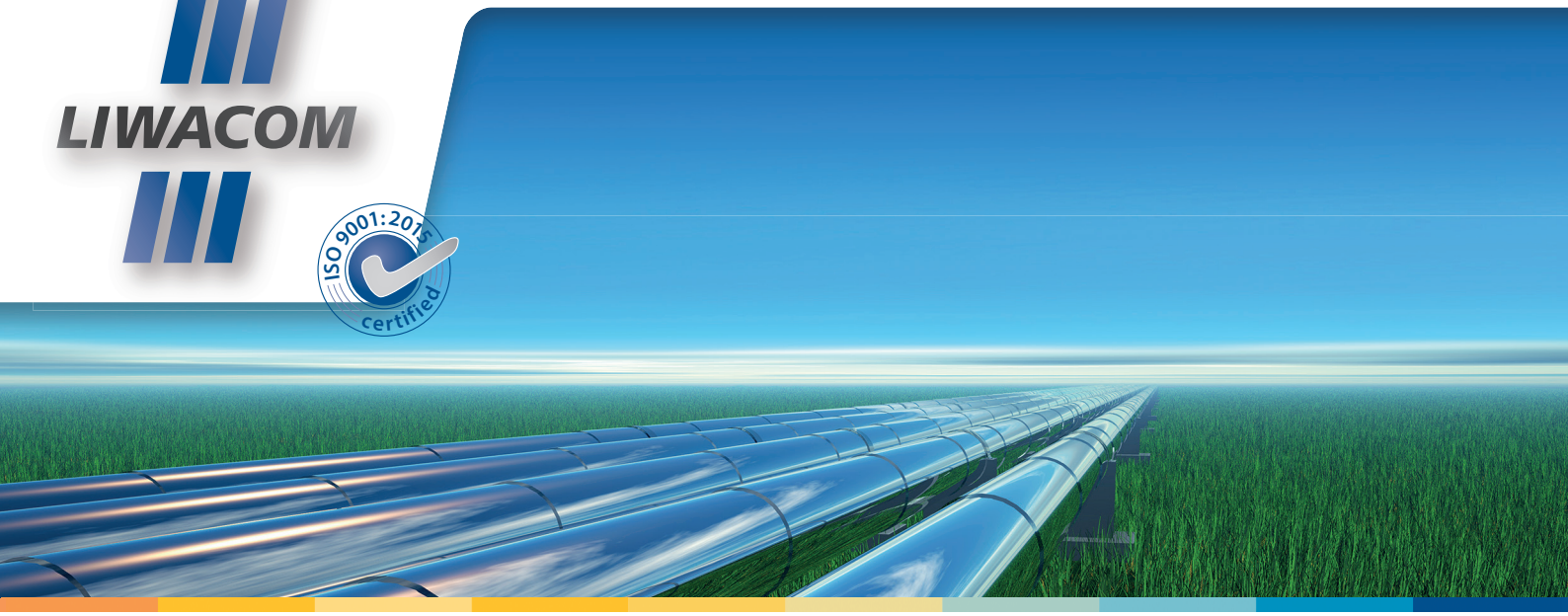
LIWACOM

ISO 9001:2015 certified

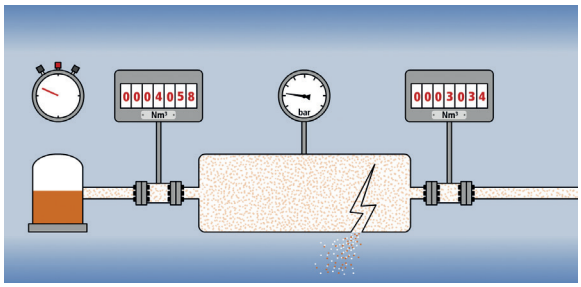


Leak detection of gas pipeline plays a key role in the overall integrity management of a pipeline system. Gas leakage may cause economic loss, environmental pollution, or even fatalities.

SIMONE, Europe's leading standard software for simulation and optimization on gas networks, detects leakages using methods that manage with standard operational metering equipment, and do not require the installation of extra hardware.

SIMONE Leak detection

SIMONE detects leakages by continuously evaluating the gas system's input / output flow balance and comparing it to the change of the system's line pack (transient estimation model compensated mass balance method). SIMONE Leak detection executes in parallel to Real-time simulation, typically in a faster cycle. SIMONE alarms the leak upon identifying the leak signal out of the measurement noise.

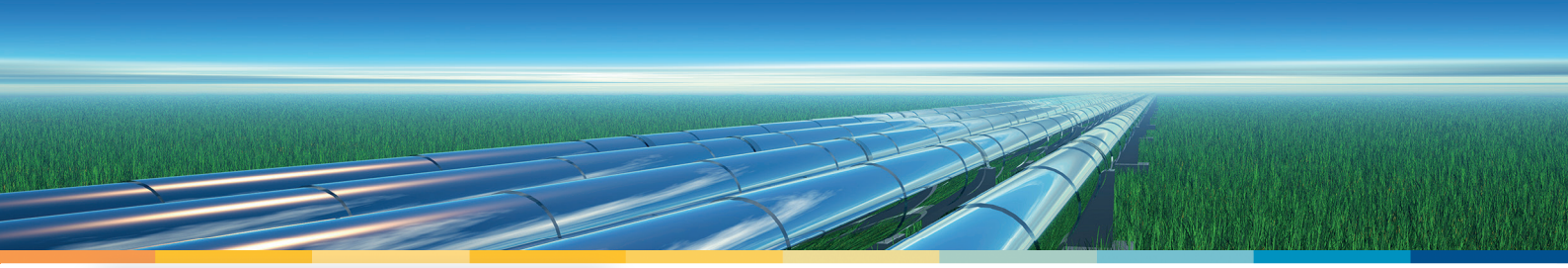


SIMONE Leak location

SIMONE exploits the information provided by Leak Detection (i.e. the affected hydraulic area, the estimated leak flow rate, and the estimated leak starting time). SIMONE uses the hypothesis testing method to find the nearest node to the leak, with after-processing that locates the leak milepost of the affected pipeline.

These leak detection and location methods are used because they are most robust under transient gas flow conditions.

SIMONE
SOFTWARE
Simulation and Optimization on Networks



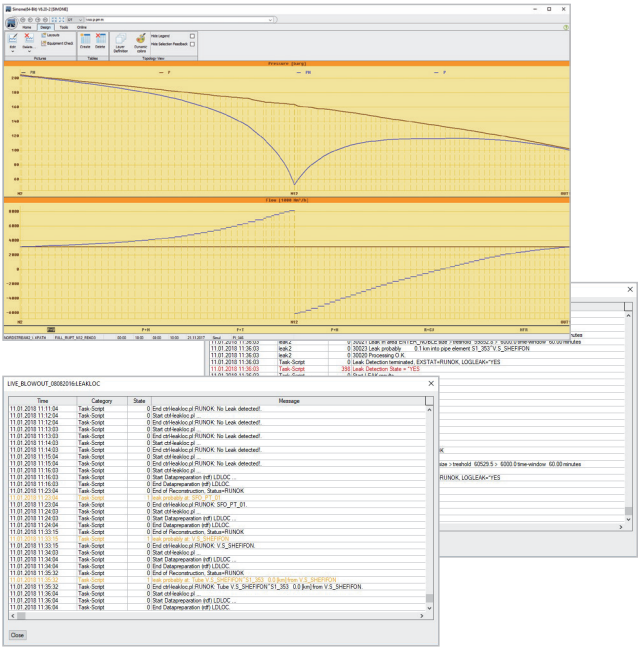
Fact Sheet

Leak Detection

- Permanent monitoring of the system balance and line pack development.
- Short-term leak detection window to quickly identify bigger leaks and a long-term window for smaller leaks.
- Quick and accurate estimation of the leak size and location.
- Compensation of measurement errors.

SIMONE

- Tracks gas compositions, gas parameters, and pipeline inspection gauges.
- Calculates temperature, line pack, flow speed, and more.
- Single kernel source code for Windows, Unix and Linux systems.
- Client Server Technology and Multi-User Support.
- Versatile Application Programming Interface, known as the SIMONE API, for integration with SCADA, GIS, data-bases, and customer applications.



SIMONE Users

FLUXYS

REN

gasunie transport services

nafran

أرامكو السعودية saudi aramco

nationalgrid

Open Grid Europe The Gas Wheel

SWISSGAS

GAZ system

Contact and Product Support

SIMONE SOFTWARE

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