



Astroparticle Physics European Consortium



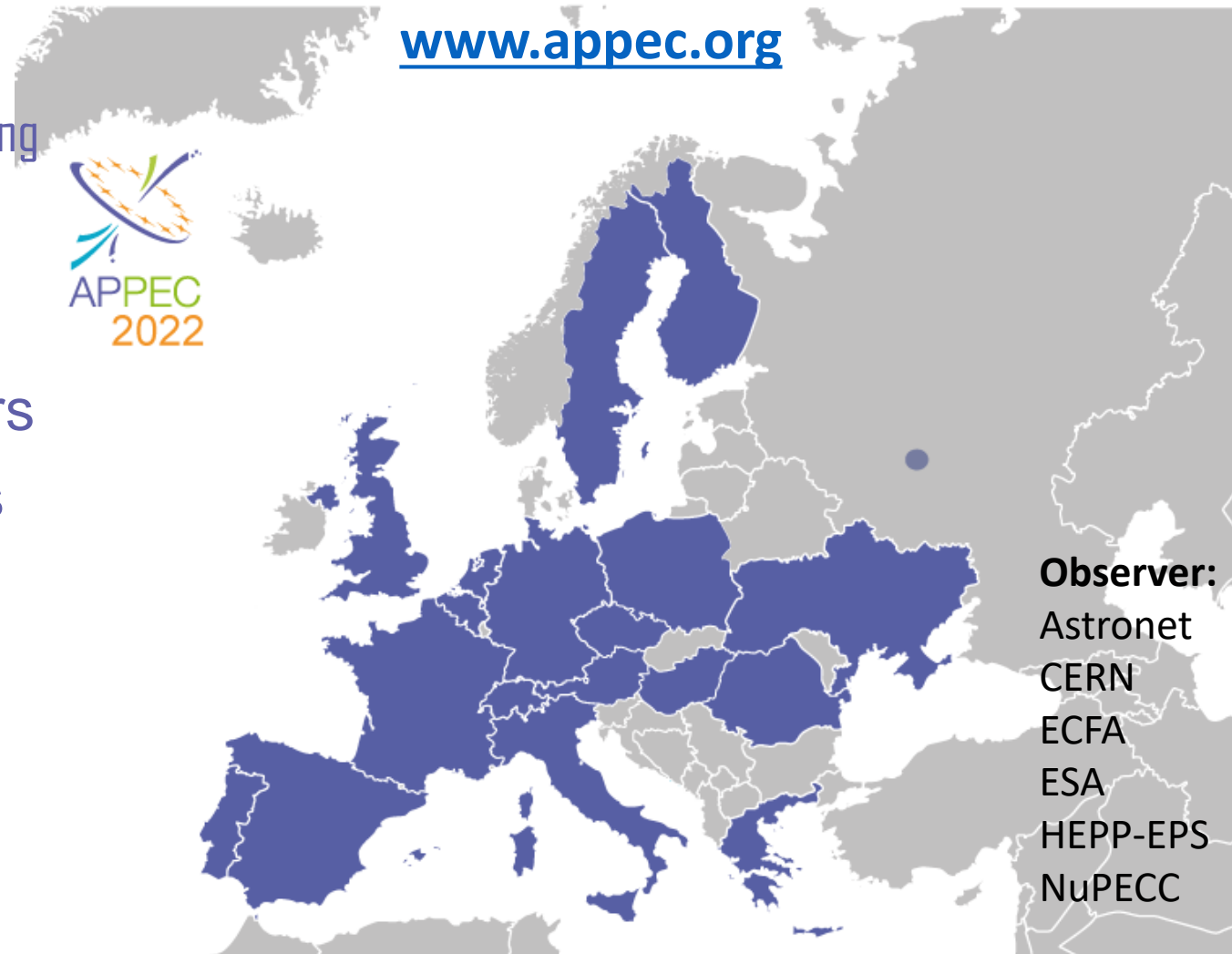
Multi-Messenger Astrophysics Workshop (MMAW) October 10-12, 2022 EGO, Cascina, Italy

Andreas Haungs | KIT – Institute for Astroparticle Physics

MMAW | EGO, Italy | 10-12 October 2022

Astro**P**article **P**hysics **E**uropean
Consortium - an international coordinating
structure, founded in 2012

- Based on a MoU and financial Agreement with DESY (host of the APPEC Common Fund) by all partners
- 18 (+1 suspended) member countries with 22 funding agencies
- a budget of c. 70k€/year
- 3 bodies:
 - General Assembly with Observers
 - Scientific Advisory Committee;
 - Joint Secretary



APPEC Roadmaps

<https://www.appec.org/roadmap>

2008



2011



2017

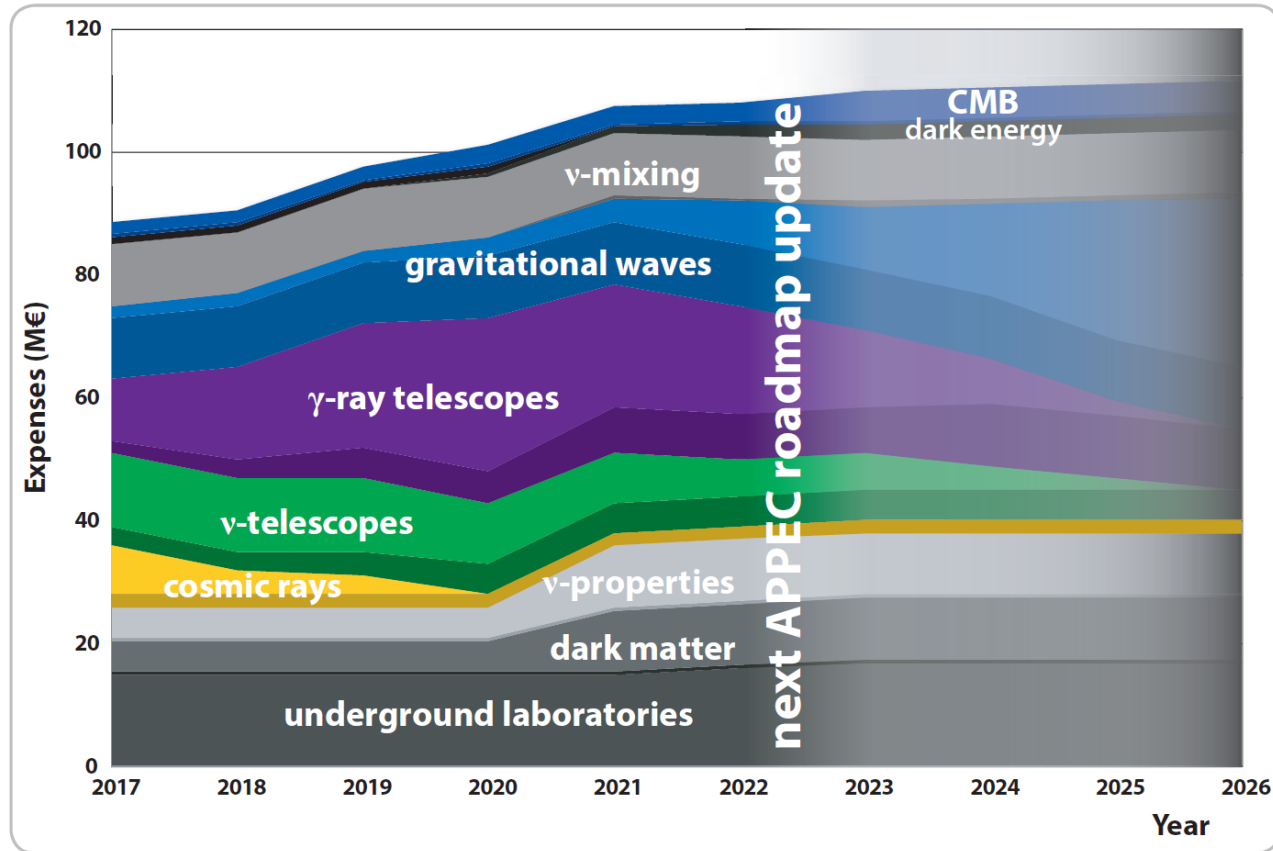


APPEC scientific topics

- High-energy gamma rays
- High-energy neutrinos
- High-energy cosmic rays
- Gravitational waves
- Dark Matter
- Neutrino mass and nature
- Neutrino mixing and mass ordering
- Cosmic microwave background
- Dark Energy
- Astroparticle theory
- Detector R&D
- Computing and data policies



Midterm Evaluation of the Roadmap

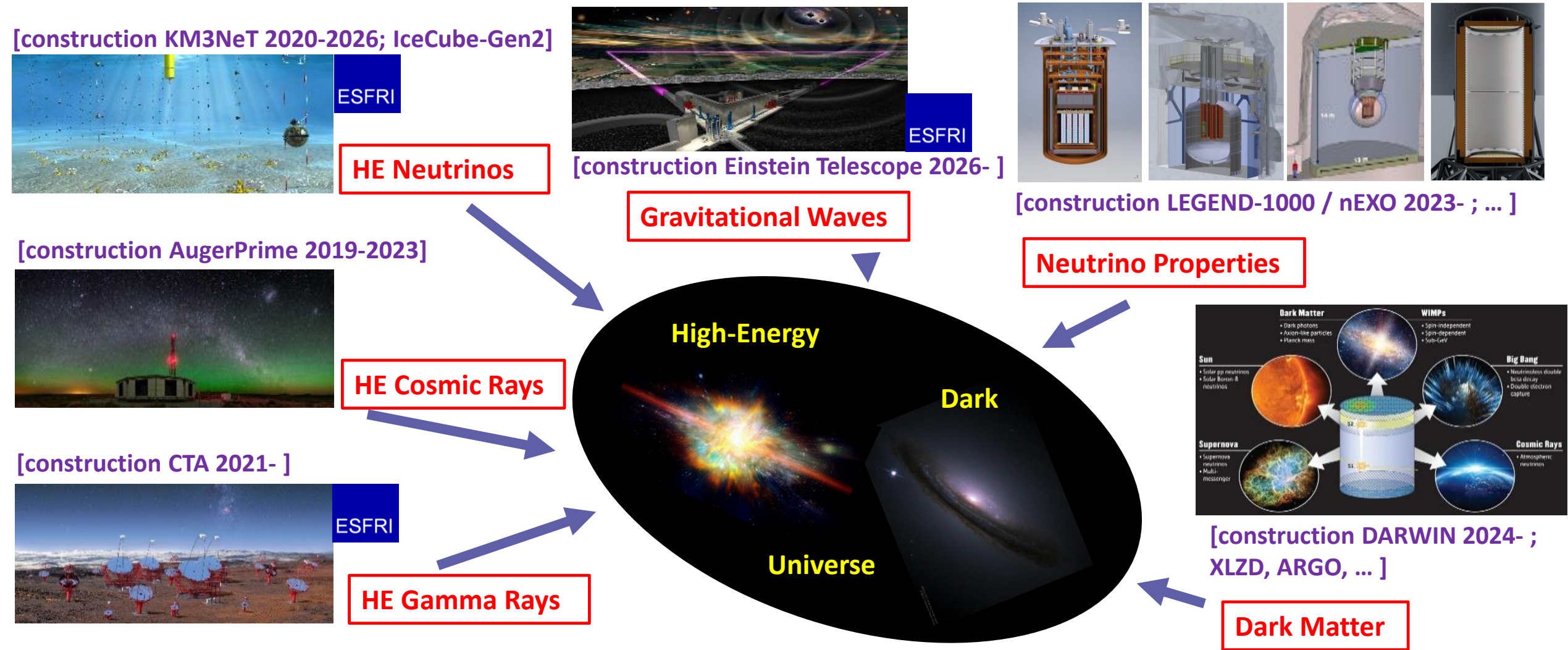


From Roadmap 2017: Projected annual capital investment

- A resource aware roadmap
(darker colors also show M&O of RI)
- Midterm Evaluation: Preparation of roadmap update
 - Direct Dark Matter working group
 - Double Beta Decay APPEC Sub-Committee
 - Multi-Messenger Discussion Workshop
- Goals
 - Identify new developments and new topics
 - Update recommendations
 - Update of time and cost line
- Timeline
 - Provide information to the communities (2021)
 - Town Meeting June 2022
<https://indico.desy.de/event/25372/>
 - Census / Survey of time and cost lines
 - Publication end of 2022

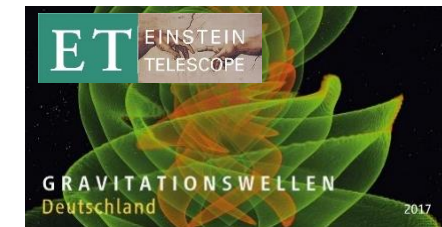
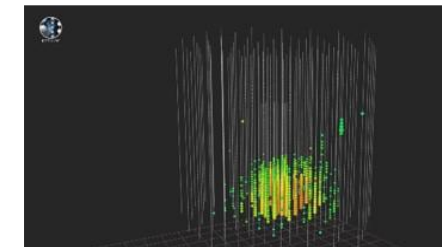
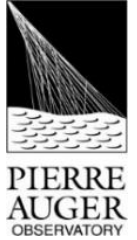
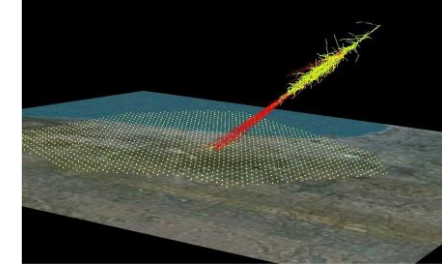
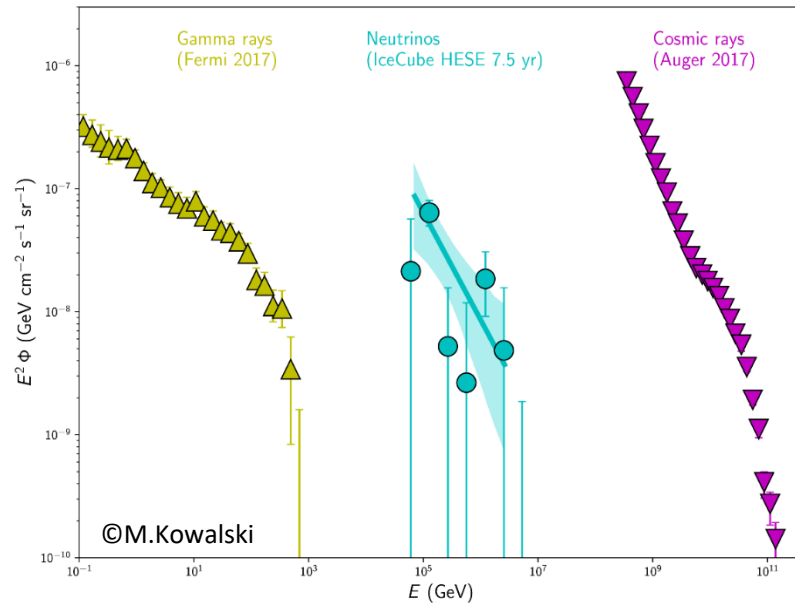
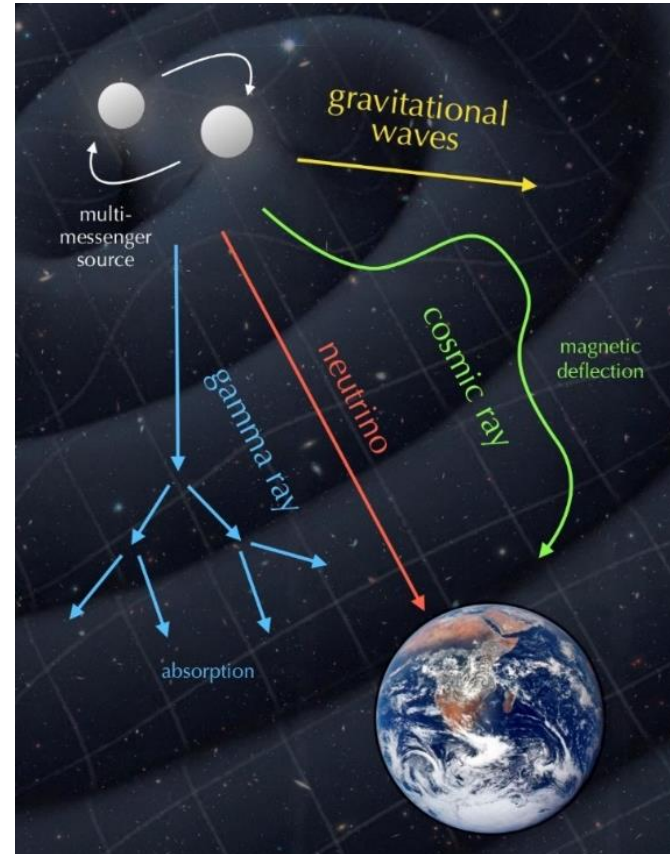
APPEC Flagship Research Infrastructures

This is not a closed, but dynamic list...



Multi-Messenger Astroparticle Physics

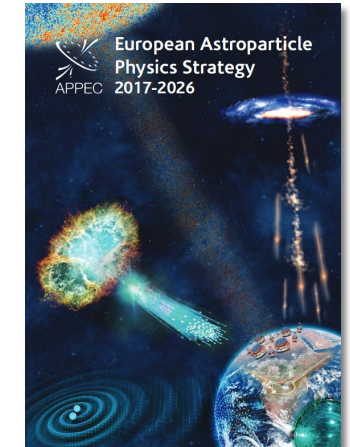
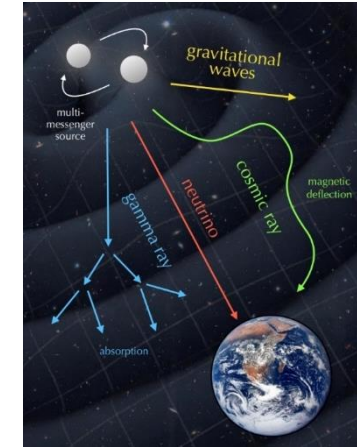
- Required to understand the sources of cosmic rays and the physics processes in the high-energy Universe
- Needs long-term operational observatories
- And a sophisticated Big Data management: Big Data Analytics; Research Data Management; Data Curation; Open Data





Expectations for this workshop

- Discuss new developments in Multi-Messenger Astrophysics
 - Input for the midterm evaluation and update of the APPEC Roadmap
 - Closer cooperation with Astronomy/Astrophysics community (recommendation from the Berlin town meeting)
 - Preparation of the INFRA-SERV-2023 Proposal
- ➔ Looking forward to the results of this Workshop!!!



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