Infrastructures for Fundamental science from the EU perspective

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How the EU supports fundamental science

➢ The European Union's research framework programme does not have thematic programmes in fundamental science

➢ The programmes that fund fundamental science are grouped in the 'excellence' pillar of the programme:

    ➢ ERC

    ➢ MSCA

    ➢ Research Infrastructures

These three programmes, combined, offer 25 billion euro of funding for the period 2021-27

What is the EU research infrastructures programme

➢ A part of the general European Union's Research Framework Programme
  ➢ FP1 (1984 -1987) € 3.75b. FP9 (HE, 2021-2027) € 95b
  ➢ The budget of the RI part is 2.4 billion.

➢ The RI programme invests money in
  ➢ Transnational access (already in FP2, 1988)
  ➢ Defining a joint roadmap (since 2006) of new RIs / upgrades / ERICs (ERIC regulation 2009)
  ➢ Communities / networks / tech roadmaps / innovation

How the RI programme has supported fundamental physics

- ➢ Particle physics
  - ➢ Accelerators: CARE (2004-2008), TIARA (2011-2014), EUCARD2 (2013-2017), EUCARD2 (2013-2017), ARIES (2017-2021), I-FAST (2021-2025)
  - ➢ Detectors at accelerators: AIDA (2011-2015), AIDA2020 (2015-2020), AIDAInnova (2021-2025)
- ➢ Nuclear physics
  - ➢ ENSAR (2010-2014), ENSAR2 (2016-2021)
    - ➢ *In 2021-2024 EURO-LABS*
- ➢ Astrophysics
  - ➢ Optical: OPTICON (2000-2005, 2004-2008, 2009-2012, 2013-2016, 2017-2021)
  - ➢ Radio: RADIONET (2000-2004, 2004-2008, 2009-2012, 2012-2015, 2017-2020)
    - ➢ *In 2021-2024 OPTICON RADIONET pilot*
  - ➢ Planetary: EUROPLANET (2005-2008, 2009-12, 2015-2019, 2020-2024)
  - ➢ Solar: PRE-EST (2017-2022, *not an IA but a PP*)

Recent changes in the EU RI programme

➢ Conceptual changes
   ➢ New programme HE
   ➢ Green deal, digital transition
   ➢ The problem of TNA and communities
   ➢ The sustainability of the ESFRI landscape

➢ Implementation changes: delegation of programme implementation to Research Executive Agency REA

➢ Re-launch of ERA - opportunities