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## **Integrity Management Services for Floating Units from Design to Decommissioning**

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### **Abstract**

By reviewing the process of Asset Integrity Management applied from the design phase, continued through the in-service life and obsolescence considerations for decommissioning, this paper presents a view of managing the safety and operational efficiency of floating structures.

The paper will go through the presentation of a didactic process ensuring the Asset Integrity of the structure in answering a few questions:

- ❖ How to ensure a correct knowledge of the offshore facilities' condition?
- ❖ What are the main degradation processes threatening the facilities?
- ❖ What will be the response of a facility to the main threats over the years?
- ❖ How to implement a cost-effective Inspection Strategy?

Answers to those questions will involve various services embedded into a global Integrity Management process such as CFD and hydrodynamics, structural FEM calculations, condition monitoring, Risk-Based Inspection strategy and 3D geometric models for visualization and reporting.

Established at design phase and updated during the in-service life of the Unit, this global Asset Integrity process for the structure will support and optimize the inspection programme based on risk considerations by focusing on the most critical elements to the safety.

Besides an OPEX cost reduction by optimizing the inspection efforts, the engineering services that are parts of the Asset Integrity Management are fully embedded into that global process. This brings another cut in costs by saving time and thus cost when performing engineering analysis.