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**Marking for Converters;  
CE, UKCA & UKNI**

## Who we are



**CERE** was originally set up as a Certification Entity for Renewable Energies.

**CERE** was created to be the access key on the target countries for Renewable Energies, where certification of components, full installations certificates, modeling and software validation of renewable Power Plants, were required.

The company is accredited as Testing Laboratory and Certification Body.

Our services include Testing and Certification according Safety, EMC, Grid Quality, grid connection requirements, design certification and complete installations Certificates, complementary simulations, modelling validation, electromagnetic transient analysis.

This full process includes Inspection, Testing and Certification of Components such as PV modules, Wind and PV converters, trackers, transformers, string boxes, combiner boxes, etc., and the Certification for full Power Plants according particular country, DSO or TSO requirements and / or According Client Requests

# CERE Profile

The Company is managed by Miguel Martínez. Its team has a large experience in Certification for more than 10 years, including renewable energy's components and installations for worldwide grid integration, design, safety, EMC and grid quality, among others.

During the last 6 years CERE has grown exponentially, diversifying its services until the actual company structure:



- Certification
- Converters
- Grid Code & safety
- Simulation
- Trackers
- Batteries
- EMC

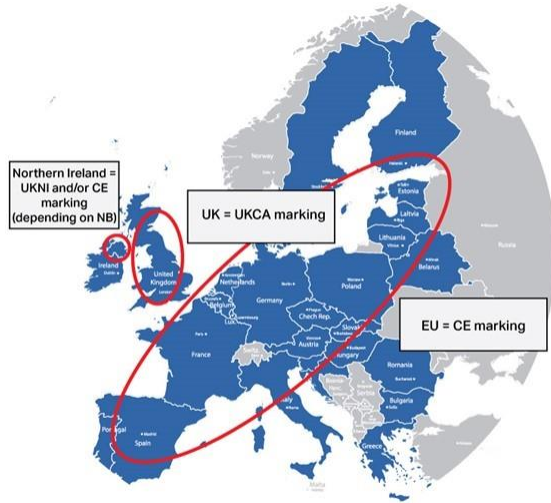
- Electrical Vehicle Charger
- Transformers
- Medical devices
- Electric and Electronic devices
- Quality System certification

# CERE Capabilities

**CERE's** Facilities in Getafe, Madrid, Spain have the following installations:

- Test site up to 500kVA for all kind of converters and Battery testing
- Test site up to 250kVA for all kind of converters including frequency variators up to 400Hz
- Test site up to 100kVA for DC-AC converters
- Test site up to 50kVA for all kind of converters and Battery testing. The source can act as DC source and AC source and electronic loads
- Test site up to 10kVA for single phase and three phase converters
- Passive loads up to 100kVA
- Electronic loads for Antiislanding up to 500kVA
- EMC Chamber and EMC laboratory
- Safety laboratory
- Simulation laboratory including Power Factory, PSSE and MATLAB

## What's CERE Renewables?



CERE Renewables is a department created to cover the demand of services for renewable energies components inside of CERE (Certification Entity for Renewable Energies)

CERE Renewables and particularly the solution for converters for the European market was created to provide support and trust at any stage of certification and testing for EMC and Safety requirements and the Client to be able to provide a self declaration CE Marking and/or UKCA & UKNI Marking.

Our services include Testing and Certification according different standards.

This process includes testing, certification and verification of converters and their components.

The electrical laboratory has developed a section with expert technicians in this field. We have carried out tests for Safety, EMC, grid quality and Grid connection market.

## CERE's Accreditations

- **CERE** is accredited by ENAC and a2La (IAF/ILAC members) as Certification Body According ISO 17065 and Testing Laboratory according ISO 17025 for Power Generating Units. This fact ensures a deep knowledge in international requirements for components and Renewable Energies Power Plants.
- **CERE** is also CBTL and NCB for the IEC Scheme.
- MET approval for the North American market
- Sunspec approval
- SII approval for Israel
- RETIE approved certification body for PV inverters (Colombia)
- Corean Approval

CERE's Accreditation can be checked in:

<http://www.cerecertification.com/accreditations>



## Applicable Standards

Depending on the applicability of the converter, there will be different standards to fulfill for getting the products into the different installations and Markets.

Depending on the area of Europe to install the product:

1. CE Marking and CE self declaration for all Europe except United Kingdom
2. UKCA Marking and UKCA self declaration for Great Britain since January 1<sup>st</sup> 2021
3. UKNI Marking and UKNI self declaration for North Ireland since January 1<sup>st</sup> 2021

For any of the abovementioned marking processes, the converter shall fulfill the following requirements

1. Safety requirements for Marking and self declaration.
  1. Low Voltage 2014/35/UE
  2. UK Legislation; Electrical Equipment (Safety) Regulations 2016.
2. EMC requirements for Marking and self declaration.
  1. Electromagnetic Compatibility 2014/30/UE
  2. UK Legislation; Electromagnetic Compatibility Regulations 2016

## Applicable Standards

1. Safety Standards for converters and safety requirements for Marking & self declaration:
  - **IEC 62477-1:2012+AMD1:2016** Safety requirements for power electronic converter systems and equipment - Part 1: General. Standalone and / or Grid connected converters
  - **IEC 62109-1:2010** Safety of power converters for use in photovoltaic power systems - Part 1: General requirements Standalone and / or Grid connected converters
  - **IEC 62109-2:2011** Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters Standalone and / or Grid connected converters
  - **IEC 62909-1:2017** Bi-directional grid connected power converters - Part 1: General requirements.



## Applicable Standards

2. EMC Standards for converters and EMC requirements for Marking & self declaration:
  - **IEC 61000-6-1:2016** Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments.
  - **IEC 61000-6-2:2016** Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments.
  - **IEC 61000-6-3:2016** Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments.
  - **IEC 61000-6-4:2018** Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.
  - **EN 55011:2016** Industrial, scientific and medical equipment Radio-frequency disturbance characteristics – Limits and methods of measurement. (Electromagnetic Compatibility Regulations 2016).
  - **CISPR-11:2015+AMD1:2016+AMD2:2019** Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement.



## Contact us



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