

## *S2 – Supplementary Material*

### *List of the topographic (A) and bathymetric (B) instruments*

#### A – Topography

Topographic surveys were performed using LEICA 1200 GNSS RTK Portable receiver

#### B – Bathymetry

Bathymetric surveys were performed as indicate: the vessel positioning supplied by the real-time kinematic-global navigation satellite system (RTK-GNSS) receiver TRIMBLE SPS551 double frequency L1/L2, with correction supplied by UMTS Rete GPS Puglia via the NTRIP system. The position of the vessel was transmitted to the navigation PC equipped with the acquisition/navigation software TELEDYNE PDS 2000 during the field surveys. MBES data were acquired using a beam open of 0.5° and a swath angle of 120°, at a depth accuracy of 10 cm, operating at 450 kHz frequencies with a ping rate up to 30 Hz. MBES data were processed using CARIS HIPS (professional hydrographic processing software) to produce a digital terrain model (DTM) that was mapped and described using morphometric characterization at a 0.1 m cell resolution.

R2SONIC 2022 Multibeam Echosounder 256 beam per swath 455 kHz – 180 kHz selectable operational frequency (w\ High Density option – 1028 beams per swath, snippets and backscattering data acquisition option).

R2SONIC IN2S GNSS double receivers + MRU inertial motion reference unit +FiberOptical Compass Integrated system

VALEPORT Mini SV continuous SV velocity Probe

IDRONAUT Ocean Seven 310 CTD

TELEDYNE PDS 2000 Professional Hydrographic Data acquisition software

TELEDYNE CARIS HIPS Professional Hydrographic Data Processing software