



RTE INTERNATIONAL

DIGITAL SERVICES FOR POWER NETWORKS

A RTE SUBSIDIARY

The largest Transmission System Operator in Europe



105 857km

High and extra high
voltage lines

4.81B€

2018 turnover

1.45B€

2018 investment

50

Neighboring country
interconnections

entsoe
Reliable Sustainable Connected



8 500

Employees



RTE international

Key figures

68

**Employees
at your service**

in Paris, Marseille and Lyon

1700

**Experts
at your disposal**



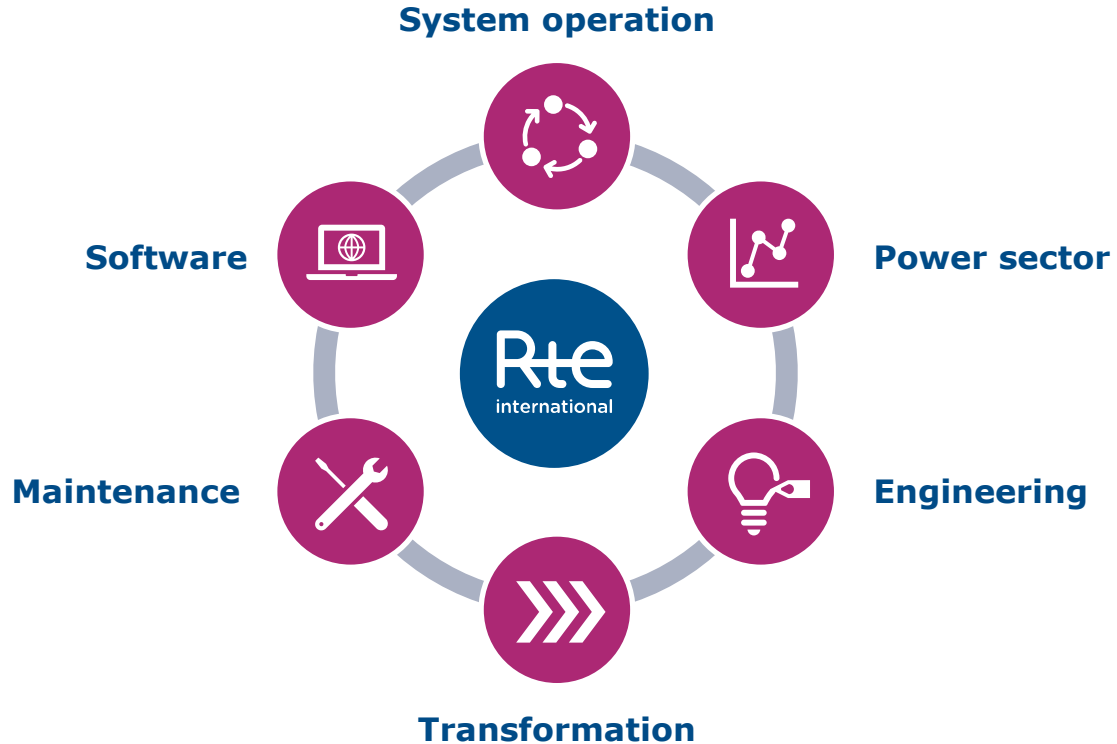
Worldwide

with major projects in West
Africa, Europe and Central Asia

70+

**Years of
experience**

WE PROMOTE THE FRENCH TSO'S EXPERTISE



FACILITATING ENERGY TRANSITION

Our commitments



Renewables

Central Asia

Kazakhstan, Uzbekistan, Turkmenistan, Afghanistan, Pakistan, Tajikistan and Kyrgyzstan

Regional cooperation for the integration of renewable energy into the grid



Storage

Ukraine

Energy storage project for Ukraine's TSO, Ukrenergo



Storage

New Caledonia

Energy storage project for Enercal, New Caledonia's grid operator



ENHANCING THE SECURITY OF THE SUPPLY

Our commitments



HVDC

Norway

Interaction studies using HVDC control replicas for Equinor's offshore oil fields



Coordination

West Africa

Technical assistance for WAPP operational implementation

WAPP (West African Power Pool Information and Coordination Centre)



Software

Europe

Development of an IT coordination platform for TSOs and RSCs



Equipment

Turkey

Delivery of a Mobile Elevating Platform for People (PEMP)



IMPROVING PERFORMANCE

Our commitments



Live Working

Netherlands

Live working turnkey operations & services



Unbundling

Cameroon

Operationalization of the
Cameroonian national electricity
transmission company



Grid codes

Niger

Drafting a grid code for Nigelec



DIGITAL SERVICES FOR POWER NETWORKS

Our offer



RTE international is providing its expertise in both the business end and the software development fields to all stakeholders of the Energy community

Offering a range of software to support business needs

Antares, Convergence, Let's Coordinate

Proposing expertise and consultancy

Supporting customers' need through tailor made projects

DIGITAL SERVICES FOR POWER NETWORKS

Antares-Simulator



antaresimulator



The “Antares-Simulator” is an open-source supply-demand balance simulator designed to measure the adequacy or economic performance of interconnected power systems, in both the short and long term.

Antares-Simulator is currently used for :

- the European Association of Transmission System Operators (ENTSO-E) ERAA and TYNDP process
- The ENTSOE Short Term Adequacy process
- Seasonal adequacy outlooks for many TSOs (Futurs énergétiques RTE, Elia Adequacy Outlook, etc.)

Antares-Simulator services encompass:

- Studies, training, support
- Development of dedicated features in Antares
- Integration in business process and data provision

DIGITAL SERVICES FOR POWER NETWORKS

Let's Coordinate



Information exchange and coordination between European operators

has become one of the main factors in ensuring safe operation of the electricity system, and a means of offering the highest exchange capacities to the market.

With the **"Let's coordinate"** software, RTEi provides a communication platform for transmission system operators and regional coordination centres to exchange information and to coordinate in the development of a response.

The **Let's Coordinate** framework is already part of the OPC/STA process for ENTSOE and the TRINITY Project, developed under the H2020 Program from European Commission

DIGITAL SERVICES FOR POWER NETWORKS

Load Flow tools



Convergence is the power transmission software used by RTE operators to conduct network studies, from real-time to long-term network development studies.

Convergence also includes features to support Regional coordination centers processes : common grid model merging, capacity calculation, coordinated security analysis

Our platform is now developed based on open-source framework, such as **GridSuite** (for the overall tool) and the **PowSyBI** libraries.

Optimization processes are using the **FARAO** libraries.



DIGITAL SERVICES FOR POWER NETWORKS

EMT services around EMTP



RTE international is distributing EMTP as part of its services around the EMT studies

We provide services around EMTP, such as studies, support, **dedicated modules (Parametric Studio, Crinoline, converters, etc.)** and development of specific features

Insulation coordination.

Transient Recovery Voltage (TRV) and Transient stability studies with contingency analysis

Integration of renewable energy sources and compliance with grid codes

Customized and manufacturer models (white-box, black-box, DLL)

Harmonic analysis

HVDC transmission

Failure analysis

DIGITAL SERVICES FOR POWER NETWORKS

Much more



Rte international has also developed a business oriented know how in the development of tools and process for all stakeholders of the energy community, especially on the following fields :

- Inclusion of **renewable energy sources** in the power system (supervision, forecast, etc.)
- Inclusion of new elements in the power system (**storage, HVDC links**, power electronics, etc.)
- **Advanced Market models** (Day-Ahead, long term, etc.)
- **Forecasts** of all types of physical quantities (net position, demand, etc.)
- Decision making tools based on **data science**...

Rte international is also willing to support **specific business needs** from its customer, in all stages of the projects

DIGITAL SERVICES FOR POWER NETWORKS

And also



In addition to support software development projects, Rte international has also a comprehensive range of expertise on the business end and can provide its customers for :

- All types of **network studies** (investment plans, development of the grid, market models, etc.)
- **Specifications** of tools or materials
- **Drafting of network codes or regulations**
- Any other type of study for power networks



THANK YOU !



Tel : +33 1 71 06 57 00
Email : contact@rte-international.com
www.rte-international.com

