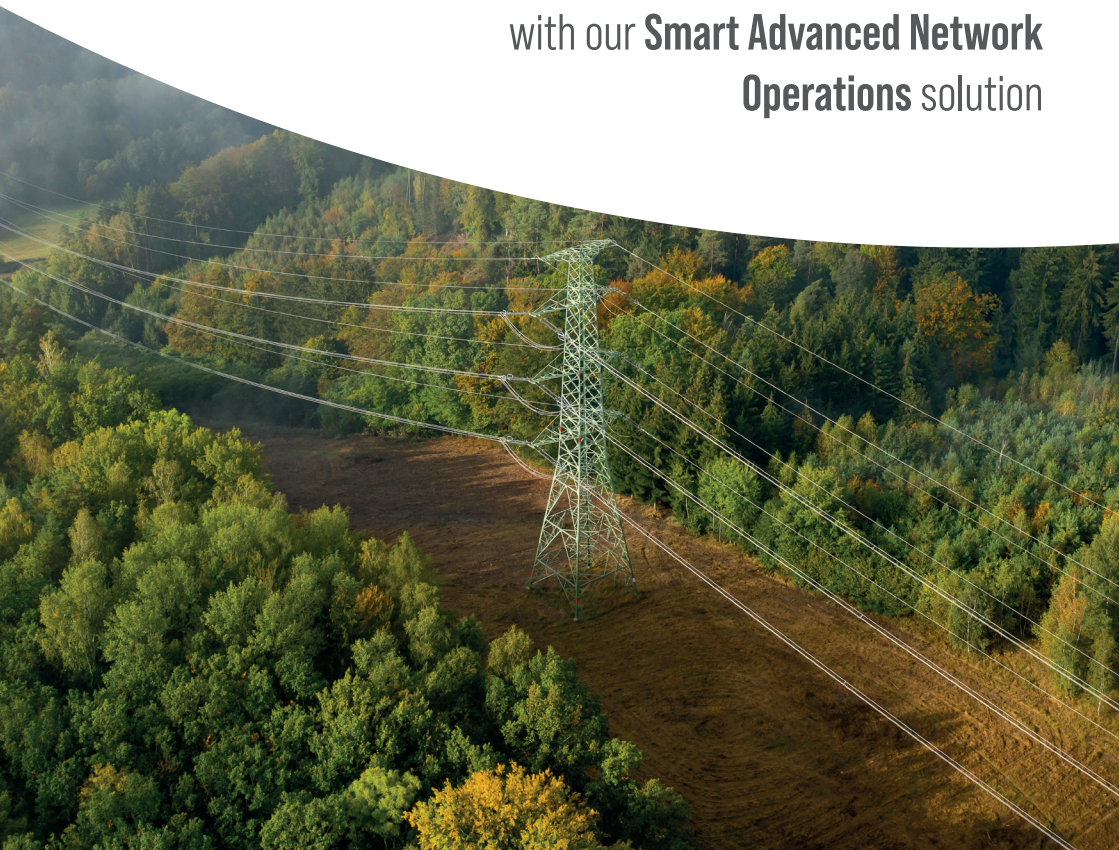




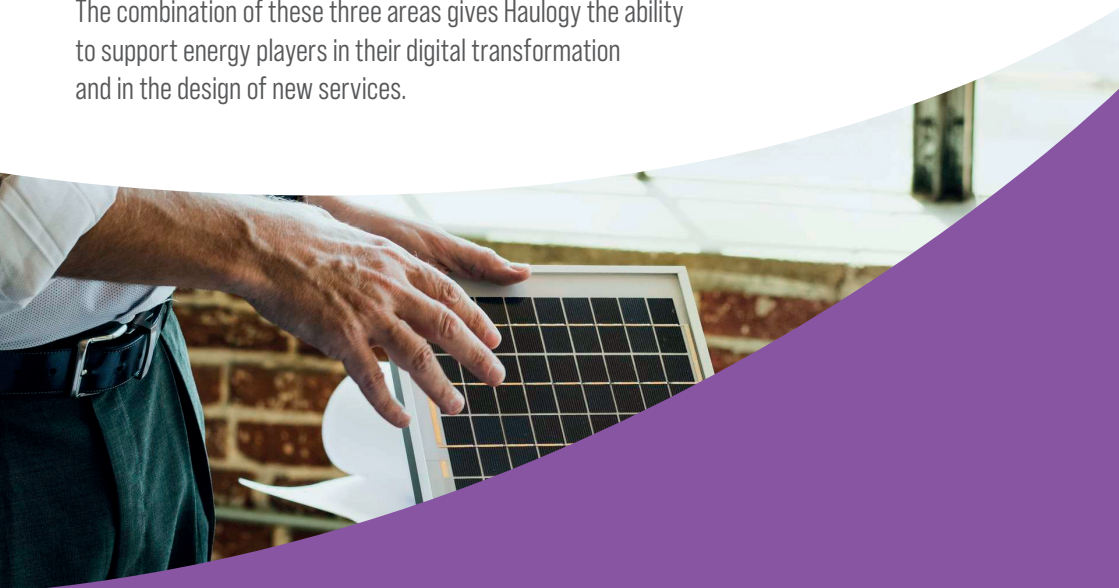
Master congestions in your network
with our **Smart Advanced Network
Operations** solution



SOFTWARE PUBLISHER
FOR THE ENERGY SECTOR

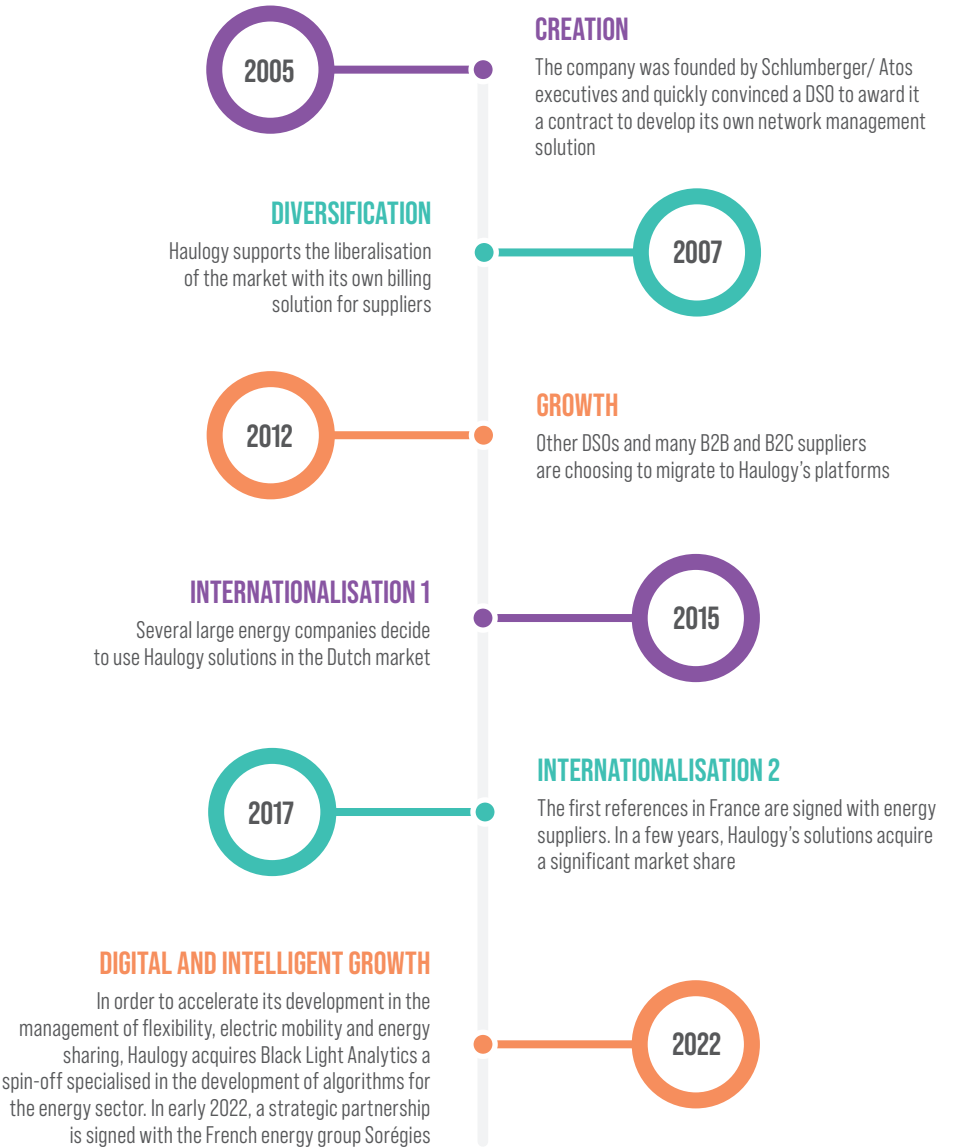
Discover the **Haulogy** expertise

As an IT company developing its own software, Haulogy has acquired a know-how at the crossroads of three areas of expertise: a recognised experience in **software engineering**, in-depth knowledge of the **energy markets** and skills in machine learning and **applied mathematics**. The combination of these three areas gives Haulogy the ability to support energy players in their digital transformation and in the design of new services.



Haulogy tells in 2022 160 FTE's offering a **diversified** portfolio of solutions and services for all players in the energy sector, regardless of their size.

Thanks to constant investments in Research and Development, Haulogy has developed a **complete offer** to support the energy transition of its customers and to help them mastering their costs: flexibility, consumption monitoring, electric mobility (V2G, V2H, V2B), energy sharing. The company is present in Poitiers, Paris, Nivelles and Liège.



The beginning of a **partnership**



Haulogy, a software publisher and IT platform operator for the world of energy, and the Sorégies Group, an energy company producing, distributing and marketing local renewable energies in the heart of the territories, announce a strategic partnership to create together an European **leader in intelligent solutions**, dedicated to the digital transformation of energy players and the energy transition.

Haulogy and the Sorégies Group join forces and become partners for a **better future.**



Our objectives

By 2030, the world of energy will face many challenges:

- ✓ Boosting renewable energy production and following the trajectory of carbon neutrality
- ✓ Increasingly complex management of networks integrating multiple players
- ✓ Decentralisation of the energy system
- ✓ Regulatory and market environment changes
- ✓ Technological breakthroughs

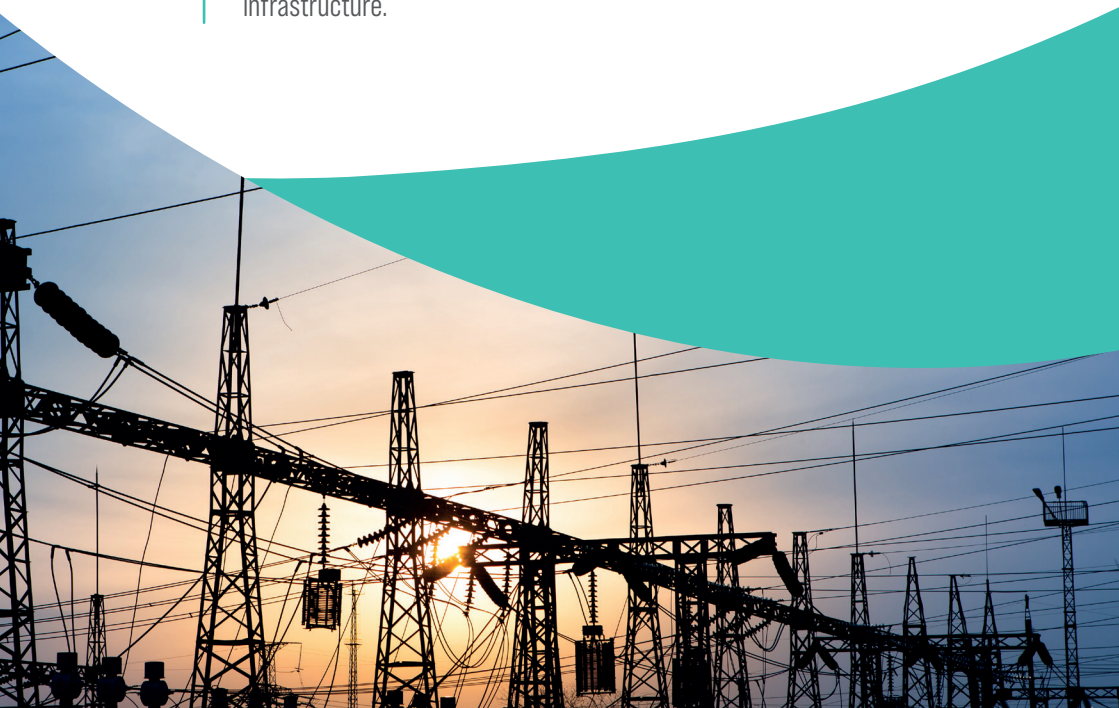
Determined to meet these challenges, Haulogy and the Soregies Group are combining their expertise by offering **innovative business platforms** for the management of distribution network, production and storage, flexibility services, energy supply, as well as for new models such as local energy loops, collective self-consumption and energy communities.

These offers, which are modular and interoperable in order to integrate into the customer ecosystem, **facilitate** the harmonisation of market standards and **optimise** data & costs of the operators.

The challenge of network **congestion**

Easing the energy transition requires DSOs to facilitate the deployment of decentralised generation while limiting their network investments. This double constraint is reinforced by the appearance of new loads (heat pumps, electric vehicles), delivery limits from the transmission provider and an acceleration of decentralised and diffuse production on their network.

In this context, the risks of network congestion are increasing and the traditional tools for managing this congestion are not very effective. In response to these challenges, haugloy offers the SANO (Smart Active Network Operations) solution, which enables the implementation of active network management strategies in order to make the **best** and **safest use** of the capacities of the electricity infrastructure.



Introduction to **Sano**

SANO (Smart Active Network Operations) is a software solution for a **smart active management** of electrical distribution networks. Thanks to the advanced artificial intelligence and optimisation technologies on which it is built, SANO is able to learn the dynamics and behaviour of distribution systems, to best **anticipate** congestion risks using predictive techniques, and to determine the appropriate control actions to reduce congestion risks.

Active network management strategies take advantage of the flexibility of the system to keep the network within its operational limits while optimising technical, environmental and economic criteria.

SANO provides a user interface to visualise the supervised networks, to configure the active management algorithm and to analyse the results of these algorithms.

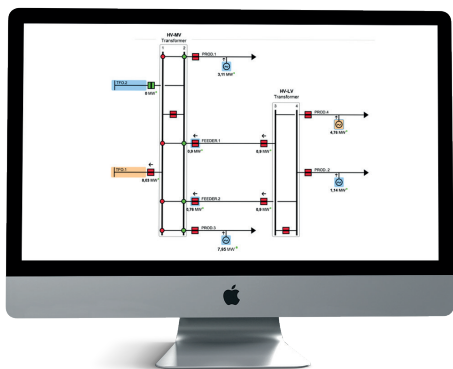


Components of Sano

01

Connexion to SCADA system

SANO is connected on a near real-time base to the SCADA (or equivalent) solution of the DSO in order to retrieve production, consumption and power data of each network point.



Network could be directly created in SANO or imported from an existing system.

02

Modelisation of the network

The network model used by SANO includes the following elements for each monitored distribution network:

- ✓ The distribution network source station, i.e. the electrical transformer directly downstream of the transmission network
- ✓ The other transformers within the distribution network, associated with the same information (switching devices, busbars, nominal voltage and available measurements) as the source station and links between cubicles (transformers, lines or cables), with the outgoing and incoming cubicle for each
- ✓ The connections of the scalable generation elements: the permanent and flexible capacities of the connection, the withdrawal power of the connection, the type of modulation supported and other useful information

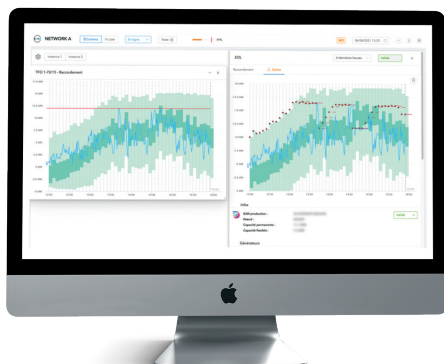
03

Computation of modulation limits

The active management algorithm is based on three complementary modules offering the following functionalities :

- ✓ **Learning:** Automatic learning of statistical models of production and consumption within electrical distribution networks.
- ✓ **Forecasting:** Probabilistic anticipation of production, consumption, and congestion risks within electrical distribution networks.
- ✓ **Decision-Making:** Optimal calculation of modulation instructions to reduce the risk of congestion.

Once the active management algorithm is completed, SANO is responsible for transmitting the modulation instructions to be applied to the generation units to the SCADA system of the distribution system operator. This calculation is done every 5 minutes and could also be done at shorter intervals if SCADA data is available.



EXAMPLE OF IMPLEMENTATION

They have decided
to **trust** us

The energy producer Luminus operates a wind farm of 6 turbines capable of supplying electricity to 9,200 households. The only drawback is that the local grid that distributes electricity cannot accommodate all the output of the wind turbines without risk of failure. Imposing a static limit on distributed generation, such as wind turbines, requires a conservative approach and is a waste of renewable energy. For this reason, ORES decided to deploy SANO software to dynamically manage its network and avoid congestion, source of curtailment.

The installation of SANO has allowed an increase of almost 15% of the injection of wind turbines into the ORES network, to the benefit of Luminus and the energy transition.

Want to know more ?

Contact-us !

In addition to its Smart Active Network Operations software platform Haulogy offers a large range of **solutions**.

For local distribution companies/distribution network operators, energy suppliers, flexibility management via Virtual Power Plant and Energy Management System, optimisation of electricity consumption. For more information on our offers and services, please visit our website www.haulogy.net or contact us:

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