

Einstein Telescope (ET)



Proposal submitted by:

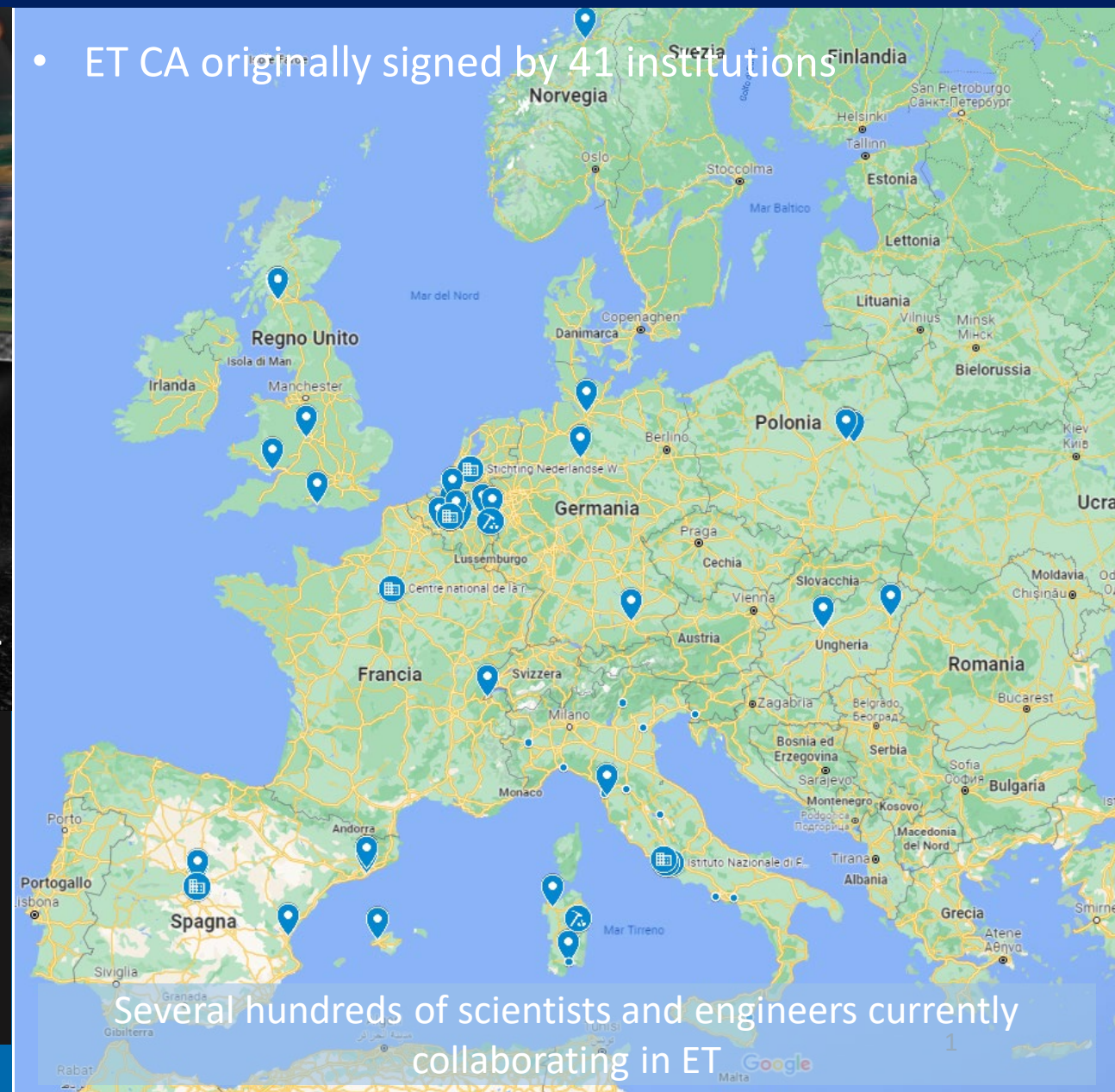
- **Italy** (Lead Country)
- **Belgium**
- **Netherlands**
- **Poland**
- **Spain**

Now in the project and in the collaboration activities also agencies or institutions belonging to:

- **France**
- **Germany**
- **Hungary**
- **Switzerland**
- **UK**

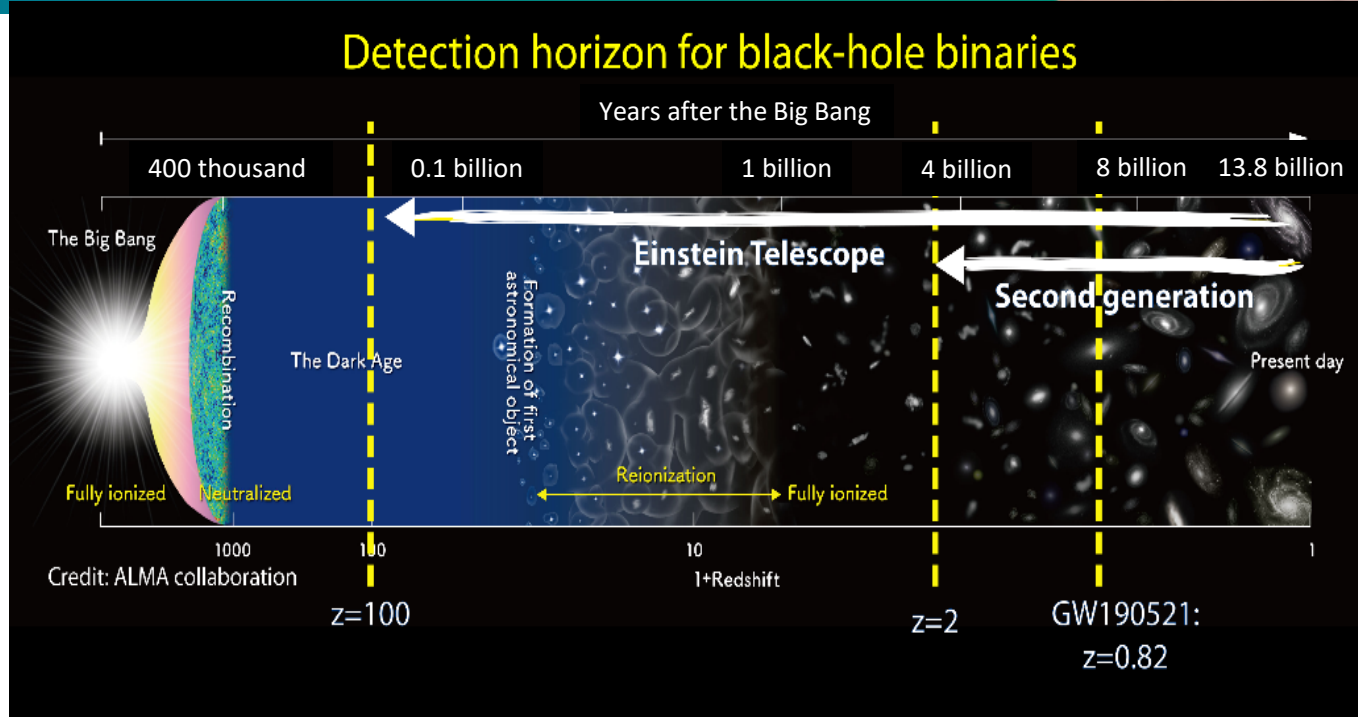
ET is the pioneer project for a 3rd generation Gravitational Wave Observatory in Europe

- ET CA originally signed by 41 institutions



Several hundreds of scientists and engineers currently collaborating in ET.

- ET will explore almost the entire Universe listening the gravitational waves emitted by black hole, back to the dark ages after the Big Bang
- ET will detect, with high SNR, hundreds of thousands coalescences of binary systems of Neutron Stars per year, revealing the most intimate structure of the nuclear matter in their nuclei



- ET will contribute to solve the enigma of the dark matter and dark energy in the Universe testing the Einstein General Relativity and possible alternative gravitation theories with unprecedented precision
- ET will explore the gravity near the horizon of events of intermediate mass black holes

Our science targets impose a series of challenges to the ET technologies:

- Challenging civil engineering of the infrastructure
- New technology in lasers and optics
- Quantum technologies
- Low noise and high efficiency cryo-cooling
- High precision mechanics and low noise controls
- Seismic noise filtering
- High performance and low latency computing
- Data analysis, handling and distribution

