

simulation
software limited



varisimTM
Flow Assurance
& Surge Analysis

Flow Assurance & Surge Analysis

varisim™ helps you simulate and manage every component of a pipeline system with complete accuracy.

varisim™ provides an unprecedented level of control for liquid and gas systems of any size, including Flow Assurance studies, Pipeline Management, Leak Detection, Optimisation, Monitoring and Training Simulation.

The **varisim™** Flow Assurance and Surge Analysis capability is a key strength of the product.

Desk based studies

The pipeline simulator is now widely accepted as a key requirement for any operating company that takes its responsibilities seriously. A good simulator helps maximise operational safety, protect the environment and improve the efficiency of operation. Today, safety is being driven to the highest standards through detailed flow assurance and surge analysis studies. Engineers are conducting analyses to prevent daily operating problems with their pipeline networks and are proactively identifying potential disasters. Steps are being taken to suppress excessive operating pressures, energy usage is being monitored and equipment configuration is being optimised to reduce emissions. **varisim™** uses range from simple, steady state determination to simulating complex pressure events. Any operation that can affect the fluid reaction of a pipeline network can be accurately simulated and this includes the plant area.

Design

There is no better way of maximising confidence in the overall system design than being able to simulate the complete interaction between the pipe work, the equipment and the control scheme. Pipework can be correctly sized and rated, control set-points and control parameters can be tuned, system bottlenecks can be identified, storage volumes can be assured and pressure suppression equipment can be correctly sized.

Planning

Changes in operation, changes in throughput requirements, deterioration in pipeline and equipment condition or poor initial design can all lead to daily operating problems. **varisim™** helps identify and solve the source of these problems. Initiation of the simulator with current operating conditions also reveals a wealth of unrealised information for assessment and further simulation. Planners can assess the effects of future maintenance; operators can quickly establish new procedures without compromising safety and daily nominations can be verified through forecasting and allocated with confidence.

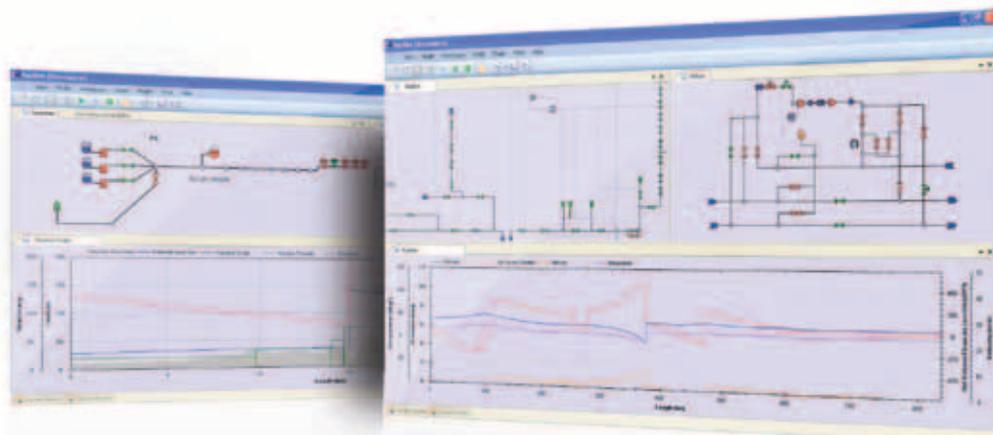
Surge analysis

varisim™ has been designed to ensure that it accurately models any component of a system that can affect the fluid behaviour within a pipeline. This means small plant pipe work, long transmission lines, variable flow regimes, telemetry effects, surge suppression equipment, control logic etc. can all be accurately simulated. Care has been taken to ensure the **varisim™** output is easily accessible and easy to understand using industry familiar terminology. The ability to simulate variable product properties, variable wave-speeds and variable time steps makes **varisim™** one of the most accurate products on the market.



varisim™ at a glance

- ✓ Steady and transient analysis
- ✓ Graphical configuration
- ✓ All pipeline characteristics
- ✓ Tracking capability
- ✓ Pumps and compressors
- ✓ Run time trending + profiling
- ✓ Tanks and surge vessels
- ✓ Automated predictive functions
- ✓ Variable timesteps
- ✓ Robust modern technology
- ✓ Oil, gas and water
- ✓ Interactive or script operated
- ✓ Control schemes and logic
- ✓ User friendly
- ✓ All valves
- ✓ Accessible data
- ✓ Pipe force calculation
- ✓ Graphical output
- ✓ Cavitation
- ✓ Integrates with other packages
- ✓ Discharges
- ✓ Vapour modelling
- ✓ Rapid system build
- ✓ Telemetry and relays
- ✓ Connects online
- ✓ Instrumentation malfunction
- ✓ Flow regime change
- ✓ Air valves with air ingress
- ✓ Fast
- ✓ Relief valves
- ✓ Time series capability
- ✓ Heat exchangers
- ✓ Proven



varisim™ also offers comprehensive applications for:

- Pipeline Management
- Leak Detection
- Optimisation
- Training Simulation
- Monitoring Functions

Exceptional customer support

As a globally significant supplier of pipeline management solutions, we supply quality, robust, repeatable software. Alongside these exceptional products you can expect the customer service you need to get the best from our software at all times, stay up to date with innovation and excellence, and maximise the return on your investment.

Simulation Software Limited

varisim™ has been developed by Simulation Software Ltd. As part of the Hydraulic Analysis Group, SSL is dedicated to the development and supply of modern high performance pipeline simulators and pipeline management software.

We employ technical specialists and industry experts with a wealth of background experience in running, installing and developing advanced simulator and pipeline management applications. This ensures that every delivery performs to its maximum capability delivered by staff who really do know their industry.



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