

Annex 1: summary of the PBS, restricted to level 1 and 2 (deeper details are available on request).

ET interferometers

- Suspensions: the mirrors must be suspended for vibration isolation purpose.
 - Suspension chain
 - Test-mass suspension
 - Seismic isolation platform
 - Payload (Cryogenic for LF)
 - Other large optics payloads
 - Auxiliary suspensions
 - Production and assembling Tools for the TM suspension
 - Front end analog and digital electronics
 - Cabling
 - Modeling and Simulations
- Optics: optical elements (including mirrors) must reach a figure accuracy and roughness at the limit of polishing capabilities; laser stability and beam purity are essential.
 - Core Optics
 - Lasers
 - Input and Output Optics
 - Quantum noise reduction
 - Wavefront sensing and control
 - Scattered Light
- Interferometer: the complete optical layout needs his own control and calibration system
 - Observatory Design and Noise Budget
 - Optical Layout Sensing and Control Scheme
 - Data Acquisition and Real-Time Control
 - Calibration
 - Noise Characterization
 - Modelling and Design Tools
- Vacuum & Cryogenics: High Vacuum (10^{-10} mbar) is needed all along the interferometer piping; cryo temperature is required inside the mirror towers.
 - Tower Vacuum
 - Pipe Arm Vacuum
 - Cryostats and Cryopumps
 - Cryogenic Payload (for LF)
- Active Noise Mitigation: in addition to the mirror suspension, active system is required to reach the specified level of noise reduction
 - Newtonian Noise
 - Environmental Sensors
 - Suspensions
 - Magnetic Noise Mitigation
 - Seismic Platform SPI
 - Low-Frequency Control Noise

ET infrastructure

- Underground Civil Engineering
 - Access
 - Boreholes
 - Tunnels
 - Caverns
- Underground Technical Infrastructure
 - Electrical Distribution
 - Underground Cooling and Ventilation
 - Underground Access
 - Underground Warning Systems
 - Water Management
 - Underground Transport
 - Scaffolding
 - Infrastructure Sensors
 - Vacuum Infrastructure
 - Cryogenics Infrastructure
 - Cleanroom Equipment
 - Miscellaneous
- Surface Civil Engineering
 - Buildings
 - Roads
 - Natural Areas
 - Transport
 - Software
- Surface Technical Infrastructure
 - Electrical Distribution
 - Surface Cooling & Ventilation
 - Surface Access
 - Surface Warning Systems
 - Water Management
 - Scaffolding
 - Vacuum Infrastructure
 - Cryogenics Infrastructure
 - Cleanroom Equipment
 - Miscellaneous