

Lessons Learned From World-Wide Deployments of Model-Based Real Time Production Optimization Solutions

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ABSTRACT

The paper discusses the enterprise-wide digital oil field deployment experience and criteria that form the Real-Time Production Optimization (RTPO) strategy within the Chevron i-field® program from 2007 to present. The implemented solutions themselves provide a common platform for accessing and integrating real-time field and well performance data with predictive modelling results. The i-field® program combining the digital oil field architecture transcend the boundaries that separate engineering disciplines, providing a physics based integrated asset-wide platform and data management system capable of empowering high-frequency real-time data. The automation of data transfer and physical model up-dating through the i-field® program has enabled engineers to have more time to perform business critical technical tasks. The paper continues to discuss the business metrics and value gained from the deployment of RTPO systems, including recommendations for promoting successful deployments. The historical phases and evolutions of the programme have led to development of key stages of deployment including;

1. Opportunity identification

- What business objectives are met through the use of the RTPO solutions?

2. Solution scope definition

- Which existing workflows can tackle 80% of the identified opportunities and whether there is value in the creation of new workflows?
- Ensuring that business objectives are being addressed through joint leadership between asset team and central team.

3. Design and deployment

- Creating a timeline for hardware, installation, data quality checks and workflow validations.
- Testing the deployment with synthetic data before the final rollout is conducted.

4. "Go-Live" and stabilisation

- Once the system is live, ensuring good participation in the project through knowledge transfer and 'ownership'.

The lessons learnt primarily outline the need to maintain focus on the objectives outlined and ensuring the personal ownership/support of all the stakeholders. Through ownership, there is a drive to develop new appropriate skills, foster practitioners within asset teams and drive value-adding improvements.

The need to keep continuity in momentum is also stressed, particularly shortly after the go-live period. Finally, it is also mentioned that whilst standardisation is being driven across the deployments, there still needs to be space/balance for innovation.