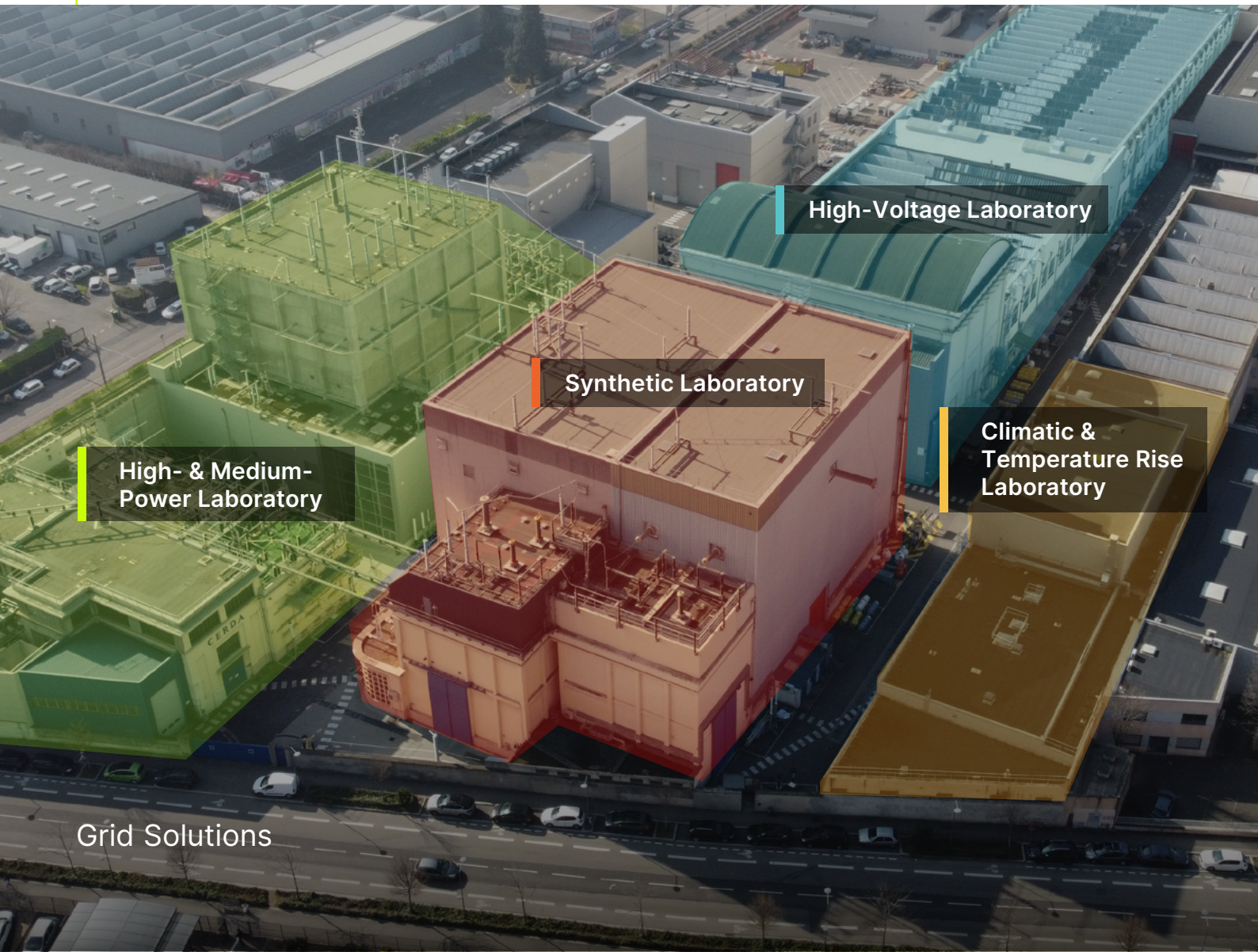
GE VERNOVA

CERDA

Independent Testing Laboratory for High-Voltage Equipment

Brochure



Grid Solutions

The **CERDA Testing Laboratory** is enabling manufacturers and end users to test their primary equipment by leveraging deep domain expertise and enormous testing facilities to develop enhanced high-voltage products and certify their capabilities before market introductions.

Almost a Century of High-Voltage Power Testing

Established in 1929 and located in Villeurbanne, France, CERDA is a proven testing laboratory performing development and validation tests on high-voltage switchgear in accordance with national and international standards.

Supporting a Wide Range of High-Voltage Equipment

CERDA provides extensive testing facilities for the development and validation of high-voltage equipment, including switchgear, cables, and instrument transformers.

Delivering Results

CERDA can provide:

- Type test reports and certificates covered by COFRAC accreditation to demonstrate performance according to international standards.
- ASEFA certification for products according to international standards, including third-party inspection under ISO 17065. This certification may be required by some transmission and distribution end users.

The Laboratory can also issue investigation test summaries required to support the improvement and development of new or existing products.

Delivering Value-Added Services

In addition to test reports and certification, CERDA teams can deliver value-added services, including:

- **Consulting and technical advisory:** Logistics, assembly, gas handling, and operational assistance.
- **Gas mixture management:** Including SF_6, CF_4, alternative gases to SF_6, and analyses with material lab.
- **Mechanical endurance** assets.
- **Decontamination.**
- **Decommissioning** after tests.

Ensuring Quality and Impartiality

cofrac ESSAIS

CERDA TESTING LABORATORY

Accreditations N°1-0260 and 1-6988
Scope available on www.cofrac.fr

CERDA is accredited by **COFRAC**, the French national accreditation committee and therefore can perform internationally recognized type test reports for the tested equipment according to ISO/IEC 17025.

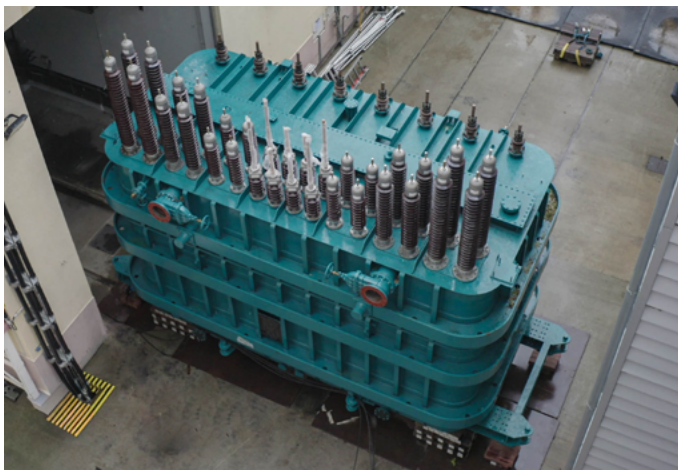
asefa

CERDA is also one of the high- and medium-voltage test laboratories recognized by ASEFA, the French product certification organization.

International Recognition

The Laboratory is a recognized member of the European Single Electronic Format (ESEF) and Short-Circuit Testing Liaison (STL) national and international associations for high-power testing laboratories.

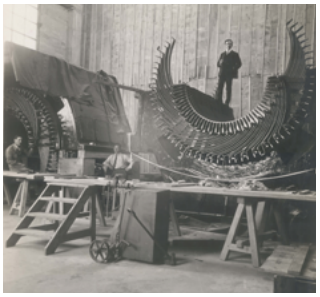
Tests are performed according to IEC, IEEE, EN, VDE, GOST, FURNAS, GB, DL, and other standards or customer specifications.



Testing Portfolio

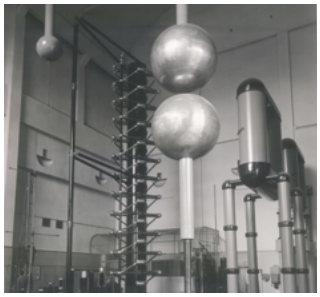
TESTING FACILITIES	TESTING PORTFOLIO	TECHNICAL CAPABILITIES
High-Power Test Lab • Comprehensive short-circuit testing programs • Equipped with modern, reliable measurement tools • Three short-circuit generators, capable of parallel coupling • Can be linked to a synthetic lab for permanent recovery voltages • Capable of running up to three independent tests simultaneously	**Basic Short-Circuit Test Duties:** Full pole: 800 kV / 63 kA / 50-60 Hz Half pole: 1,200 kV / 63 kA / 50-60 Hz **Short Line Fault Test Duties:** Up to 63 kA **Capacitive Current Switching Tests:** 550 kV / 63 kA / 50-60 Hz full pole **Out-of-Phase Making & Breaking Tests:** Making: 300 kV full pole Breaking: 550 kV full pole **Internal Arc Tests:** Up to 80 kA **DC Short-Circuit Tests:** Up to 40 kA, up to 200 kV full pole	**Generator Output:** Up to 2 × 2,500 MVA + 3,000 MVA **Short-Circuit Current:** Up to 100 kA, single-phase **Maximum TRV for Synthetic Tests:** 1,200 kV **Frequency:** 50/60 Hz; 16 Hz 2/3 **Testing Halls:** Three synthetic testing halls
Medium-Power Test Lab • Directly connected to the French network • Equipped with modern, reliable measurement tools • Dedicated control room and test halls • Dedicated short-circuit power transformers and regulators	**Short Time Current Withstand:** Up to 80 kA rms for 3 seconds, 160 kA peak **Disconnector Busbar Transfer Current:** Up to 8,000 A **Earthing Switch:** Breaking and making of inductive currents **Capacitive and Inductive Tests** of earthing switches	**Transformers:** 2 × 23 MVA – up to 2,000 V + 1300 MVA up to 260 kV **Regulator Transformers:** 10 to 850 V, up to 4,000 A Power factor < 0.15 **LV Test Range:** 10 V to 850 V, up to 8,000 A, single-phase **HV Test Range:** Up to 260 kV
High-Voltage Dielectric Test Lab • Offers short- and long-term insulation testing • **Equipment:** ◦ 3 HV transformers ◦ 1 impulse generator • **Additional capabilities:** ◦ Tests under rainy conditions for outdoor equipment ◦ Measurement of Radio Interference Voltages (RIV) and Partial Discharge (PD)	• **AC Power Frequency Tests** ◦ Switching impulse tests ◦ Lightning impulse tests • **DC Dielectric Tests:** Combined voltage tests (BIAS) ◦ **Chopped Wave Tests** ◦ **PD and RIV Tests** ◦ **Dry and Wet Conditions** ◦ **Bus Current Switching Tests**	• **Power Frequency:** Up to 1,2 MV 50 Hz • **Lightning Impulse:** Up to 2,5 MV • **Switching Impulse:** Up to 1,6 MV • **DC Voltage:** Up to 1 MV DC • **Partial Discharge:** Up to 750 kV • **RIV Testing:** Up to 550 kV
Climatic & Mechanical Test Lab • Reproduce extreme environmental conditions and temperatures. • Equipped for leakage measurement by accumulation. • Testing room dimensions: D x W x H = 11 m x 6 m x 6.8 m	• Mechanical operations • Severe ice conditions • Tightness	**Temperature range** from -60°C to +60°C
Temperature Rise Test Lab • Two independent, parallel testing rooms with their own current generator • Records up to 200 x PT1000 temperature sensors simultaneously	• Continuous current test of HV switchgear	**Tests in AC: Single-Phase** (50/60 Hz) - up to 45 kA **Tests in AC: Three-Phase** (50/60 Hz) - up to 10 kA **Tests in DC:** Up to 4 kA **Temperature Control:** Ambient temperature can be controlled up to 40°C

A History of Key Events



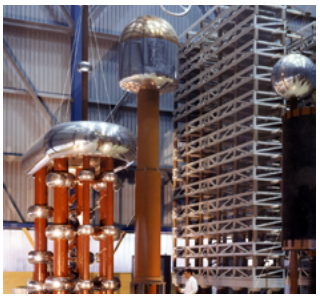
1929

CERDA becomes the first high-power test laboratory in France with the installation of the first short-circuit generator up to 600 MVA.



1953

Construction of the high-voltage testing laboratory. Installation of two 2,500 MVA generators extends the performance of the high-power test laboratory.



1968

First synthetic laboratory with new testing methods built.

1987

Construction and installation of the climatic test room.

1993

Construction and installation of a second synthetic laboratory. First accreditation by French committee, COFRAC.

2017

Creation of new testing halls according to the highest standards. Installation of new power transformers in the HV laboratory.

2023

Extension of the High-Power 800 kV Test Hall, 3000 MVA 50/60 Hz short-circuit generator.

Contact

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For a test request, visit: https://www.gevernova.com/grid-solutions/cerda#contact-us

For more information, visit
gevernova.com/grid-solutions

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