International Association of Oil & Gas Producers

City Tower
40 Basinghall Street
14th Floor
London EC2V 5DE
United Kingdom

T +44 (0)20 3763 9700
F +44 (0)20 3763 9701
reception@iogp.org
www.iogp.org

**FOR IMMEDIATE RELEASE**

## Contact

Lucyna Kryla-Straszewska
Principal Manager – Geomatics and Digital Transformation
lks@iogp.org

# IOGP Introduces Material Digital Passport System to Combat Material Fraud and Promote Circular Economy

(London) Material fraud has long been a significant issue in the energy industry's supply chain, leading to financial losses and safety risks for the end users on the one hand, and to liability issues and ultimately reputational damage to the suppliers on the other. At the same time, traceability and collection of information of the origin and subsequent lifecycle processing of material and components is a key enabler for promoting circular economy. Overall, a growing demand for tamper proof and trustworthy evidence of the provenance and lifecycle of components that are installed and operated on energy assets has been observed in the industry.

The Digital Transformation Committee of IOGP has answered this demand by establishing its first Joint Industry Sprint, the JIS01, bringing together experts from leading energy companies, certification companies, and solution developers. The task of the JIS01 over the last several months has been to develop a framework document establishing the requirements for a tamper proof and interoperable Material Digital Passport (MDP) system that can be used by stakeholders in the energy industry.

The efforts of the JIS01 have just culminated in the release of IOGP latest publication, report 600-01 "Material Digital Passport (MDP) system specification".

## A common set of requirements

Report 600-01 defines the requirements necessary to develop a Material Digital Passport (MDP) system, developing a framework to address the challenges of tracking and verifying the provenance of procured items in the energy industry supply chain. In its essence, a Material Digital Passport is an "electronic lifecycle record" associated with procured items. It collects and stores a set of tamper-proof information about such items, with guarantees on the provenance and authenticity of the information, ensuring end-to-end traceability across project execution and asset operations. Once the system is implemented, companies can benefit from cost reductions driven by trusted provenance of the items and by digitalized workflows.

The system is defined through a set of requirements, which are relevant for different stakeholders in the energy sector's supply chain, including those involved in the procurement, manufacturing, and operation of equipment and commodities, as well as developers of the digital solutions that will implement the Material Digital Passport system.

## Key Features

The specification is articulated in 3 Sections and 4 Appendices. Beside the introduction of Section 1, the core of the document is Section 2, which defines the requirements for the main features of the MDP systems, namely:

- General premise and requirements, which contains the overall working principles and concepts of the MDP.
- Identification code requirements, which details how components are uniquely identified.
- Data Carrier requirements, which establishes how items are physically marked with a dedicated data carrier.
- Information requirements, which provides the description of data to be collected in the MDP for each item. These requirements are complimented by Appendix A and Appendix B, which give details on each specific piece of information to be collected, the responsibility for collection and verification, the requirements for data update and maintenance, etc.
- Digital platform requirements, that provides the requirement for the web-based platforms that are used for creating, accessing, maintaining and transferring the MDPs.

A reference architecture and use case are then presented in Section 3. Beside Appendix A and B already described above, Appendix C provides a high-level reference standardized API to be used for interoperability of the MDP platforms. Finally, Appendix D is a mapping of the MDP data with the Reference Data Library of JIP36, IOGP Joint Industry Programme on Capital Facilities Information Handover Specification (CFIHOS).

## Publication

The specification has been developed as a joint effort of the participating companies, and the approach has been discussed with interested stakeholders through a series of open webinars and workshops. Before publication, the document has been subject to a public review period. The valuable comments and suggestions coming from these public consultations have been included in the specification.

The publication is freely available via the IOGP bookstore at https://www.iogp.org/bookstore/product-category/digital-transformation.

For more information please visit:

- IOGP Digital Transformation Committee page https://www.iogp.org/workstreams/engineering/digital-transformation/digital-transformation-committee-overview/
- MDP page https://www.jis01-mdp.org

## About IOGP

With over 90 Members, IOGP fosters dialogue and knowledge exchange, incorporating industry expertise to solve common industry challenges, as the global voice of our industry, pioneering excellence in safe, efficient and sustainable energy. For 50 years IOGP has served the upstream industry as a unique forum to share know-how and good practices. It aims to enhance understanding of the critical role the oil and gas industry plays in the energy transitions to a low carbon energy future.