

Infrastructure (short name)	OGS-North Adriatic Coastal Observatory (OGS-NACObs).	
Installation (short name)	OGS-Oceanographic Calibration Centre (OGS-CTO).	
Location	Mediterranean Sea, Adriatic Sea, Trieste.	
Legal name of organization	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS.	
Location of organization	Trieste, Italy.	
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Web site address	http://nettuno.ogs.trieste.it/jungo/cto/index_eng.html	

Description
<p>The OGS-Oceanographic Calibration Centre (OGS-CTO) is the oceanographic testing and calibration facility of the Department of Oceanography of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS). It provides the Department with the scientific and technical infrastructure necessary for making and guaranteeing high-quality observations of the marine environment in a way that continuously meets recognized international standards of excellence. A critical element of the services offered is the ability to calibrate and maintain sea-going instrumentation efficiently. The facility is run applying relevant international guidelines and protocols as much as practically possible in order to assure conformity or, at least, compatibility, with the regulatory standards governing this kind of activity worldwide.</p> <p>The OGS-CTO is supervised and manned by a small team of experienced technicians, the Department of Oceanography's Calibrations & Testing Operations Group (CTO Group) headed by Mr. Nevio Medeot, which also oversees the facility's scientific and technological development.</p> <p>Currently, the OGS-CTO can provide high-calibre temperature and conductivity calibrations able to meet the demanding oceanographic measurement specifications for these parameters. It is also capable of performing functional tests, evaluations and validations of instrumentation used for measuring other commonly monitored parameters like turbidity, pH, etc.</p>
Service/s offered
<p>Marine temperature and conductivity sensor calibrations (with the support of OGS-CTO personnel). <i>Kindly note that the calibration of one pair of temperature and conductivity sensors normally takes about five working days.</i></p>

Instruments/Sensors

Current capabilities for temperature and conductivity calibrations:

Table 1. The laboratory instrumentation and reference material constituting the calibration set-up for **conductivity**.

Test instrumentation	Specifications
Hart 7052 Seawater Calibration Bath	Range: -10.00 - 110.00°C Stability: >±0.001°C
Guildline 5010 Seawater Calibration Bath	Range: -9.90 - 65.00°C Stability: ±0.002°C over 24 hours
Hart 1590 Precision Digital Thermometer with Metal-sheath SPRT (Rosemount 162CE / Hart 5699)	Range: 0.00 – 30.00°C Accuracy: > ±0.0015°C
SBE41 CP-OGS Conductivity & Temperature Monitor	Range: 0.00 – 60.00 mS/cm Accuracy: > ±0.003 mS/cm
Laboratory Salinometer (Guildline Autosal 8400B)	Range: 0.005 - 42 psu salinity Accuracy: > ±0.002 PSU over 24 hours
Portable Salinometer (Guildline model 8410)	Range: 0.004 - 76 mS/cm Accuracy: ±0.003 PSU

Reference Material

IAPSO Standard Seawater

Table 2. The laboratory instrumentation and reference material constituting the calibration set-up for **temperature**.

Test instrumentation	Specifications
Hart 1590 Precision Digital Thermometer with Metal-sheath SPRT (Rosemount 162CE / Hart 5699)	Range: 0.00 – 30.00°C Accuracy: > ±0.0015°C
SBE41 CP-OGS Conductivity & Temperature Monitor	Range: 0.00 – 30.00°C Accuracy: > ±0.003°C
Hart 7312TPW Maintenance Bath	Range: -5 – 110°C Stability: ±0.001°C at 0°C
Hart 9230 Ga Cell Maintenance Bath	Range: 15 – 35°C Stability: ±0.02 °C

Reference Material
Two Jarrett B13 and one Hart 5901, TPW Cells Hart 5943, Melting Point of Gallium Cell Standard resistors(L&N 4030B / Guildline 9330 series)

Uncertainty:

Temperature:

Expanded Measurement Uncertainty (95% level of confidence; $k = 2$) for reference temperature: 0.0030 °C (ITS-90).

Conductivity:

Expanded Measurement Uncertainty (95% level of confidence; $k = 2$) for reference conductivity: 0.00034 Siemens/m (0.0034 mS/cm).

Special owner rules

- The responsibility of the OGS-CTO shall be limited to the correct and scrupulous execution of the requested service/s, including the supervision of consigned sensors/instrumentation when they are on its premises. The OGS-CTO shall not be held liable for any other kind of responsibility relating to defects, faults or malfunctions of the delivered sensors/instrumentation, including those that may arise from packing/unpacking, handling by unauthorized persons and shipping operations.
- The OGS-CTO shall not be held liable for any damage that may occur to consigned sensors/instrumentation during the execution of the requested service/s resulting from pre-existing defects, faults or malfunctions of the same (for example, corroded connectors, defective o-rings, improper maintenance, etc.). Any extraordinary repair or maintenance requirement arising in the performance of the specified service/s shall be communicated immediately to the TNA Beneficiary; all such requirements will be itemized and costed separately, and action will be undertaken only upon receiving express permission to proceed from the Beneficiary.
- In case of unexpected or unpredictable events that could render temporarily impossible the completion of the services requested in the assigned time-frame, the resulting delay will be communicated to the TNA Beneficiary, without this being the reason or motive for claims for damages or any other similar initiatives on the part of said Beneficiary.