## Our **key figures**



**230** engineers, experts and test technicians

• **8** sites in France and 1 in the United Kingdom

1 training organisation, AEMC expert in EMC (electromagnetic compatibility) and Mechanic-Climatic tests

**4,000** customers in France and internationally

**5,000** projects completed per year

## Our strengths

 Technical and regulatory expertise in environmental testing and technical support, recognised by the authorities and by our customers.

 The power of a network of test centres located in France and abroad.

 Teams of specialists and expert engineers adapted to each project.

 Calculation centres and a large pool of test resources able to respond to specific problems in different markets.

#### Test standards

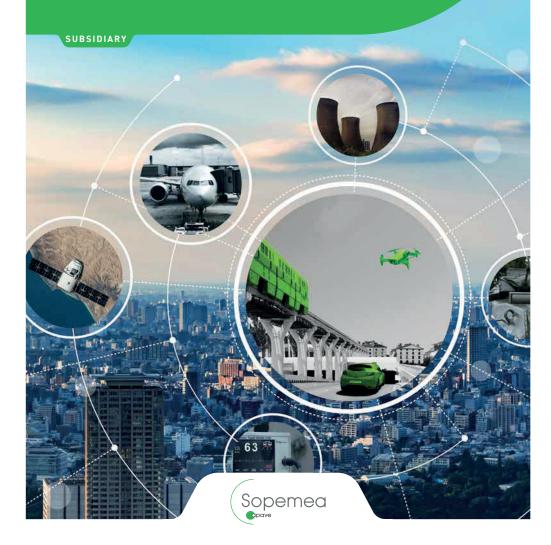
 Aeronautics, D0 160, ABD100
Space: ISS specifications, Airbus Space & Defence
Defence: MIL STD 810, STANAG, DEF STAN 00-35, MIL STD 461
Rait: NF EN \$1373, CEI 62236, NF EN 50 121
Energy: CRT 80C, CRT 91C 112, CRT 91C 113,

RCC-E, RCC-M - Automotive: PSA (B21 XXXX) specifications, Renault-Nissan...

- Medical: IEC 60601, GEMS specifications - General public: EC marking, EN 6100-6-1 to 7, products and test IEC 61000-4-x, IEC 62305-1 and IEC 61643-11

# Sopemea, expert for your equipment qualifications

## 6 business solutions for your projects



## **Contact** us

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# **Dedicated test experts** for your projects

To meet the new expectations of industrial markets, each actor must be able to provide proof of the safety and performance level of its products before they are launched onto the market. Sopemea, a subsidiary of the Apave Group and specialist in industrial equipment gualification tests, manages frame of reference for industrial risk and supports its customers on a daily basis and at all the stages of their projects.

### Sopemea will work with you to develop the test strategy for your equipment up to the final stage of gualification

For more than 70 years, Sopemea has been offering its customers a full range of engineering and testing services for the testing of any type of equipment in the areas of mechanical, vibration, climatic, electrical, hydraulic and electromagnetic compatibility, EC marking and on-site measurements.

Our experts are there to support you at every stage of the development of your projects: studies file, justification file or digital simulation file, gualification strategy and tests, vulnerability analysis, systems evaluation by tests, process audit. As an independent third party, our laboratories are accredited by COFRAC in France and UKAS in the United Kingdom.



Sopemea covers the AERONAUTICS, SPACE, DEFENCE, RAIL, ENERGY, AUTOMOTIVE. MEDICAL AND CONSUMER ELECTRICAL AND ELECTRONIC EQUIPMENT MARKETS.

## Our core businesses

#### **Environmental tests**

Sopemea has a wide range of test facilities available at its various sites, with the capacity to test your hardware and equipment in as per your needs, under all conditions of use and in compliance with international standards.



- Mechanical
- 35 electrodynamic generators
- (from 30 to 300 kN)

(from 40 to 300 kN)

4 impact machines

(up to 1.5 tonnes)

mechanical and

hydraulic auxiliary

services enabling

the functional

• 2 centrifuges

(up to 80 a)

- 2 biaxial shake-tables (2 cylinders of 55 kN and 2 cylinders of
- 300 kN) 3 single-axis tables
  - EMC • 1 lightning direct effect (LDE) generator (200 kA)

Climatic

 20 semi-anechoic chambers (from

accelerometer

measurement channels

80 climatic chambers

(from 0.05 to 200 m<sup>3</sup>)

30 to 500 m<sup>3</sup>) Electrical, pneumatic, 7 reverberating chambers with mode mixing (CRBM). 2 of which are mobile

#### implementation of your equipment and systems

#### Studies, expertise and measurements

Our multidisciplinary teams define the normative framework and the qualification strategy for vour products, equipment, systems, subsystems or infrastructures. Our services cover system analyses and studies in climatic. mechanical and electromagnetic environments, gualification plans, protection recommendations, experimental modal analysis on systems. EMC and acoustic measurements, image stereo correlation, and vibration measurements.

#### Simulations and digital twins

Our calculation centres provide digital simulation in the dynamic, mechanical, climatic and electromagnetic fields, forecasting and the update of actual tests and the development of digital simulation software.

#### **Electrical product compliance**

Our experts support you in your efforts to meet the compliance requirements for electrical products on the European or international markets,, offering you the expertise of COFRAC and IECEE accredited laboratories (CB Scheme).

### Training

AEMC, the EMC training and expertise organisation of the Sopemea Division, provides training in the following areas: EMC, mechanical, climatic and risk analysis. Our training courses are available in-person and online.

### Maintenance of test facilities

Sopemea supports its testing services with a maintenance service for test facilities. The teams operate across France and Europe in three main areas:

- vibration (exciters, power amplifiers, etc.), simulation (positioning and simulation tables),
- climatic chambers.

## A range of adapted services

#### EMC & electrical tests

- Conducted and radiated susceptibility
- Conducted and radiated emission
- Direct/indirect effect lightning
- Strong fields
- Electrostatic discharges
- Insulation resistance Electrical continuity measurement
- RADIO
- Hazard of NIEMR on persons
- HFRO
- IEMN
- On-site and on-aircraft tests

#### Climatic tests

- Hot and cold
- Thermal shock
- Rapid change temperature tests • Cooling tests
- Humidity
  - Ice and snow
  - Solar radiation
- Altitude and rapid decompression
- Sand and dust
- Fluid susceptibility
- Rain and wind
- Salt spray Mould
- LOCA
- IP/IK

#### Mechanical tests

- Vibration
- Shock
- Static and fatigue

- Impact
- Mechanism endurance

#### Measurements & calculations

- Calculation and simulation
- Environment characterisation
- Test customisation
- Updating of digital models
- On-board measurements
- Modal analysis
- Stereo-correlation On-site measurements





- Fall
  - Seismic
    - Hvdraulic