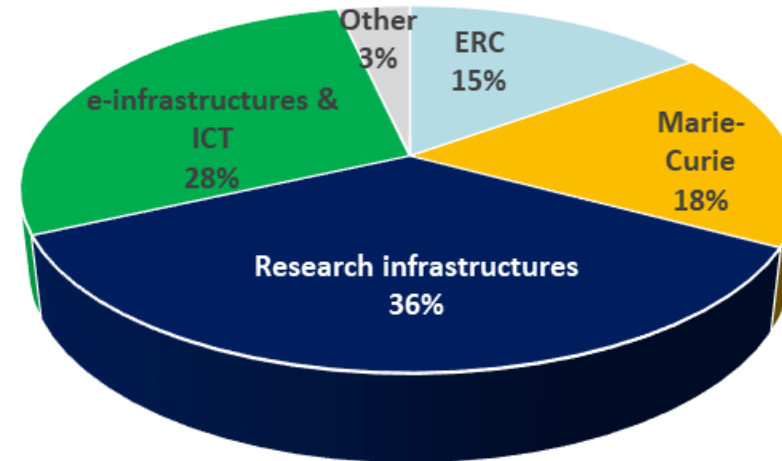
Participation of CERN in H2020 programmes

Distribution of CERN EU projects per H2020 programme



Number of H2020 projects with the participation of CERN: total = 98 (35)

Distribution of EC funding for CERN per H2020 programme



EC funding for CERN in H2020: total = 71.5 M€

*The success rate for projects with the participation of CERN was **33%** (H2020 average around 14%).*

AIDAinnova: Advancement and Innovation for Detectors at Accelerators



- State-of-the-art **upgrades of research infrastructures for detector R&D**, such as test beams, and **exploration of novel technologies**
- Fully exploiting the **scientific potential of detector technologies for particle physics**
- **42** partners from **academic, industry** and **Research and Technology Organisations** from 15 different European countries
- **14** Work Packages

AIDAinnova	
Participants	42 (CERN as Coordinator)
Total budget	22 M€
EC funding for the project	10 M€
EC funding for CERN	2 M€
Start – End date	April 2021- March 2025
www.aidainnova.web.cern.ch	

I.FAST: Innovation Fostering in Accelerator Science and Technology



- **Enhance innovation** in the particle accelerator community, in collaboration with European industry
- Mapping out and facilitating the **development of breakthrough technologies** common to multiple accelerator platforms and projects
- **8 operators of Research Infrastructures, 12 research organisations, 12 universities, and 17 companies**, including **12 SMEs**
- **14 Work Packages**

I.FAST	
Participants	49 (CERN as Coordinator)
Total budget	18.7 M€
EC funding for the project	10 M€
EC funding for CERN	2.9 M€
Start – End date	May 2021 – April 2025
www.ifast-project.eu	

RADNEXT:

Radiation facility Network for the Exploration of effects for industry and research



A Research Infrastructure project with the objective of creating a **network of facilities and related irradiation methodology** for responding to the emerging needs of electronics component and system irradiation, including for European industry.

Transnational Access to irradiation facilities by awarding free of charge beam time for academic and industrial users.

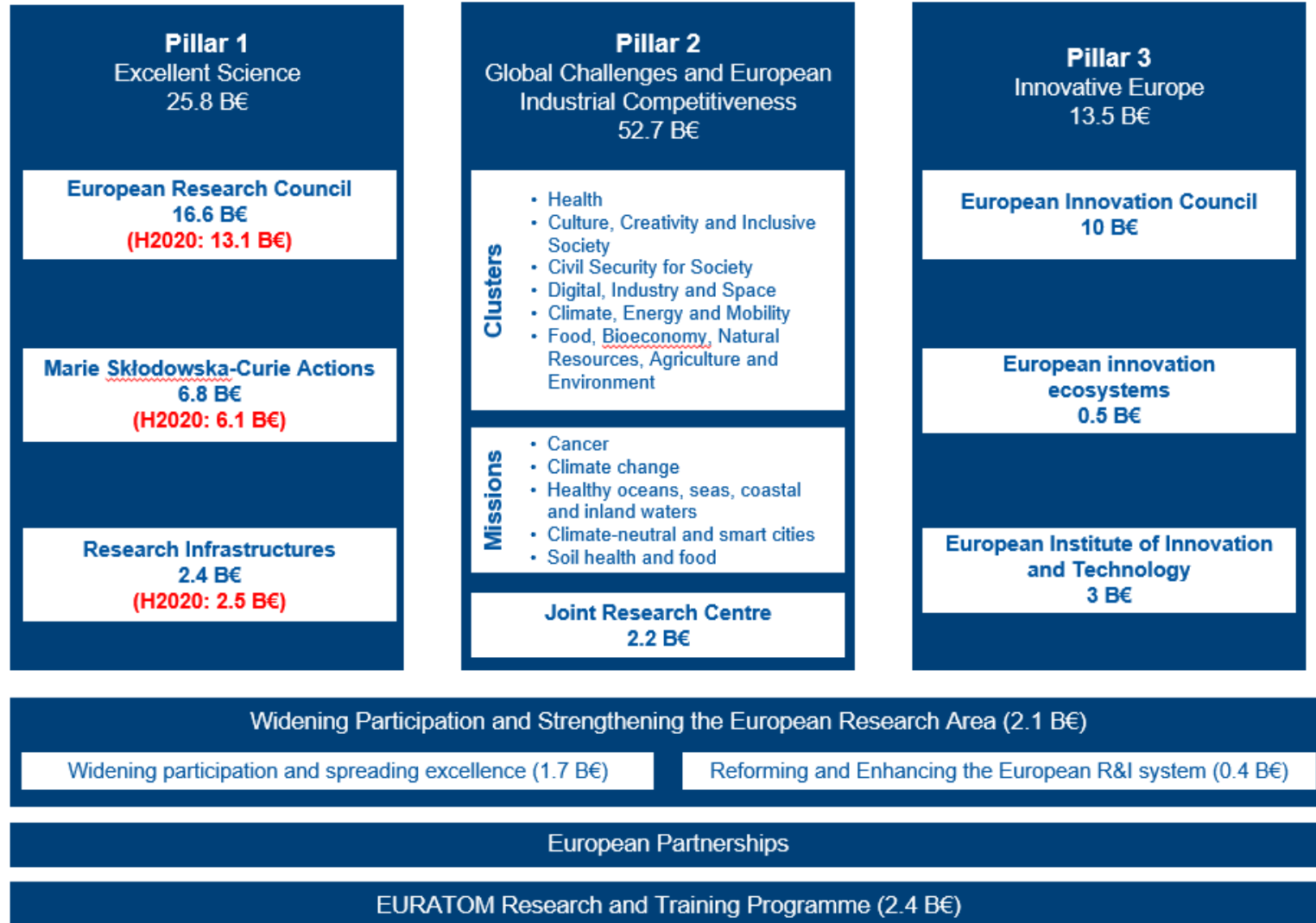
RADNEXT	
Participants	31 (CERN as Coordinator)
Total budget	8.1 M€
EC funding for the project	5 M€
EC funding for CERN	850 K€
Start – End date	June 2021 – May 2025

<https://radnext.web.cern.ch/>

Horizon Europe (2021*-2027) at a glance

96.5 B€

* First HE Calls (EIC and ERC) opened in March 2021, first calls in the other programmes opened in June 2021



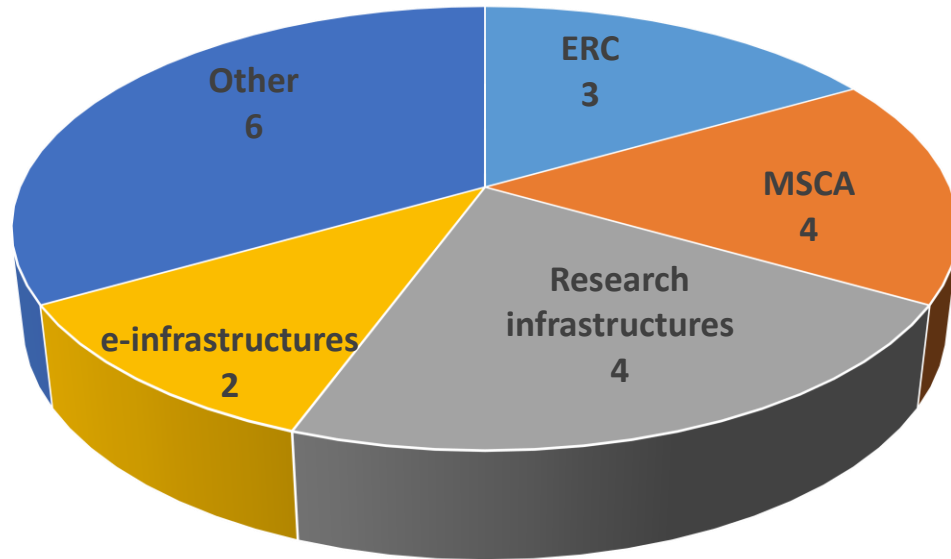
Horizon Europe
THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021-2027)



Overview of the participation of CERN in HE: 19 (6) projects

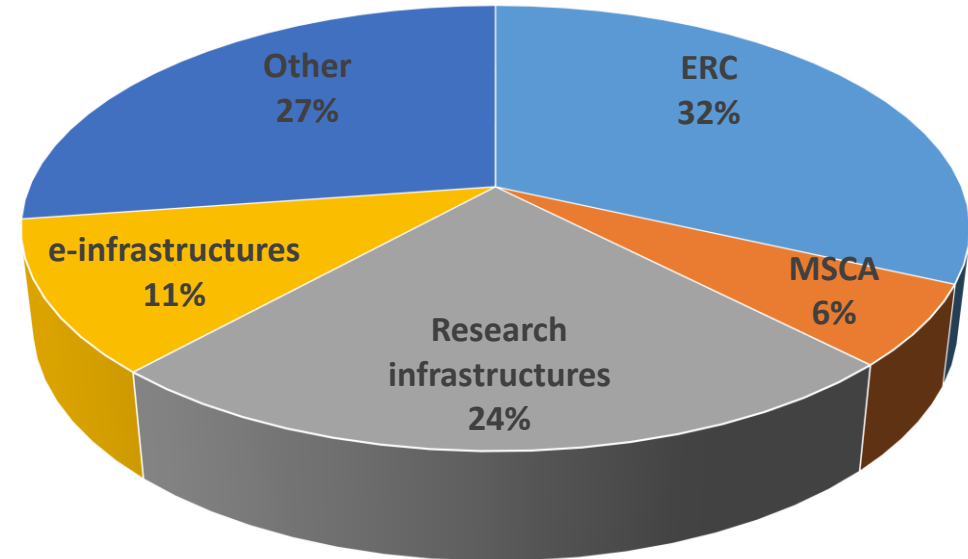
Distribution of CERN EU projects per Horizon Europe programme

Total: 19
including 1 MSCA PF



Distribution of EC funding for CERN per Horizon Europe programme part

Total EC funding for CERN: 15.4 M€
Including 0.2 M€ for MSCA PF



ATTRACT Phase-1B: Breakthrough Innovation Programme for a Pan-European Detection and Imaging Eco-System



- ATTRACT 1B will consolidate the support of the European Commission towards the ATTRACT initiative, this time more closely linked to the **Innovation Ecosystem Programme** of the EIC.
- The aim is to fund 30 break-through projects, in areas of detection and imaging technologies related to **climate change and sustainability**.

ATTRACT Phase-1B	
Participants	9 (CERN as Coordinator)
EC funding for the project	5 M€
EC funding for CERN	720k€ (+ 3M€ to be distributed to 3 rd parties)
Start – End date	Nov. 2022 – Jan. 2025

HEARTS: High-Energy Accelerators for Radiation Testing and Shielding



AIRBUS

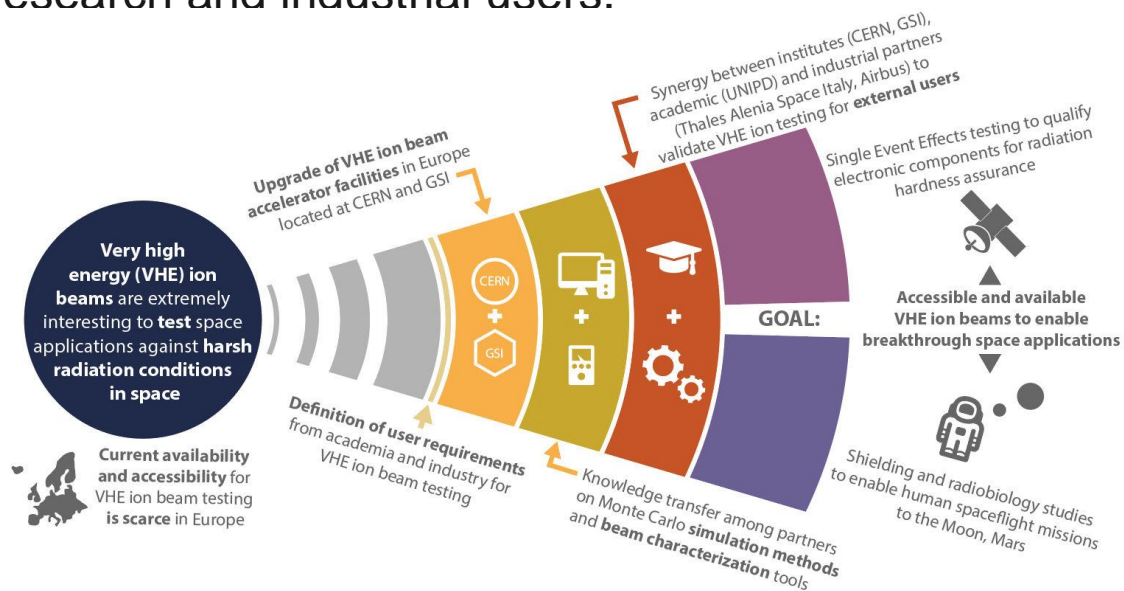


ThalesAlenia Space
a Thales / Leonardo company



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The key objective of HEARTS is to enhance the availability, quality and accessibility of **high-energy heavy-ion beams for space applications**, both for research and industrial users.



HEARTS

Participants 5 (CERN as Coordinator)

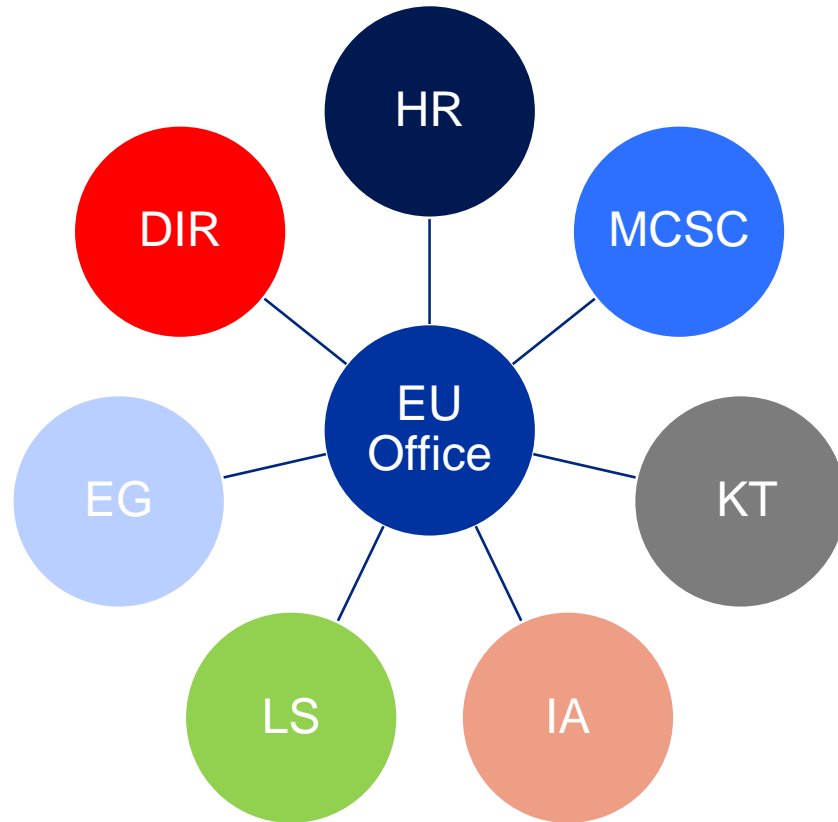
EC funding for the project 3.00 M€

EC funding for CERN 1.27 M€

Start – End dates Jan. 2023 – Dec. 2026

<https://hearts.web.cern.ch/>

Support to EU projects @ CERN



- DIR = Directorate
- EG = External Grants Funding
- HR = Human Resources Department
- MCSC = Marie Curie Steering Committee
- KT = Knowledge Transfer Group
- IA = Internal Audit
- LS = Legal Service

Participation of CERN in EU projects: conclusions

- ✓ This is a wide-spread activity across the Organization, with almost all CERN Departments being (actively) involved in EU projects.
- ✓ In terms of number of projects and success rates, CERN continues to be a very successful participant in Pillar 1 of Horizon Europe.
- ✓ Opportunities for increased participation in the other Pillars of Horizon Europe are also successfully explored.
- ✓ CERN has put in place two central units (IPT-EU and FAP-EG) for support to the preparation and implementation of EU projects, especially those coordinated by CERN. Other services also provide a professional support to EU projects @ CERN.
- ✓ The Organization has the experience and the resources for managing and coordinating a number of EU projects simultaneously, and has had the track record of a successful Coordinator of more than 70 European projects in FP7, H2020 and HE.