Operational excellence

Modeling and optimizing your network management

YOU ARE:

- **Gas infrastructure operator** (transmission, distribution, storage, LNG terminals) looking for optimization tools to help them operate their networks
- **Company** with concrete issues around **optimizing the management or sizing of energy assets**

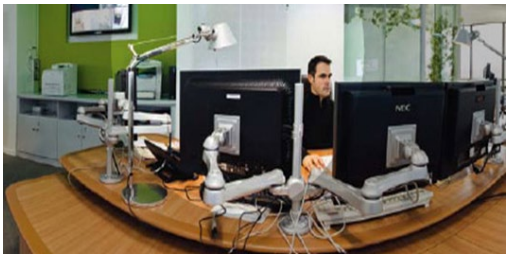
YOUR CHALLENGES

Against a backdrop of energy transition, the gas system is constantly evolving, and must therefore adapt to numerous structural changes (injection of new gas into networks, compression to ensure backflow, etc.) to guarantee optimum operational performance.

Networks have to take into account a multiplication of possible operating schemes, decentralized injections and bidirectional flows at distribution-transport interfaces. All these phenomena make infrastructure design and operation more complex.

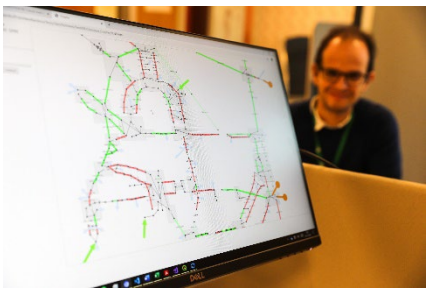
In this context, it is essential to provide operational solutions to support operators' new needs and respond to the following issues:

- Day-to-day infrastructure management (optimizing in-line inventory, minimizing OPEX, etc.)
- Research into innovative operating cards to maximize available capacity onnetworks
- Network sizing (CAPEX optimization for biomethane injection station connections, backflow station settings, etc.).
- Carrying out dynamic studies to estimate the feasibility of setting up backflow stations.



OUR RESSOURCES

Our internationally recognized expertise



NaTran R&I has proven know-how thanks to its specialized resources and numerous developments of decision-making tools responding to specific problems:

- Expertise in numerical optimization :
  - Innovative algorithms
  - Use of numerical modelers/solvers
  - Development of specific decision support tools
  - Multi-CPU calculation capabilities

- Expertise in the Simone tool for dynamic simulations

OUR REFERENCES

- Development of operational decision-support software bricks:
  - Optimization of daily operating costs (MinOpex)
  - Daily sizing of operational network terminals (M&Ms)
  - Intraday flexibility management (HELP)
  - Optimization of network capacities and usage limits (Capaflex)
  - Calculation of short-term capacities (Capaflex CT)
  - Optimized operation of the regional transmission network (OptimSimone)
  - Optimized network adaptation for the arrival of bio-methane (Biozone)
  - Calculation of steady-state networks (Bambou)
  - Assistance in operating and sizing distribution networks (Carpathe)
  - Optimization of operating costs and management of intra-day flexibility (Apollo prototype)

- Numerous dynamic simulation studies to assess the feasibility and setting of backhaul stations at transmission-distribution interfaces

YOUR CONTACT

Patrice PEZILLIER
Project manager
Tél. : +33 6 63 52 76 10
Email : patrice.pezillier@natrangroupe.com

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