SOLARWIND
PORTUGAL

SOLARWIND
ÁFRICA

INTEGRATED SOLUTIONS FOR:

- PV
- Wind Turbine
- PV Inverters Repair
- Second Life Energy Storage
- EV Charging
- EV & PV Service Providers

SOME PEOPLE BELIEVE THAT THE ADOPTION OF RENEWABLE ENERGIE IS THE PATH FOR A SUSTAINABLE WORLD.

SOLARWIND PORTUGAL

SOLARWIND ÁFRICA

We want to help you choose the best solution for your business, whether in the area of Electric Mobility or Renewable Energies.

We believe that our technology and technology partners contribute to a more environmentally friendly country.

We have properly trained teams, so that your requirements are ourfocus.

Rui Marques

Founder & CEO

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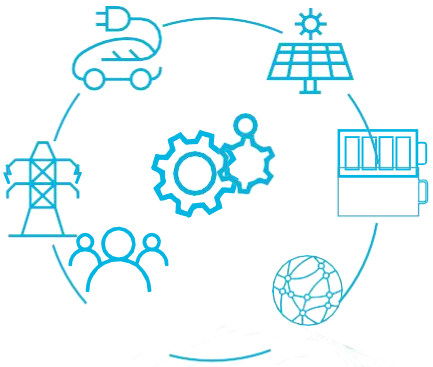
We combine electric mobility with smart charging and storage solutions to encourage growth in the use of renewable energy.



weg

CHARGE AMPS

efacec

i-charging

TELTONIKA

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WHERE ARE WE ?

- The Curia Tecnoparque Business Incubator was born in 2006 and is currently under the supervision of the Municipality of Anadia, with the University of Aveiro and the Polytechnic of Coimbra as partners.

- Located between Aveiro and Coimbra, its mission is to produce an economic impact in the region by favoring a climate of innovation and entrepreneurship for the creation and success of new companies.

- The Incubator's preferred areas are ICT – Information and Communication Technologies, Viticulture and Oenology, Soft Mobility, Health and Well-Being, Energy and Environment, Sports, Tourism and Thermalism, Ceramics and the Agricultural and Forestry Sector.

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OUR INTEGRATED SOLUTIONS

PHOTOVOLTAIC

WIND

REPAIR OF PV INVERTERS

SERVICE PROVIDERS

DRONE TECH

EV and PV PLATFORMS

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OTHER SOLUTIONS

SUSTAINABLE ENERGY FOR ALL

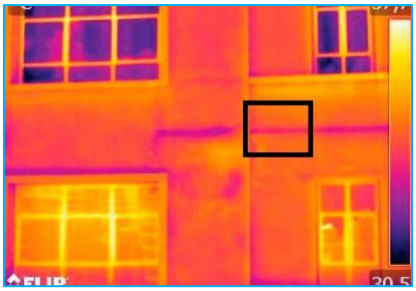
PHOTOVOLTAIC

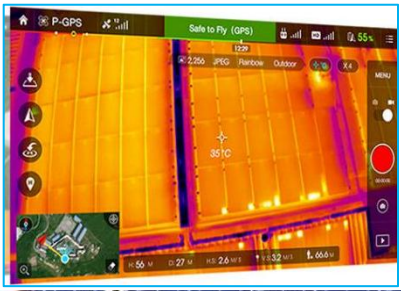
EPC

We install and invest in Photovoltaic parks in Portugal and Spain

We have dedicated and trained teams for this purpose, as well as differentiating technology.

- EPC
- O&M Services
- INVESTMENT IN PV
- PREVENTIVE AND REACTIVE MAINTENANCE
- MONITORING PLATFORM
- RECYCLING OF PHOTOVOLTAIC PANELS
- RECONDITIONING OF PHOTOVOLTAIC PANELS





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O&M SOLAR DIVISION

- **GUARANTEES**
  - ✓ Response time
  - ✓ Availability
  - ✓ Performance ratios
  - ✓ Yield

- **OPERATIONS**
  - ✓ Remote monitoring
  - ✓ Management of tasks and allocation of job numbers
  - ✓ Remote plant control
  - ✓ Site performance reporting
  - ✓ Trend analysis
  - ✓ Time-tabling panel cleaning

- **MAINTENANCE**
  - ✓ Fixed price annual packages
  - ✓ Inspections and maintenance on;
  - ✓ Inverters
  - ✓ Transformers
  - ✓ Medium & high voltage switchgear
  - ✓ Sensors
  - ✓ Structure
  - ✓ Modules
  - ✓ Combiner boxes
  - ✓ Cabling
  - ✓ IV Curve testing
  - ✓ Thermal imaging - ground and aerial by licensed drone
  - ✓ Electroluminesence
  - ✓ Outage and diagnostics on site
  - ✓ Replacement (or repair) of PV kits as required
  - ✓ Replacement (or repair) of MV/HV kit
  - ✓ Site maintenance;
  - ✓ Module cleaning
  - ✓ Grass cutting
  - ✓ Management of shade creeping
  - ✓ Road maintenance
  - ✓ Perimeter fence maintenance
  - ✓ Site security
  - ✓ Site surveillance

- **ASSET MANAGEMENT**
  - ✓ Warranty and insurance support
  - ✓ Health & safety management

- **ADDITIONAL BACKUP**
  - ✓ Plant: commissioning & quality control
  - ✓ including upgrades and retrofits
  - ✓ Monitoring of any upgrades or retrofits
  - ✓ Compliance consulting
  - ✓ Pre warranty inspections

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O&M SOLAR DIVISION

- **Reactive maintenance**

  - ✓ **UNSCHEDULED REPAIRS**
  - ✓ If something goes wrong and your site goes down we'll have it back up and running in the shortest time possible.

  - ✓ If we can't get things back up and running remotely we promise to be with you within 48 hours, (invariably we'll be there in 12 hours) and have you back in operation as quickly as possible. We do offer call out times from 4 hours depending on your needs.

- **Proactive maintenance**

  - ✓ We're on-call every day of the year, including weekends when we have people on stand-by. Our proactive maintenance packages include regular inspections and annual services.
  - ✓ We offer regular inspections for solar and will work with you to decide the most suitable maintenance programme be it every month, 3, 6 or 12 months.

- **During inspections we'll check everything on site including;**

  - ✓ Panels
  - ✓ Security fence
  - ✓ Inverters, including a visual inspection of the AC/DC cabling
  - ✓ On-site buildings
  - ✓ Medium and high voltage facilities
  - ✓ Mounting structures
  - ✓ Grounds
  - ✓ Site cleanliness

- **Land management plans**

  - ✓ Our commitment to protecting the environment has seen us raise staff awareness and incorporate specific measures into the daily operation of our business. Natural Generation has been accredited with the BS8555 environmental standard and performance, something we review regularly.
  - ✓ We ensure all equipment is maintained in good working order and fitted with the appropriate silencers, mufflers or acoustic covers where applicable and the movement of vehicles to and from site is controlled.
  - ✓ We aim to leave sites cleaner than we found them. We take every piece of litter away and dispose of all packaging separately – it's all recycled and dealt with properly.

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SUSTAINABLE ENERGY FOR ALL

PHOTOVOLTAIC

REPAIR OF MULTI-BRAND INVERTERS

Inverter repair is a technical maintenance service that can only be performed by professionals who are already familiar with this type of equipment.

Inverter repairs must be carried out in such a way as to normalize the operation of the equipment, which, due to constant use, can suffer wear and tear and overloads that damage its operation.

It is important to point out that the frequency inverter is responsible for controlling and driving electric motors and, simultaneously, for varying the frequency and voltage supplied.

Some of the routines performed during inverter repair are:

- **Verification:** during inverter repair, the equipment is visually examined to detect problems such as knocks, loose parts and other anomalies that must be corrected by the responsible technician;
- **Internal components:** if there are failures in the control and adequacy of the electrical voltage supplied, it is necessary to check the internal components. It is therefore necessary to dismantle the equipment and check each of its parts before reassembling it;
- **Tests:** to ensure that inverter repairs have been carried out correctly, the equipment is assembled






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SUSTAINABLE ENERGY FOR ALL

INDUSTRY

PV RECYCLING INDUSTRY

An influx of minerals is necessary to decarbonize global energy systems and prevent valuable material loss in standardized waste streams:

By that time, the PV recycling industry can supply :

- 8% of the polysilicon,
- 11% of the aluminum,
- 2% of the copper
- 21% of the silver needed by recycling PV panels installed

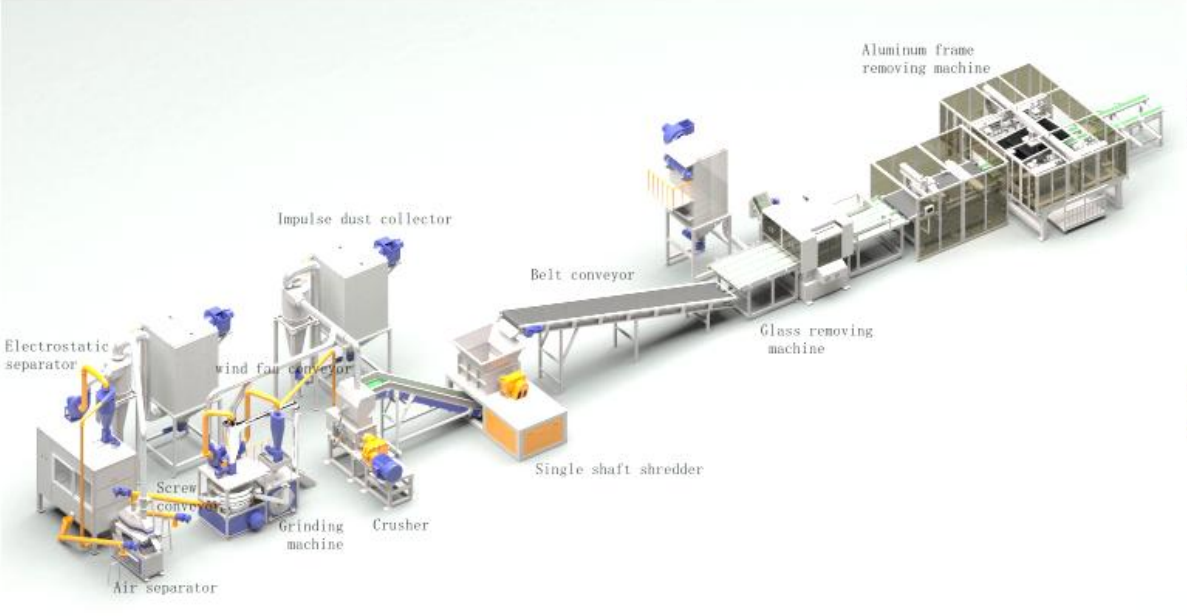
This recovery potential can ease strains on the mining sector and reduce the solar PV panels' carbon footprint.

The process of refining copper releases about 4 tonnes of carbon dioxide (CO_2) per tonne of copper and is, together with the broader mining industry, a significant source of greenhouse gas emissions. Potential future carbon taxes can change the cost situation with significant value gains for the recycling industry.

1 Ton solar panels scrap,you will get :

750 kg Glass
90 kg Aluminum
30 kg Silicon
14 kg Mixed metal powder
116 kg Adhesive strip and EVA

We mande as well PV refurbishing solar panels



Part 1 Aluminum Frame Removing Machine

Part 2 Glass Removing Machine

Part 3 Solar Cells Crushing Separating Machine

SUSTAINABLE ENERGY FOR ALL

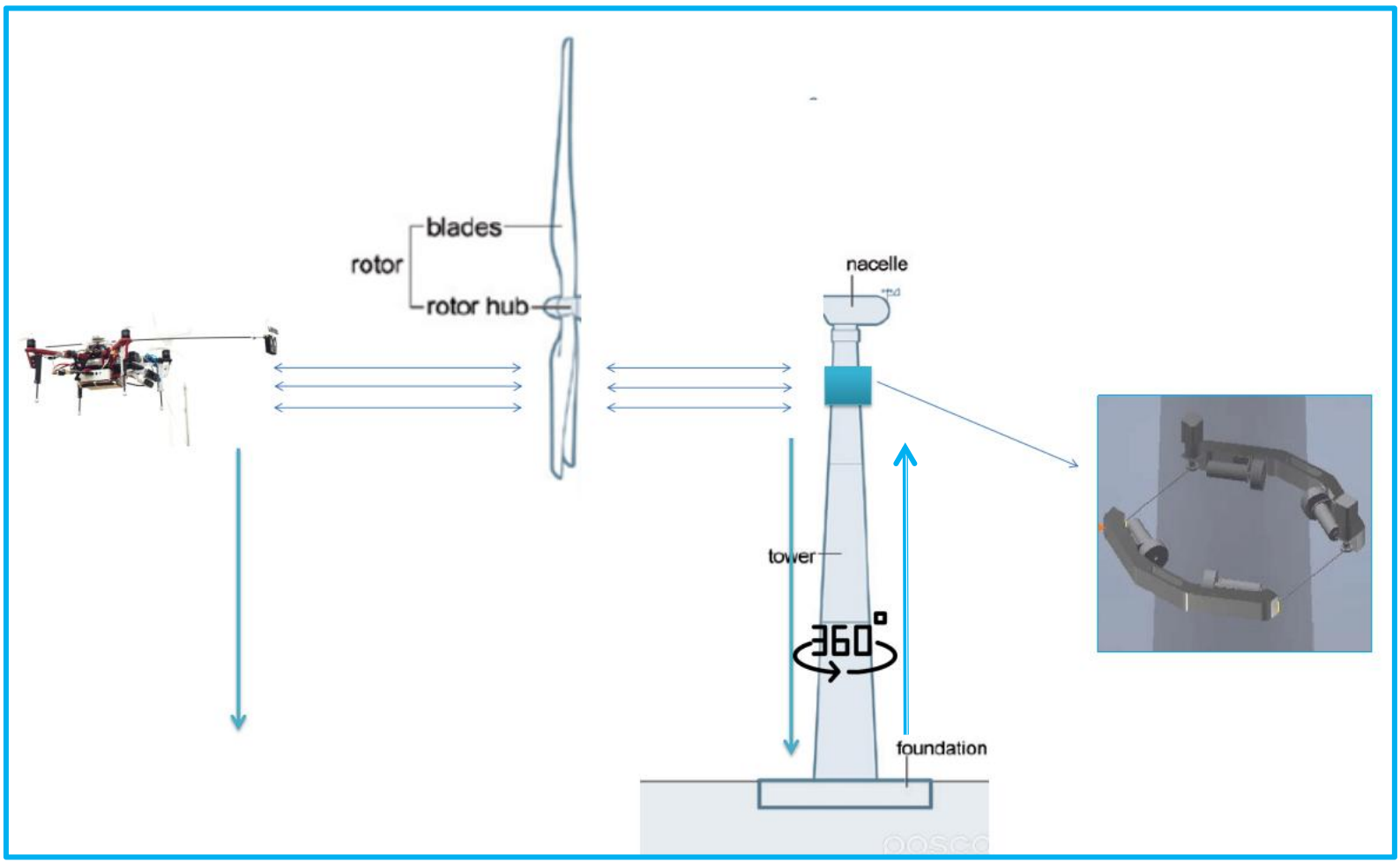
WIND

INSPECTION, MAINTENANCE AND COMPONENT REPLACEMENT

The blades of a Wind Turbine can suffer serious damage due to the fact that they are subject to adverse and variable atmospheric conditions. 24 hours a day 365 days a year. Subject to rain and strong winds, hail, electrical discharges, UV radiation and particle impacts.

- It represents loss every moment that a wind turbine does not produce energy.
- The deformation of the blades, and the accumulation of dirt, degrade the performance of a wind turbine, jeopardizing its useful life and its productive capacity.
- It is vital to inspect regularly as a way to control and act preventively, avoiding higher costs resulting from more advanced states of degradation.
- It is vital to inspect to detect the need for intervention, qualify and quantify damages and their respective degradation over time.

Wind Turbine Inspecion (Blades and Struture):



SUSTAINABLE ENERGY FOR ALL

PROFESSIONAL LINE

AC CHARGERS

PCN

The Normal Charging Station is the perfect charging equipment to be used in public, business, commercial spaces or car parks. It is an equipment with an elegant and compact design, which can go from 3.7kW to 22kW of power.

Provides two Mode 3 charging connectorsindependent and with the possibility of installing another type of connectors.

We invest , Make project and Maintenance of AC Chargers

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SUSTAINABLE ENERGY FOR ALL

PROFESSIONAL LINE

DC CHARGERS

EVCORE LMS
Modular EV Charging Management Systems

PCR

Fast Charging Stations are the perfect solution for fast private, public and secure charging.

This DC Fast Charging station is used to charge all EVs with CHAdeMO, CCS COMBO and AC43 connection.

Solutions from 45 Kw to 600 Kw

We invest , Make project and Maintenance of DC Chargers

SUSTAINABLE ENERGY FOR ALL

BUSINESS
WALLBOX

CHARGE AMPS

Elegant equipment with a compact design. With wall installation, it is the perfect and safe solution for charging indoors, covered garages, workshops, homes, condominiums or offices.

This model is available in several configurations:

- With cable and respective support.
- Two independent charging connectors allow simultaneous charging.
- Access control via RFID card or security key. Smart energy meter.
- Automatic charge speed control, according to available energy on site.

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SUSTAINABLE ENERGY FOR ALL

RESIDENTIAL
WALLBOX

TELTONIKA | IoT Group

DIMENSIONS

Width 170mm | Height 341mm | Depth 94mm

COLOR OPTIONS

Winter White | Slate Grey | Oak Wood (Q2, 2022) | Burgundy | Granite Brown

FRONT PLATE FINISH

OUTPUT OPTIONS

A Type 2 cable | B Type 2 socket

CONNECTIVITY TYPES

Ethernet port | WiFi | GSM (optional) | Bluetooth | NFC

OCPP 1.6 | App

THE FUTURE OF CHARGING ON YOUR WALL

Easy, smart and reliable EV charger that you can customize to your needs.
We offer an exceptional product that combines functionality, premium looks, high-quality build and smart EV charging features to save you time and money.

TELTONIKA | Energy

SUSTAINABLE ENERGY FOR ALL

PROFESSIONAL LINE

DC CHARGERS

The **WEMOB STATION** charging station is the complete solution for rapidly charging electric vehicles at service stations and highways. Offering up to three charging patterns, the WEMOB Station is the ideal choice for fast charging in direct current or alternating current. Its compact size makes it perfect for urban use, with flexible charging power up to 150 kW.

- In power outputs from 30 to 150 kW;
- Installation in three-phase power lines (380V AC);
- 4.7 meter cables included;
- Panel locking system that protects against unauthorized opening;
- Open communication protocol OCPP 1.6 JSON that allows interoperability between stations and systems in the cloud;
- Metal panel resistant to water projections, UV rays, scratches and dust;
- Electrical protection devices included, providing greater safety for you and your electric vehicle;
- Connectivity with signal receiving antenna;
- Color display at ergonomic height, accessible and easy to read;
- Secure access control via RFID card, mobile application or management software;
- Up to three plug options (CCS-2, CHAdeMO and Type 2 AC) positioned for easy access;
- Options for internet connection via SIM card, Ethernet cable or Wi-Fi

SUSTAINABLE ENERGY FOR ALL

STORAGE

SECOND LIFE ENERGY STORAGE

SOLARWIND idealizes and carries out projects for the reuse of electric vehicle batteries, converting them into stationary systems for joint use with solar panels.

The use of recycled lithium batteries promotes circular economy principles and drives sustainability and reuse.

BENEFITS

- ✓ The combination with photovoltaic production makes the installation achieve energy independence.
- ✓ It can work as a backup system.
- ✓ There is no waste when the facility does not absorb all renewable energy production.
- ✓ Reduction of CO2 emissions

EMERGENCY SET (Genset+Storage+Wind Turbine+PV+Water)

SUSTAINABLE ENERGY FOR ALL

PV & EV PLATFORM

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We provide more comprehensive Sustainable Mobility Management (SMM) solutions for companies that are decarbonizing their ecological footprint.

The solution starts with the SW Platform, which technologically coordinates mobile assets and users to provide real-time analytics on how users use your company's mobile property.

Once implemented, the SW Platform is the foundation on whichifbuilds a complete solution that can be configured in creative ways to meet its customers' evolving mobility needs, starting with electrified fleet management, charging stations and asset sharing, and including open integration into third-party applications and sources of data.

SUSTAINABLE ENERGY FOR ALL

ICT SERVICES

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DataSmart is a private equity company, founded in 2003, with a position as a provider of technological services of excellence for the business market.

It began its activity with projects aimed at the administration of Unix systems and the implementation of alarm solutions.

From an early age, it incorporated and developed skills in the printing area, having created, in its first year of activity, the "Printing Solutions" business area - with the aim of responding to the needs highlighted by its customers, having in this context created an offer of solutions of quality printing for the correct use and optimization of the computer parks.

The excellence of the services provided allows that, over the first few years of activity, several projects be started to provide Unix systems administration services, Microsoft systems administration, administration of management platforms, implementation and administration of databases (Oracle and SQL Srv) on customers from various sectors, such as banking, mobile operators and public institutions.

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SUSTAINABLE ENERGY FOR ALL

DRONE TECH

- Photovoltaic Thermography
- Photovoltaic Panel Cleaning
- Analysis of Degradation Wind Towers
- 3D Inspection of Wind Blades
- Wind Blade Cleaning
- 3D Mapping
- Telecommunications Tower Inspection
- Inspection of High Voltage Towers
- Inspection of Building Facades

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TRADING

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Wire

Steel Wire Processing

Metalic

Metalic Construction

EPS

EPS Reinforced

Services

Service providers

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PROJECTS

PINGO DOCE GUIFÕES

PV UPAC Instalation

FILINTO MOTA MATOSINHOS

PV UPAC Instalation

CORTADORIA DO PELO

PV UPAC Instalation

LITHENJIN

PV UPAC Instalation

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PROJECTS

HOTEIS FLAG

AC & DC Instalation and Comissioning

CARPORT VALADARES

PV Carport Instalation

HOTEL MARRIOT

AC & DC Instalation and Comissioning

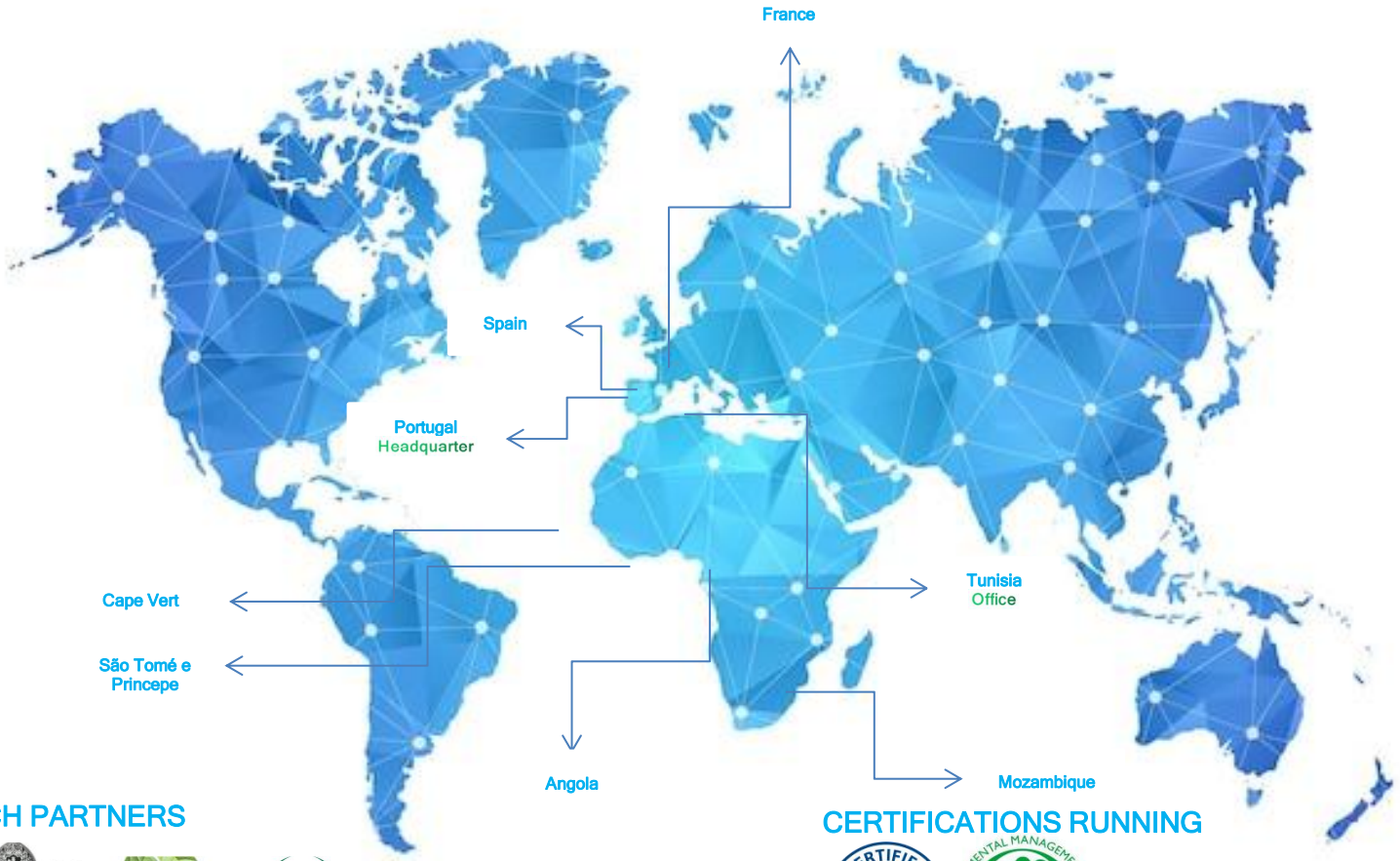
CAVES SANDEMAN

AC Instalation and Comissioning

CLIENTS

your energy with helexia · weg · IKEA · Solarig · prosolia energy · zunder · efacec Empowering the future · voltalia · WINRG IBERIA · OTOVO · Verne TECHNOLOGY GROUP · ATOMO Capital Partners · BUREAU VERITAS

SOLARWIND IN THE WORLD



TECH PARTNERS

1 2 9 0 UNIVERSIDADE D COIMBRA

minuto verde

Quercus

GREENPEACE

CERTIFICATIONS RUNNING

CERTIFIED ISO 9001:2015 COMPANY

ENVIRONMENTAL MANAGEMENT SYSTEM ISO 14001

SOLARWIND PORTUGAL

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