

Possible discussion points



- > ET Geometry
- > Timing
- > Bidbook content
- ➤ Estimation of ET performances considering Site characteristics within the ET Collaboration body already set
- > Interaction with ETO and ET Collaboration

ET Geometry



➤ET geometry is still under discussion. As set by the ET Collaboration, Site Characterization have to take into account both possibilities

Timing



- > Many timeline, which is the most realistic one?
- ➤ host team timeline should be in agreement with the one expected by the ET Collaration/Organization

ET-PP – WP4 Timing



WP4 Gantt chart. Starting date assumed to be 1-Sept-2022.

□WP4. Site Preparation					
Start of ET-PP		2023	2024	2025	2026
M4.1 Document detailing the site-specific characteristics					
M4.2 Common methodology to estimate impact of site characteristics on ET sensitivity	<u></u>	1			
D4.1 Scan of legal procedures					
D4.2 Updated socio-ecnomic impact studies				Ĺ	
D4.3 Complete quantification of all the aspectes impacting the Einstein Telescope performances				—	
D4.4 3D geology, hydrogeology, etc model				T	
D4.5 Updated cost and schedule estimates of the excavations.					Ĭ

Candidature Bidbook: measured noise



Long term measurement (at least two years, 3 broadband component)
□ 10th, 50th and 90th percentile of the acceleration proper spectral density (PSD) has to be assessed in the 10 ⁻² - 20 Hz band. The PSD should be calculated following the McNamara & Buland method with a 1800 s window and 50% (900 s) overlap. Underground borehole installation should be always paired with a surface-level installation
Correlations between the seasonal variations of the microseismic peak and the storm surge or wave heights in the surrounding oceans.
☐ Effects of regional and local seismicity. Catalogue of events, including the peak ground acceleration (PGA) or peak ground velocity (PGV).
effects of the teleseismic phase arrivalsET Duty-cycle estimation for specific scientific target

Candidature Bidbook: measured noise



	hort-term measurement
	☐ an estimation of the surface wave dispersion curve
	☐ the characterization of seismic sources
	☐ study of local sources
≽ g	ravimetry & geodynamics studies
	☐ the local and instantaneous gravity variations
	☐ gravity anomalies in the area of interest
	the strain, strain-rates and tilt variations measured on the Earth surface and eventually below the surface
> m	nagnetic noise
	at least 2 magnetic field probes with very high sensitivity in the ELF band (intrinsic noise levels as low as 10-4 nT/Hz1/2 at 1 Hz)

Candidature Bidbook: ET performances



- ➤ A statistical study of the resilience of the detector to the disturbances by taking into account the ET design sensitivity for specific scientific targets.
 - ☐ ET sensitivity
 - ✓ site noise breakdown contributions
 - uduty cycle over the time period under consideration

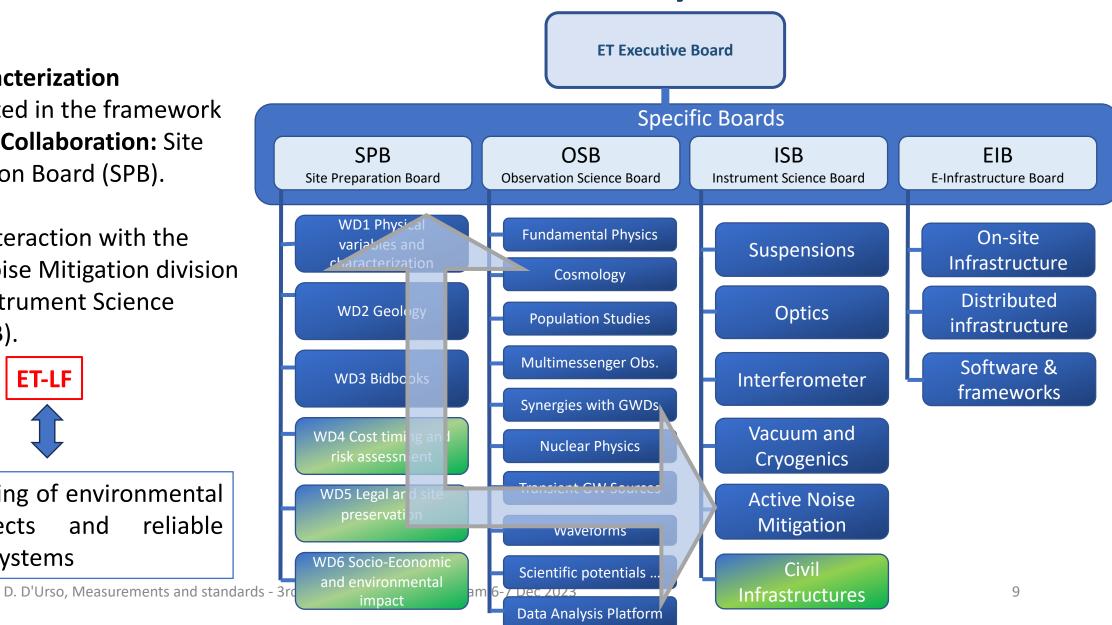
Estimation of ET performances considering Site characteristics within the ET Collaboration body



- SiteCharacterization coordinated in the framework of the **ET Collaboration**: Site Preparation Board (SPB).
- > Strong interaction with the Active Noise Mitigation division in the Instrument Science Board(ISB).

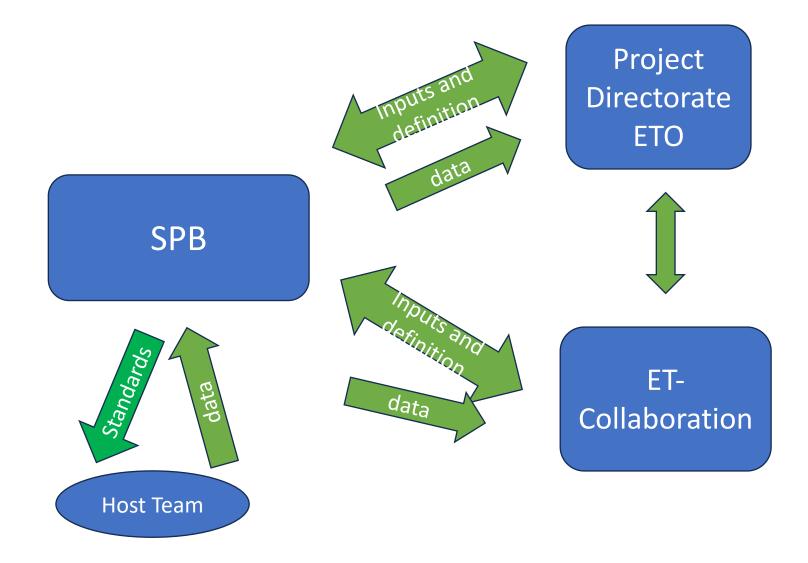
ET-LF

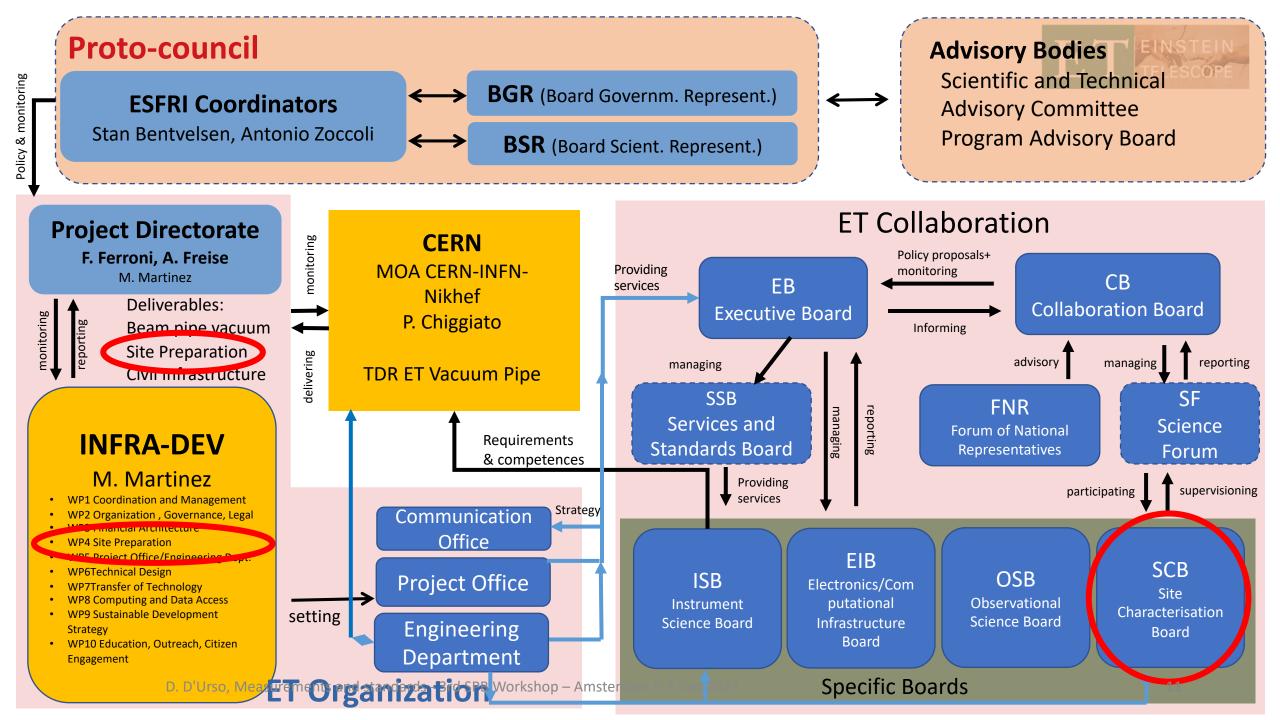
understanding of environmental noise effects reliable and mitigation systems



Interaction with ETO and ET Collaboration ET







INFRADEV: ET-PREPARATORY PHASE



- ➤ ET governance
- ➤ Legal framework
- > Financial Model
- ➤ WP4: Site characterization
- ➤ Project Office & engineering
- ➤ Technical design
- **≻**Innovation
- ➤ Computing Model
- ➤ Sustainability Strategy and Environmental impact
- **≻**Outreach

