

Package Number	TBA
Package Name	FPSO Physical Digital Twin and Engineering Information Management System
Scope of Work (* To be confirmed)	<p>1) The Supplier shall develop, build, and implement a Physical Digital Twin that consists of a 3D graphical representation of the FPSO physical assets with tag-based links to design, real time operation and maintenance data to the following:</p> <ul style="list-style-type: none"> a) The Physical Digital Twin is a true-to-life interactive graphical representation of the Barossa FPSO, which shall be built from 3D engineering Model. The Graphic interface at the front end shall be having dynamic linkage to live engineering information management databases. b) The Physical Digital Twin shall be a proven solution, access provision from multiple geographical location used for collaborative engineering discussions. c) The Physical Digital Twin shall be developed to facilitate users for searchable tagged items efficiently minimizing the time spent finding relevant FPSO equipment data for enhanced decision-making capabilities and therefore the twin solution shall capture, connect, access, visualize and assess data from all possible sources accurately. d) The Engineering Information Management Software shall be developed for interface the data warehouse, the source of engineering master data and documents. The Company identified data warehouse is IFS, although to be evaluated for compatibility and interface with Physical Digital Twin. e) Physical Digital Twin shall interface with the Engineering Information Management System, to support work planning, SIMOPS, including maintenance and minimize FPSO site visits. f) The Physical Digital Twin shall be capable of synchronizing document and data exchange with COMPANY's inhouse developed Engineering Information Management System database for document and data come from multiple sources (e.g. IFS, PDMS) collated into single repository for easy access and retrieval by end-users to maintain consistency. <p>2) The Company has a existing identified data warehouse, IFS, which performs some aspects of the Engineering Information Management System required. Supplier shall provide a compatible Engineering Information Management System to provide the additional functionality to meet the required function specifications in support of IFS.</p> <ul style="list-style-type: none"> a) Storage of all the "static" master engineering data and document links on a TAG centric basis. Used as the source of truth for number of other systems. b) Manage asset data, documentation, and records across the asset lifecycle. c) Manage information structure for all assets, and the relationships that exist between asset data, documents, projects, and people to create a connected information environment. d) Spatially aware so that information can be integrated with 3D engineering models to support the PDT. e) The Engineering Information Management System shall be able to be integrated with IFS and the Physical Digital Twin.

- 3) Scope of work includes hardware and software as applicable and as required to meet the above requirements.
- 4) The solution provider scope includes training and support approach through the satisfaction to users.
- 5) The Physical Digital Twin design shall be designed to meet the requirements of Cyber security in the oil and gas industry based on IEC 62443 – DNVGL-RP-G108, which in turn is based on the requirements of IEC 62443.
- 6) The Supplier shall be responsible to demonstrate acceptance test procedures both Factory Acceptance Test and Site Acceptance Test.

Estimated contract award: Q1 2022 *

Estimated delivery: Q4 2023 implemented onboard vessel whilst in Singapore & within operational offices in Australia*

Project Registration

Santos is committed to ensuring Australian Industry the opportunity to participate in the Barossa Project. Expressions of Interest are invited from contractors and suppliers with the relevant capability and capacity to undertake the scope of work.

This is a request for specific expressions of interest. Contractors and suppliers will be considered for prequalification and tender if suitably qualified against this package.

Note that an important part of the project registration process is to register an Expression of Interest at the correct Scope level.

Scope level definition:

Full scope: Able to produce / supply all the package.

Partial scope: Able to produce / supply one or more of the sub-packages.

All registrations are to be completed via ICN Gateway BarossaOffshore.icn.org.au. Please contact the ICNNT if registration assistance is required. Contact details: (08) 8922 9422 [or resources@icnnt.org.au](mailto:resources@icnnt.org.au).

Project Website: Santos Australia