Abstract guidelines and examples

Guidelines

The technical tracks at the Forum will cover the following themes:

- Application of digital solutions for solving challenges across any aspect of the energy life cycle—from planning to execution in subsurface, drilling, production, facilities and energy transition.
- Innovative approaches to AI, data management, analytics, and digital twins that have resulted in clear business value once deployed.

Abstracts are due **by April 29, 2022.** Early entry is particularly important to ensure that committee members have ample time to review all submissions.

Abstract content

Abstracts should be written in English and run to a maximum of 500 words. Below is a short guide on the content required to compose a strong summary:

- The location of the study area, asset, project, or program
- The challenges and/or business drivers addressed
- The approach and any innovative workflows, solutions or methodologies used
- The results and insights gained
- Any subsequent results since the project was undertaken
- Closing remarks with recommendations that can be shared with peers

Abstracts should be submitted by the customer presenting at the Forum, please do not use an internal Schlumberger email address. Please do not include the title or author names in the body of the abstract, these will be requested separately through the submission system.

What are the benefits of submitting a paper proposal?

- One Courtesy registration to the Schlumberger Digital Forum if your paper is accepted
- Ability to share your expertise with more than 1,000 industry leaders, scientists, and engineers from across the industry at the event
- Access to a unique opportunity to network with an exclusive group of peers and play your part in shaping our industry’s future.

Abstract examples

First Cloud Native Collaborative Well Construction Planning Using Big-Data From Offset Wells to Maximize Results

As part of OMV digitalization program, well construction workflows and processes have been revised to ensure full coherency of the plan but through the connection to operational practices and experiences during the planning phase. The impact is improved quality drilling programs delivered collaboratively and more efficiently.

An important aspect of the planning process is to consume the offset well data available in the most efficient way, however this is not always an easy task for drilling engineers who normally perform this task manually. Moreover, the interoperability of the different engineering tasks is critical to maintain coherency all along the process. A new approach is presented where digitally connected solutions and processes, minimize the engineer effort towards data search, handling and loading to complete all engineering activities. Project orchestration adds further to project standards and efficiency.

Case studies will be used to present the advantages of using a cloud native collaborative solution, including the seamless capacity to manage design change validation, reducing the iterative process that currently exist using traditional solutions. The transfer of offset well data from the daily operations reporting system will be presented, providing a major step forward in democratizing the knowledge across the planning team and ultimately reducing the risk associated with specific operational learning.

By reducing the manual data handling between different teams and data sources, in addition to automation of several engineering calculations, the level of data coherency is elevated while significantly reducing the total man-effort required to complete a well plan. Company standards are easily enforced from top-down templates and corporate tasks, and the project orchestration provides with the real-time overview of the planning process.

This paper will review the transformation of the OMV well construction planning process and workflow and the implementation of DrillPlan, a cloud native collaborative solution in the context of planning several wells using a multi-domain and multi-location approach. Lessons learnt from use of the solution and performance benchmarking for the planning process will also be discussed.

Digital Field Development Planning – A collaboration between technology & process to enable fast & efficient field development planning

Field Development is the most capital-intensive part of the entire E&P lifecycle. It is a multi-year, capital intensive process to get to first production; there is no production revenue to offset expenditure in this phase of the E&P lifecycle. Many oil & gas projects during the development stage suffer material cost over runs and delays. The challenge is to create an environment to allow E&P companies to efficiently optimize their FDP process and align with technology that enables integration & collaboration between the different E&P domains. The environment should be agile to allow the team to quickly react to changing circumstances as well as providing in-depth understanding of the risks and uncertainties involved.

PETRONAS has a large portfolio of domestic and international oil & gas assets, and is one of the leading NOCs (National Oil Company's) in the world. With the ongoing recession in the market and depression of oil prices, it is even more important to fast track field development planning, while understanding the risk across domains, and recognizing value from investments in line with the initial plans. All FDPs in PETRONAS are governed by a standardized process called UPMS (Upstream Project Maturation System) that manages the stage gate maturation & tracking of development projects from feasibility to abandonment.

PETRONAS has embarked upon an initiative to explore solutions that would enrich their existing FDP processes & tools to provide integration, and generate efficiencies across multidiscipline E&P workflows and systems. A key objective is to also partner with a technology that leverages capabilities enabled by a Digital Cloud based solution.

One of the solutions that PETRONAS has recently pilot tested is FDPlan - Schlumberger's latest DELFI Native Digital Planning Application. Some of the key benefits provided and challenges address by FDPlan are as follows:

Project Orchestration: Building FDPs using multi discipline inputs & sensitivities
Managing & Framing: Capturing an Opportunity Framework and Concept Decision Options
Multiple Scenario Evaluation: Generating & evaluating several development options
Open Platform: Seamless connectivity & integration with other systems
Process Automation: Connect Technical Domain Inputs to Value Based Decision Making
Data Discovery & Benchmarks: Underpinned by Insights, Optimization & Advisory
Analytics: Enable powerful business intelligence & analytics reporting capabilities
Project Maturation Dashboard: Alignment with the UPMS process and management systems
Future Scalability: Expansion to Exploration, Drilling, Facility & Business Planning Workflows

DELFI evaluation: Learnings and Next Steps

Chevron has almost completed a corporate deployment of Petrel for interpretation and earth modeling users. We continue to assess workflow improvements leveraging new digital and cloud capabilities to provide improvements in value. Chevron's Energy Technology Company (ETC) is working with Schlumberger (and on the behalf of our Business Units) to manage a multi-disciplinary evaluation of Schlumberger's new DELFI ecosystem. The DELFI Cognitive E&P Environment is a full SaaS (Software as a Service) solution that will remove barriers that exist between disciplines and domains. It will improve integration and collaboration between the disciplines that will in turn generate new opportunities, revolutionize performance, and enable step-changes in efficiency and effectiveness. Chevron's evaluation is targeted at both understanding the current (and future) DELFI foundation and the value propositions for Chevron: how new capabilities will improve day-to-day work and help us make better informed decisions.

Chevron's evaluation team has written 26 different proof of concepts (POCs) that aim at testing very specific technical and workflow aspects of the solution. Three ETC departments are involved in the POC evaluations: Earth Science, Reservoir Performance & Engineering, and Technical Computing. The POCs are split into 4 "swim lanes": 1- Existing DELFI native functionality (machine learning, drilling, and reservoir engineering and simulation); 2- DELFI "ecosystem" (data ecosystem, data movement between Chevron and DELFI, data storage, APIs, and data QC); 3- "Lift and shift" cloud functionalities (running Petrel, TechLog, and INTERSECT in a cloud environment); and 4-DELFI collaborations. General information from these evaluations will be shared.

Agile Iterative Reservoir Modelling for reduced model cycle times and improved uncertainty assessment

The path to live reservoir models requires the intelligent automation of many of the time-consuming and repetitive work steps in the modelling process. However, purely pursuing automation can undervalue the impact of expert opinion and experience provided by geoscientists, engineers and other subsurface professionals. A combination of automated modelling processes and human-based scenario analysis can capture the value of both experience and data, with tangible benefits in reduced time to insights and improved understanding of uncertainty and risk for subsurface projects.

A new method of geological modelling analysis, called Agile Iterative Reservoir Modelling (AIRM), has been created and trialled on real subsurface models. AIRM is characterised by (1) a significant reduction in the standard interpretation and reservoir modelling timelines using automation and cloud computing, and, (2) an iterative cycle in which each modelling scenario is informed by robust statistical analysis. In this contribution, we will present a summary of the method and preliminary insights from application to reservoirs.

The AIRM method was developed in Schlumberger's DELFI environment and is able to build a model from raw seismic interpretation through to full dynamic simulation. The modelling process is defined by template-based workflows in Petrel, controlled via a web interface from which the user can define stochastic uncertainty ranges or specific modelling scenarios. Modelling is then executed in parallel, utilising cloud computing. Simulation results and quality control data are automatically transferred to cloud storage before being analysed and visualised to determine key risk and uncertainty measures. This process can be completed within hours, drastically reducing modelling cycle times.

The iterative nature of this system encourages an exploratory modelling process, in which the user can quickly investigate subsurface hypotheses, using the subsequent insights to inform future iterations. This process can thereby reduce time spent on potentially insignificant modelling choices by providing an avenue for scenario testing which complements modelling experience. In addition, this method can easily accommodate supplementary data or changes in modelling objectives as a project progresses. This method has the potential to transform subsurface modelling processes and opens up exciting possibilities of truly 'live' geological models through the integration of well and production data.