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Press release

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IOGP publishes a second Technical specification for calibration and verification of offshore surface survey and positioning systems

(London) Efficiency and standardization continue to be key watchwords for the industry as it strives ever harder to deliver low-carbon, safe, and efficient energy sources to the world.

After the success of its first Common Industry Technical Specification for USBL acoustic positioning systems, for which all major operators present in the IOGP Geomatics Committee have confirmed plans for adoption, the Committee is supporting the efficiency drive by publishing a second. This technical specification covers calibration and verification requirement for survey systems across the marine surface positioning domain. As with the USBL specification, the Expert Group that delivered the specification comprised specialists from the operator (purchaser) and contractor (supplier) domain, with additional input from key manufacturers. This ensured existing industry knowledge and best practice were leveraged to deliver a harmonized, practical and common survey and positioning specification.

The aim of IOGP's common industry specifications is improved efficiency, and cost reduction, increased quality, reliability, consistency and repeatability of results. This is achieved through a common approach to contractor delivery and operator acceptance of calibration and verification results, helping to reduce vessel mobilization time. The expectation is that these technical specifications, approved and accepted across the operator community, are implemented by the industry through operator contracts in the seismic, site survey, rig move, construction, and inspection domains. IOGP expects the survey system specification to support efficiency gains in these activities, via the following improvements:

- reduce vessel time for survey calibrations, and requirement for repeated "project" calibrations
- eliminate calibration/verification activities from critical path
- reduce or eliminate contingency time from tender/project schedules
- reduce HSE exposure from quayside activities and vessel time
- avoid duplication, competing and inconsistent specifications

The technical specification will cover Global Navigation Satellite Systems – GNSS, which includes not only the ubiquitous United States 'GPS', but also other existing and emerging global satellite positioning systems such as Glonass (Russian), Compass/Beidou (Chinese), and Galileo (European). It will additionally cover vessel attitude and heading reference systems (AHRS - gyrocompasses, pitch & roll sensors, etc.), and Inertial Navigation System (INS), which provide critical and highly sensitive inputs to accurate surface positioning.

Also included in the specification is the 'online survey & positioning system', which integrates all the positioning inputs to make sense of them all and outputs key results and status, and live visualization of the survey/positioning operation via the navigation screens. This system is the core of the surface positioning process and has a number of elements that require careful verification, including geodetic parameters, sensor and vessel offsets, calibration results, and sign conventions.

It is worth emphasizing that almost all subsea positioning typically relies on accurate surface positioning, and thus the activities covered in this specification are also relevant to the majority, if not all, subsea positioning operations.

IOGP would like to acknowledge IMCA's Offshore Survey Division Technical Committee's significant contribution to the initiative.

This technical specification may be downloaded from the IOGP Publications library: https://www.iogp.org/bookstore/product/technical-specification-for-calibration-and-verification-of-offshore-surface-survey-and-positioning-systems.

For more information about the IOGP Geomatics Committee work please visit: https://www.iogp.org/workstreams/engineering/geomatics.

About IOGP

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Our Members produce 40% of the world's oil and gas. They operate in all producing regions: The Americas, Africa, Europe, the Middle East, the Caspian, Asia, and Australia.

We serve industry regulators as a global partner for improving safety, environmental and social performance. We also act as a uniquely upstream forum in which our members identify and share knowledge and good practices to achieve improvements in health, safety, the environment, security, and social responsibility.