Goals and Objectives

- Exchange of digital field practices, economic and technological efficiency of the concept
- Unification of methods of geological data collection, verification and use, availability at all levels from field staff to company management
- Overview of similar practices from other industries
- Definition of problems in geological and process modelling, review of existing practices in design and application of simulation models with uncertainty analysis and high performance computing

On behalf of Programme Committee we invite you to participate and to share your experience on the following topics:

1) Digital field – general vision and experience
2) Hardware: measurements and controls
3) Integrated modeling at various stages of the project life cycle (from design to operation)
4) Integrated planning
5) Data to actions
6) Business processes transformation

PROGRAMME COMMITTEE

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GAZPROMNEFT STC

TIMOFEY ZAGURENKO  
UFA STC
Session 1. Digital field – general vision and experience

We will discuss:

- digital field concept application in oil and gas field development and production, as well as business processes optimization according to operating and service companies and vendors;
- description and components of Digital field, its interactions and time horizons of application;
- goals and objectives solvable using digital field technologies;
- criteria of digital field technologies applicability for new and producing field at different stages, of different production profiles and number of wells, for different facilities scheme and technical equipment.
- Enterprise architecture, digital field feasibility study and implementation will also be discussed, including:
- concept of Enterprise Architecture that allows a company to use information to solve complex issues;
- benefits and drawbacks of sole vs multi-vendor application architectures;
- how oilfield companies (service and operators) can realize the most value of their physical assets through integration of information flows in its core processes of development and production.

Presentations should contain examples of efficiency gained due to overcoming gaps between different aspects (geology, drilling, production, asset integrity) and monitoring of input data accuracy. Special focus will be on examples of digital field real life practices, including description of methods.

Session 2. Hardware: measurements and controls

This topic will cover hardware aspects (with examples of use in wells) and technical solutions in data measurements and control, state-of-the-art capabilities of measurement equipment, including alternative and infrastructural sensors.

Presentation within this topic should cover both measurement and control devices and technologies, for example, well sensors (bottom hole pressure and temperature, artificial lift (ESP) sensors, distributed measurements with fiber optics, flow meter measurements), Wi-Fi sensors, corrosion monitoring. Issues of sensors and measurements that improve safety and asset integrity should also be covered.

Second part will be dedicated to methods of access to real-time data. Operators focus on most important signals in the flow of unverified real-time data requires variety of reporting, expertise and elimination equipment. Real-time information collection, storage and preparation is another important issue. Special attention will be given to examples of cooperation of back office and field staff in Real Time Operation Centers for Drilling or Production.

Session 3. Integrated modeling at various stages of the project life cycle (from design to operation)

- Reliability, accuracy, geological and physical content of digital models increased substantially during the last few years, which has required development of new mathematical methods and latest high-performance computing. The following aspects should be covered in presentations:
- modern technologies of reservoir, well and surface facilities integrated simulation;
- quality criteria, history matching and keeping model up-to-date;
- distribution of authority and responsibility during integrated modeling;
- production goals: integrated model to solve. Integrated model feature set to solve routine operational, middle-term and strategic tasks;
- real life examples of integrated models in digital field system at all stages of design and operation;
- economic evaluation and uncertainty analysis based on integrated models, risk minimization due to digital field technologies;
- information modeling in front end engineering design;
- software simulators;
- integrated projects: digital model from design to implementation: transformation;
- integrated modeling in planning and surveying activity.
**Session 4. Integrated planning**

Relatively new term «integrated planning» means a process of Production schedule development and control from drilling, repair activity, field study to supply, logistics and HSE.
- Integrated modeling applicability criteria for various processing facilities, operations and number of wells;
- planning objects;
- joined functional plans;
- optimal set of operations for integration;
- planning horizons;
- distribution of authority and responsibility in integrated modeling;
- integrated planning systems interconnection with operating and service companies’ accounting systems.

We will discuss integrated planning implementation and case studies in Russia and abroad, pros and cons of this approach and equipment producers’ experience in planned repair operations.

**Session 5. Data to actions**

This topic will be dedicated to operations optimization, and the ways that transform information into decisions and adds value to the business. Presentations should describe technics data mining, descriptive and predictive analytics and performance management which is the core aspect of field operation. Another subset of presentations will describe new types of data that can influence oilfield decisions: satellite and autopilots data, various intelligent in-line meters. Also, we will discuss:
- data mining,
- big data analysis
- neural network training and development

**Session 6. Business processes transformation**

Digital field implementation requires changes in business processes. In this topic, we will discuss:
- new business processes arising from digital field building;
- operational performance of digital field business process;
- personnel qualification requirements change;
- Prompt response to system emergency (man-machine interaction);
- staff retraining to work with digital field
- HR
- efficient use of existing data (often ineffective use is due to old data template, as it is unsuitable for big data);
- predictive and preventive maintenance: case studies (indulging related fields, like oil refineries, power plants and treatment facilities)
- transportable solutions;
- safety management

**POSTER SESSION**

In addition to the main Technical Sessions the Program Committee is interested in organizing of Poster Session. Posers will give the participants additional opportunities to share their ideas and technologies. To get more information ant to participate in Poster Session you can contact Antonina Kozmina at akozmina@spe.org.

**Topic submission Deadline:** May 10, 2017
**Registration Deadline:** May 26, 2017
If you are interested to be a speaker at the workshop, please send your presentation abstract (2-3 paragraphs with description of nature and scope of work, possible applications and summary of results or technical contributions) to Antonina Kozmina at akozmina@spe.org before May 10, 2017. Your abstract will be reviewed by the Programme Committee to consider its acceptance for the Workshop Program. The following information is required for each abstract:

- Participant’s name, Company name;
- Contact details - phone number, address, e-mail address;
- Session’s title;
- Title of your presentation

According to SPE Policy Registration rates are the same for all participants, including presenters and Programme Committee Members

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<th>Terms of participation</th>
<th>RUB, no VAT</th>
<th>VAT</th>
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REGISTRATION

Ulyana Dmitrieva udmitriveva@spe.org
Irina Merkul imerkul@spe.org

Simultaneous Translation

Simultaneous translation to English is organized for 5 and more English-speaking delegates.

Attendee Certificate

All attendees will receive a certificate from SPE attesting to their participation in the workshop.

Workshop Report

Presentation materials will not be published, therefore formal papers and handouts are not expected from speakers. PowerPoint presentations will be posted on a specific SPE URL address after the Workshop and be available for workshop attendees only. The Committee will prepare a full report containing the highlights of the Workshop description. This report will be circulated to all attendees. The copyright of the summary report will belong to SPE.

SPONSORSHIP CATEGORIES

- General Sponsorship
- Simultaneous Translation
- Workshop Coffee Breaks
- Workshop Lunches
- Reception
- Audio-visual equipment

For more information regarding sponsorship support please contact Antonina Kozmina at akozmina@spe.org

Looking forward to see you!