

# What's New in OLGA 2014

Increase productivity with the OLGA dynamic multiphase flow simulator

## KEY FEATURES

### OLGA high-definition technology

- A consistent model for stratified flow based on the velocity profile

### Multiple realizations for RMO workflows

- New license option for uncertainty and optimization workflows

### OLGA engine

- Compositional mud tracking for phase exchange between reservoir fluid, and drilling and completion mud
- Particle transport modeling and simulation
- Moving grid for drilling string and coiled tubing simulation

### OLGA interface

- Simplification of pipeline modeling dataflows

## Increased workflow productivity

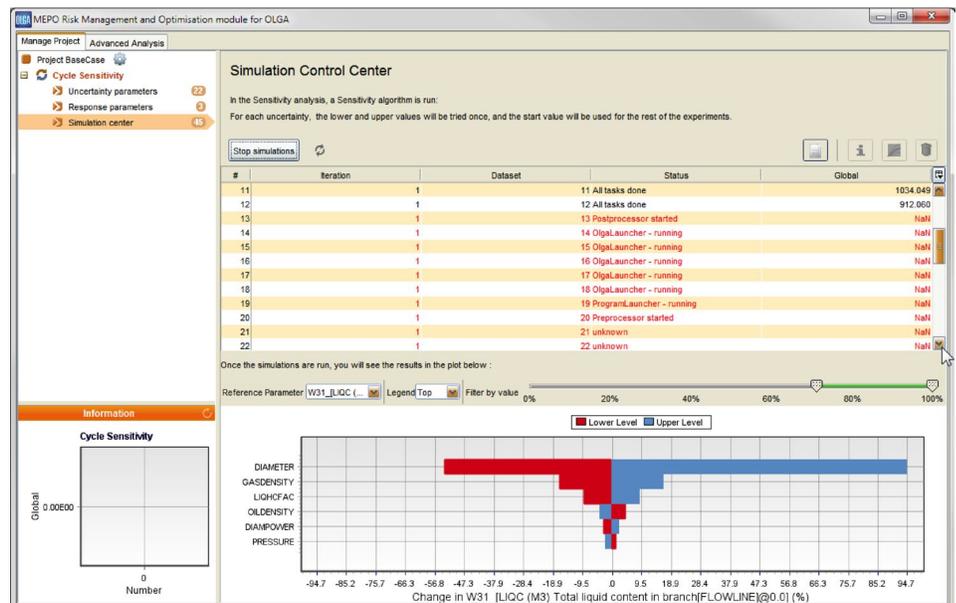
The 2014 release of the OLGA\* dynamic multiphase flow simulator delivers new functionality to enhance user experience and simulation capabilities. High-definition (HD) technology for stratified flow prediction is now available for all users. Modeling dataflows of production systems have been streamlined as part of the enhancements made to the OLGA interface. Other new features include compositional mud tracking, particle transport modeling, and drilling and coiled tubing simulation capabilities.

## OLGA high-definition technology

The OLGA HD module is now offered as an option alongside the OLGA core flow technology. The HD technology increases the accuracy for stratified flow by improving holdup predictions for gas-condensate systems. Further performance enhancements have been made to three-phase stratified flow models. Standard OLGA flow regimes are applied outside of the stratified ones.

## Multiple realization for RMO workflows

Risk management and optimization (RMO) is part of the base OLGA license and offers a systematic approach for uncertainty analyses used to identify major risks in flow assurance simulations. RMO workflows help to derive uncertainty bands for the operational envelope for any probability range, for example P10, P50, and P90. In addition, tuning and optimization capabilities are provided with robust global and local methods. Multiple realizations for simulation using 4, 8, 16, or 32 CPU cores can be licensed to enhance the capabilities of RMO workflows.



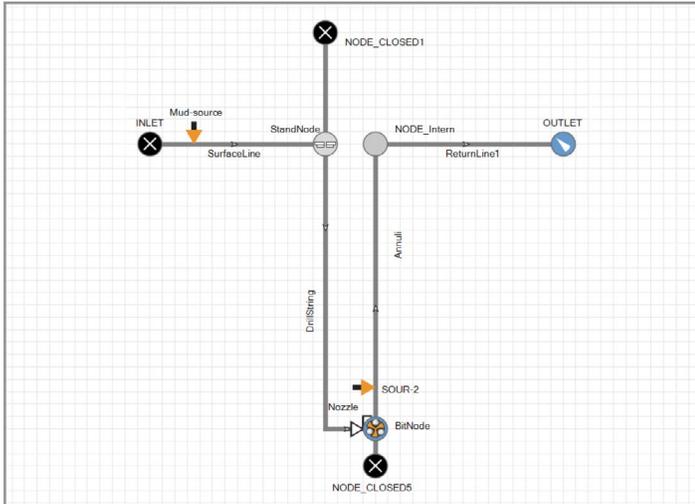
OLGA risk management and optimization workflows can now be run on multiple CPU cores in a more efficient way with the new multiple realization license model.

# What's New in OLGA 2014

## OLGA engine

### Compositional mud tracking

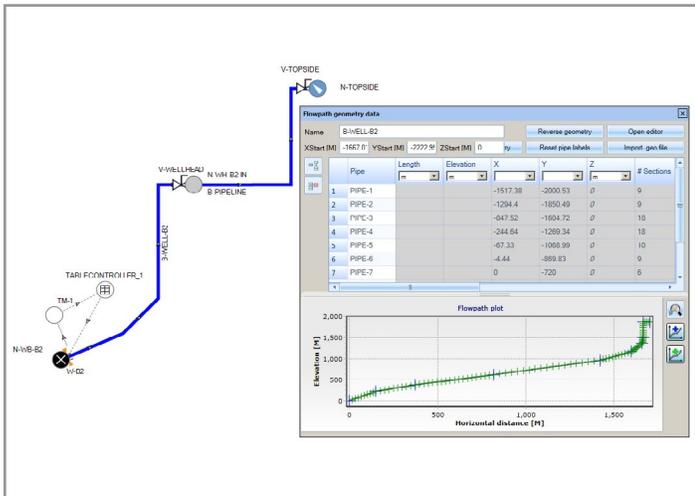
Compositional mud tracking allows for the phase exchange between reservoir fluid, and drilling and completion mud. This option should be used mainly when the component exchange between the muds and the reservoir fluids is a concern due to gas solubility in the mud.



Model the behavior between reservoir fluid, and drilling and completion mud.

### Particle modeling

OLGA 2014 includes new capabilities for modeling particle or sand transport. This model incorporates the physics of the suspended particle load, as well as the bed load for particle balance, concentration, velocity, and mass suspension. The new functionality enables more rigorous modeling of cleanup or startup operations, heavy oil transport, and drilling.



Optimize well startup to minimize sand production from the sandface.

### Drilling and coiled tubing simulation with moving grid

This option allows simulation of the movement of a drill or coiled tubing string with the rate of penetration.

## OLGA interface

### Pipeline profile generator

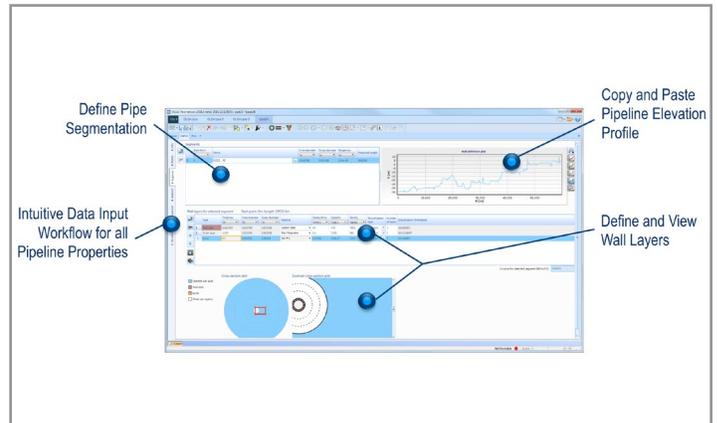
The pipeline profile generator is a standalone utility that can be used independently of the interface. It is designed to handle large datasets in order to simplify or remove noise in the profile, allowing the simulator to run more efficiently.



The pipeline profile generator allows large datasets to be cleaned.

### Pipeline editor

A new pipeline editor streamlines the input dataflow process. The pipeline editor provides individual tabs to copy and paste the pipeline profile, as well as ambient air, water, and ground temperature profiles. There are also tabs for positioning equipment, performing pipeline discretization, and defining and viewing pipeline segments and pipe wall layers.



The new pipeline editor workflow for streamlined data input.

[software.slb.com/OLGA](http://software.slb.com/OLGA)

