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Hydrocarbon Excellence

CASE STUDY

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CASE STUDY

LEADING INDEPENDENT OIL AND GAS PRODUCER IN THE ASIA-PACIFIC REGION STANDARDISES ON ENERGYSYS PLATFORM

KEY HEADLINES

Delivered a system that captured Operational, Geographical and Commercial Complexity of upstream asset with over 1000 wells

Reviewed and optimized hugely complex commercial and sales agreements and coded these into the system.

Created a platform to support a fully integrated production management framework (PMF) including forecasting, loss management,and allocation.

THE CASE

The Australian client, with one of the largest exploration and production acreages in Australia, supplies domestic markets with pipeline gas and oil, as well as creating significant value through liquefied natural gas (LNG) operations in Queensland with LNG exported from Curtis Island. The client has both operated and non-operated interests with numerous Joint Venture (JV) arrangements. In 2018, the client took a corporate-wide decision to replace their existing hydrocarbon accounting system with the EnergySys platform. The client had made a significant investment in the legacy system in 2007, but were convinced that EnergySys provided a technically superior, transparent solution as well as lower future total cost of ownership. The key to success centred around the ability to implement EnergySys quickly and efciently, whilst ensuring full integrity of the new system as far as commercial allocations, sales contracts and agreements was concerned. The sheer size and complexity of the client's operations and commercial agreements was something that required industry leading expertise as well as a highly collaborative approach between the client, EnergySys developers and Elite as the implementation partner.

ELITE'S ROLE

Elite were responsible for the successful EnergySys implementation and transition across from the old system.
The key stages of the project included;

1. Business process mapping / review for allocation and reporting
2. Risk assurance for commercial allocation and sales agreements
3. Design of the new allocation philosophy
4. Implementation of the EnergySys platform
5. Co-development of reports using Power BI tools
6. Functional design for EnergySys expansion to cover forecasting and loss management

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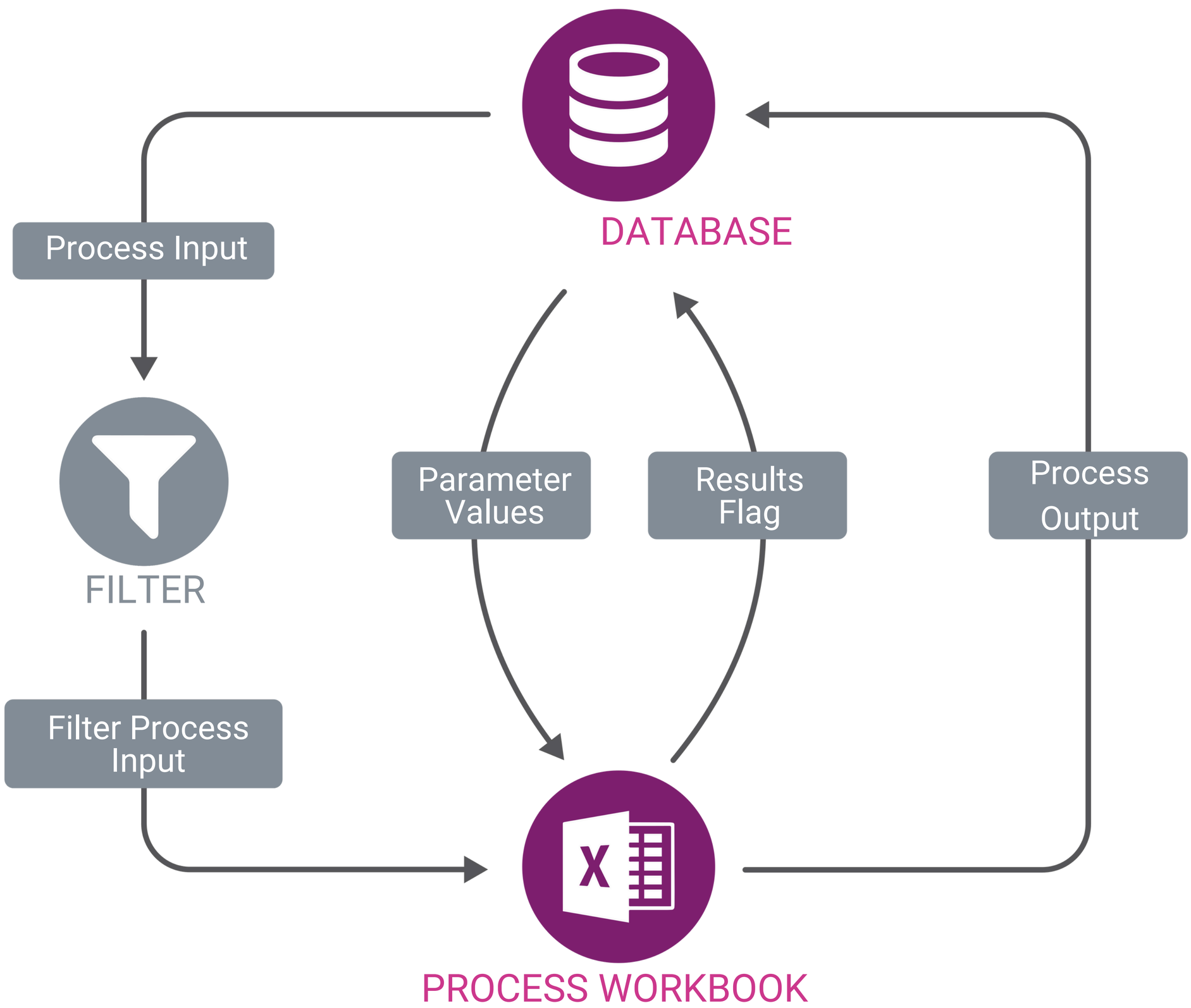
1. BUSINESS PROCESS MAPPING

Correctly capturing the existing business process and reviewing this is a crucial first step to ensure successful system transition. Elite recognized the importance of a business process led transformation rather than simply implementing the product and trying to make it fit. The client had a wide variety of asset types; conventional / non-conventional reservoirs, upstream and midstream assets, oil, gas and condensate, onshore and ofshore, so it was necessary to drive process consistency and standardization where appropriate, whilst also recognizing the asset specific needs and local requirements.



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2. RISK ASSURANCE FOR COMMERCIAL ALLOCATION AGREEMENTS

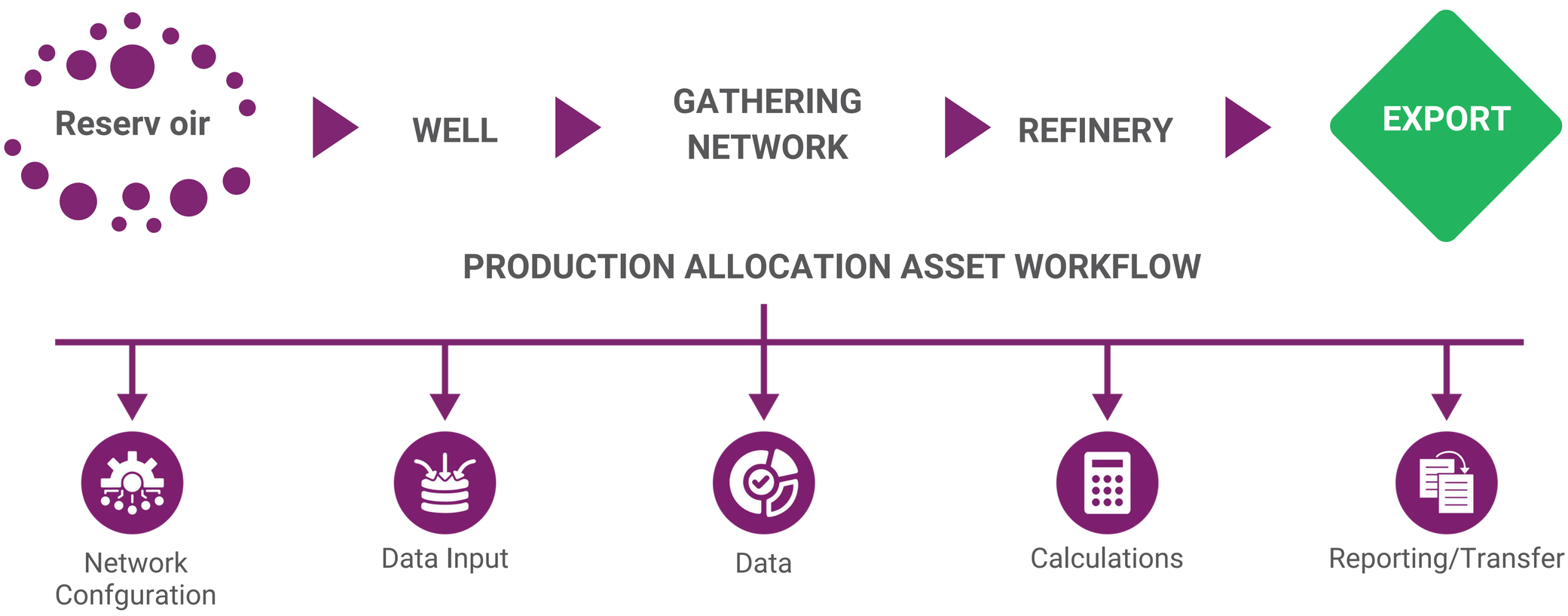
Elite consultants undertook a detailed technical review of over 20 highly complex commercial agreements. Examples being; COSPA agreements (Crude Oil Sales and Purchase Agreements), transportation agreements, gas sales agreements, and liquid product sales agreements. These agreements were some of the most complex Elite had ever encountered. This required a re-validation process to confirm these agreements were accurately translated into a technical specification for configuration in EnergySys. Elite delivered value for the client through this assurance process as well as identifying areas for simplification.

3. DESIGN OF NEW ALLOCATION PHILOSOPHY

A number of new allocation philosophies were discussed with the client in order to improve upon the old system. One example of this was amendments to the liquid allocation process for FIFO (First In, First Out). The FIFO allocation process tracks the ownership of liquid products from wells through to the tank farm and on-board export tanker. The number of FIFO queues were reduced.

4. IMPLEMENTATION OF NEW ENERGYSYS PLATFORM

Once all the agreements were re-validated and allocation methodologies finalised, the EnergySys solution could be implemented. One of the key characteristics of EnergSys calculation engine is that it is developed via a series of process workbooks. These workbooks make calculations easy to implement, review and test in a structured manner. This dramatically reduces implementation time for the system and cost. The solution integrates with the client data historians to pull in meter data from wells, pipelines and facilities and then runs the allocations with this data. A full audit trail exists for any data changes and adjustments as part of the allocation process.



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5. CO-DEVELOPMENT OF REPORTS USING ENERGYSYS PROCESS

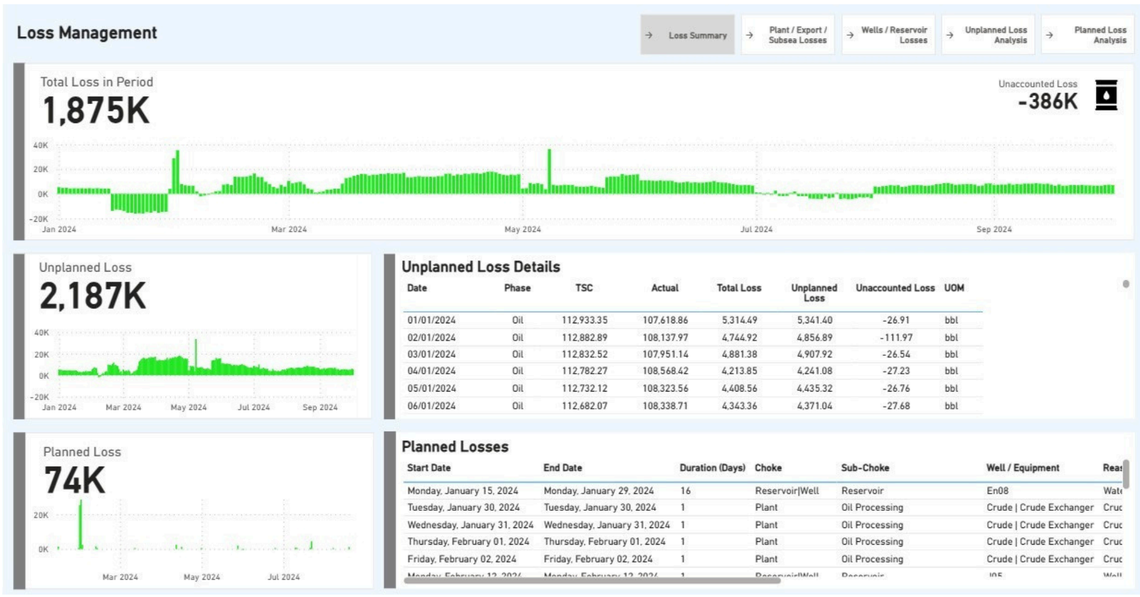
REPORTS/POWER BI TOOLS

Production Summary

Budget &Forecasts

Production Analysis

Loss Management



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6. FUNCTIONAL DESIGN FOR ENERGYSYS EXPANSION

Whilst the initial core focus of the project was around Allocation & Reporting, Elite's consultants configured the system in a way that supported easy expansion and transition to a full Production Management Framework (e-PMF) and alignment to the client's corporate production management standards. The project subsequently moved into the areas of forecasting and loss management, allowing forecasts to be generated or data to be loaded from external forecast applications. The recording of planned forecast impacting activities allowed comparison with actual durations and production losses of these activities in an objective and structured manner.