K-Spice® Assure
Real-time Flow Assurance System

Successful and stable flow of oil and gas from the reservoir to the point of sale

KONGSBERG real-time models, using K-Spice® and LedaFlow®, utilize available sensors in subsea and topside systems to gain a full picture of production along with predictive calculations. Access to the data and a current dynamic model assist in decision support, avoiding potential problems and contributing to your operation's optimal production and performance.

In addition to the real-time model these systems provide a look-ahead mode, where it is possible to predict what will happen in the future with the present operation, and a planning mode, where the operators can plan future operations.

Features
- A 24/7 flow assurance model that is always in-sync with the field conditions
- Automatically monitors and returns feedback on future problems
- Plans future operations
- Smart Applications to meet operational challenges
  - ✓ Hydrate/wax formation margin prediction
  - ✓ Cool down time monitoring
  - ✓ Slug/pig tracking
  - ✓ Chemical injection monitoring
  - ✓ Holdup monitoring
  - ✓ Corrosion/erosion monitoring
  - ✓ Leak monitoring
  - ✓ Composition tracking

Benefits
- Improves performance
  - Optimize operating procedures such as well start-up and shut-down time with minimal use of chemicals and inhibitors
- Reduces risk
  - Implement effective liquid management and slugging avoidance, warnings of wax and hydrate formation conditions, and estimations of erosion and corrosion rates
- Improves visibility
  - Give Operators, Production Engineers, and Maintenance Engineers the information to make safer and better decisions
- Improves competence
  - Understand your Process better, improve process familiarization and training

System platform
- K-Spice®
  - Dynamic process simulation tool developed by KONGSBERG
- LedaFlow®
  - Advanced transient multiphase flow simulator developed and owned by Total, ConocoPhillips, SINTEF and KONGSBERG

System components
- OPC HDA Communication Link
  - Link between the online simulator and the plant historian
- OPC DA Communication Link
  - Transfer operating commands from plant to model control system
- System Performance Indicator
  - Calculates how close model calculations follow the real plant values
- Reconciliation Transmitter
  - Gathers and stores all relevant information about a single measurement

Related data sheets

K-Spice® Solution Suite
- K-Spice® Design
- K-Spice® Train
- K-Spice® IPA
- K-Spice® Learn
- K-Spice® Assure
- K-Spice® Match
- K-Spice® Meter