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The MEUST submarine infrastructure for neutrino astronomy

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Located next to the existing ANTARES neutrino telescope site, operational since 2008 offshore of Toulon at a depth of 2500m, MEUST (Mediterranean Eurocentre for Underwater Sciences and Technologies) will be a second generation submarine cabled infrastructure developed within the European projects KM3NeT and EMSO.

This new cabled facility will share its high-capacity with neutrino astronomers and marine environmental sciences.

We will present the foreseen layout and functionalities of the deep sea permanent infrastructure of the MEUST project and its technical features. The general topology of the sea bed network corresponds to the “ring option” presented in the KM3NeT TDR. The technological solutions take into account the evolution of available commercial components and the specificities of the MEUST site. Made of standard components designed to be deployed gradually, the foreseen submarine infrastructure consists in a scalable ring network with 6 nodes uniformly distributed at the periphery of a circular area of about 2km diameter. At each node a bunch of 16 neutrinos detection units can be connected and arranged on the bed in a similar way as ANTARES. The full network therefore accommodates up to one hundred detection units.

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