Production Data Management Dramatically Increases Performance

Case study: PDMS reduces data reporting costs by USD 2 million per year for Oil & Gas Development Company Ltd. (OGDCL) of Pakistan

**Challenge**
Enable direct data capture and validation from field locations; motivate and train user base at field level and head office to implement consistent workflows for production data collection, allocation, and reporting.

**Solution**
Implement production data management system (PDMS) to collect, transmit, and store production- and operations-related data.

**Results**
Reduced production data reporting and search times by 50%, increased accuracy in data by more than 99%, and improved production workflows.

**Develop workflow to improve data management**
Existing methods of production data management at the Pakistan-based Oil & Gas Development Company Ltd. (OGDCL) were manual and inconsistent. Incomplete data resulted in time-consuming and unreliable generation of reports and graphs. An efficient workflow was required that included:
- network and facility visualization
- data entry from field locations
- data validation
- standard back allocation methods
- reporting capabilities
- an interface to other applications.

The system also needed to motivate personnel and train them in order to enhance governance systems and decision-making practices, correspond to the country's regulatory framework, and stay abreast of the Global Depository Receipt (GDR) listing requirements for enrollment at the London Stock Exchange.

**Deliver solutions through proven technology and methodology**
OGDCL awarded a contract for an enterprise-wide PDMS solution—the first of its kind in Pakistan—to Schlumberger Information Solutions. The initial step was to enable direct data entry from field locations using third-party remote application-sharing software. Avocet® Data Manager production software was selected to model and graphically visualize field facilities, load data, and set the stage for accurate reporting and back allocation.

A quality control and validation system applied checks in different data entry fields in the form of thresholds.

Facility modeling, back allocation, and network visualization of OGDCL's fields.
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“Providing a road map for real-time decision making by bridging the gap between operations and management, adding value to the data generated, and assisting in optimizing production through effective monitoring are some of the key features of [the OGDCL] PDMS.”

Amjad Yazdani
Manager, Production Surveillance
Production Department, OGDCL

“Although the project business case aimed to reduce data search time by 50%, we witnessed that this target fell far short of the gain that was actually achieved…raw data entered into the system was 97.5% accurate, which we further improved and now stands at approximately 99.99%. This is well above the objectives set forth in the project business case.”

Mohammad Kaleem
Deputy Chief Engineer
Production Department
OGDCL

On-the-fly surveillance key performance indicators and reporting capabilities.

Back-allocation processes across production workflows provided more accurate measures of actual versus estimated production and losses, and production reports were standardized for daily generation from the PDMS system.

The production database enabled a painless querying and reporting process to identify and control costly issues such as downtime, production variances, and pressure anomalies. A central production datastore was provided by links to other production surveillance applications such as OFM* well and reservoir analysis software and Merak* planning, risk, and reserves software.

The entire PDMS project was executed under PRINCE2™ professional project management methodology, which provided a framework for the wide variety of disciplines and activities required within the project. Project deliverables, quality expectations, and adherence to the plan and business case were monitored and documented throughout the project to assure success.

**PDMS surpasses expectations**

The PDMS reduced projected data collection and reporting costs by USD 2 million per year. More than 200 users were trained, and efficient project management enabled on-time and on-budget delivery. The system

- reduced by 50% data searching and reporting time
- provided 99.5% data accuracy and confidence
- standardized improved production workflows across OGDCL
- rectified years of inaccurate production data
- standardized reporting formats.

The PDMS surpassed expectations, and a second phase is planned to include key i-field™ elements including real-time data access, production optimization, engineering, and portal integration. The new system solved production problems resulting from ineffective data management, and continues to advance OGDCL’s vision of becoming a leading oil company.