

Pillar 2 report

Extract from the 2-page summary

Physics drivers and implementation (through infrastructures)

- Neutrino oscillations (CP violation, hierarchy):
DUNE, Hyper-K, IceCube
- Neutrino nature (Majorana/Dirac):
Gerda/Legend
- Ties to other pillars
 - Facilities can be used for neutrino physics, XENON/DARWIN, SHIP
 - Neutrino facility (large underground observatories) used for SN, proton decay
- Optimized funding profile

General

- Support for CERN to play a major role in the global neutrino physics effort in collaboration with international partners, namely by establishing a long term plan for the Neutrino Platform
- Facilities in the USA, Japan, SouthPole, LNGS

DUNE / Hyper-K

Historically and in perspective the largest involvement

- [2019-2024]:
complete the preparatory program for DUNE (protoDUNE, ArgonCUBE) and complete the T2K program, including its upgrades.
- [2025-2035]:
complete construction for the long baseline facilities and experiment(s) and ensure operation.
- DUNE: Basel, Bern, ETHZ
- Hyper-K: Geneva

Onubb and atmospheric neutrinos

- [2019-2020]:
support Gerda and the construction of LEGEND-200
- [2021-2024]:
support for IceCube and upgrades
- [2021-2024]:
support construction of LEGEND-1t

- Gerda/LEGEND: Uni Zürich
- IceCUBE: Geneva

“FLARE table”

	2019-2020	2021-2024	2025-2028
WA105-SBN	1.5 M	4 M	Plus operation
T2K + upgr	0.7 M		
Gerda	0.6 M	1 M	Plus operation
DUNE/Hyper-K			
Legend			
IceCube-PINGU	--	1 M	operation
	2.8 M	6 M	