Realizing Value from Implementing i-fieldTM in a Deepwater Greenfield in Offshore Nigeria Development

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Digital oil field (DOF) in the upstream industry has gained momentum in the last few years and has transformed from being a vision to actual projects that have measurable value. The ultimate goal in DOF projects is an integrated approach towards decision making and control of asset management in relevant time. This paper describes the successful methodology adopted for implementing i-field™ in Agbami—namely, identification, prioritization, and implementation of relevant workflows.

The Agbami field, located in deepwater offshore Nigeria, is a subsea development that incorporates crestal gas and peripheral water injection. It is located in ~1,500m of water depth and consists of a 38 well program. The well completion incorporates intelligent well completions (IWC). These downhole accessories are managed using electric and hydraulic controls/instrumentation with subsurface, subsea, and topsides data acquired and transmitted to a central-data historian on the FPSO in relevant time. The implementation of a robust architecture for a data and information management system involving acquisition, processing, storage, and replication is conceived to be the foundation upon which asset management workflows are implemented.

The benefits from implementing i-field™ in Agbami include reduction in lost production opportunity (LPO), better long-term reservoir management, and production-rate balancing. Based on field experience, this paper discusses the approach towards value realization of the i-field™ system. Critical success factors and lessons learned during deployment are also presented.