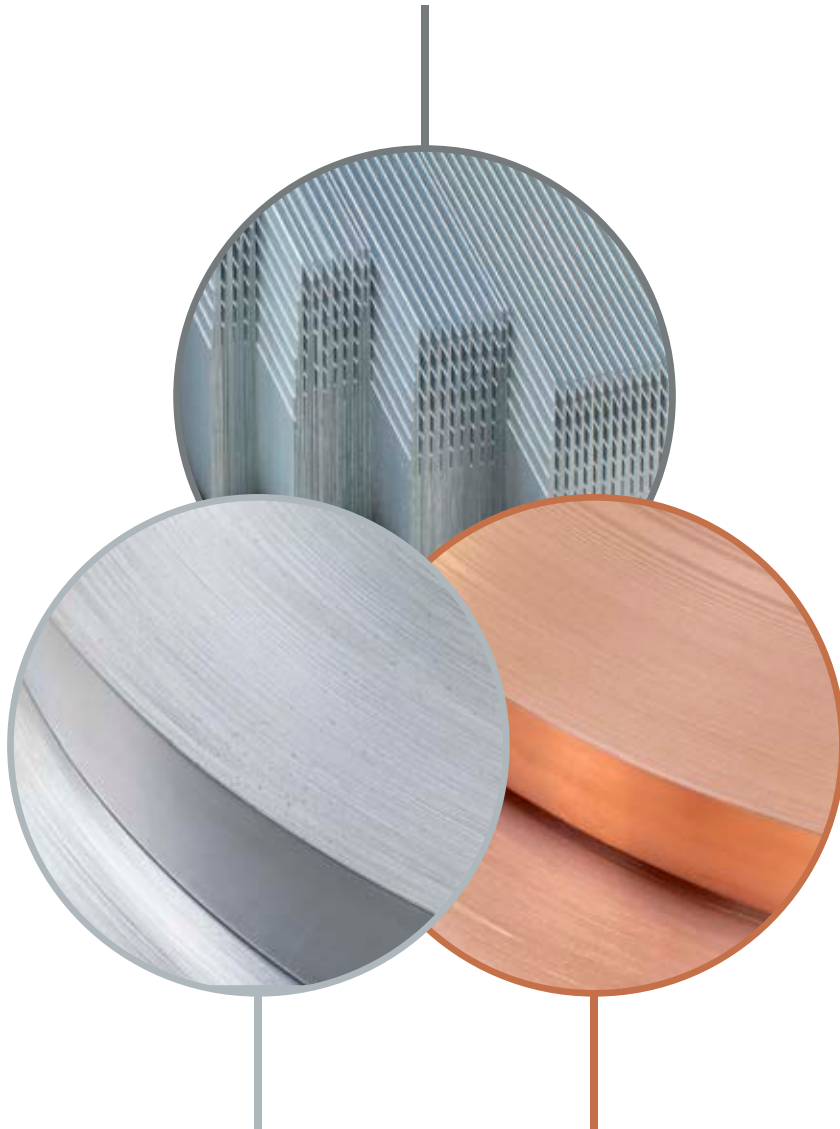


**TMC**  
**TRANSFORMERS**  
ESTABLISHED 1936

COMPANY PROFILE



# THE ORIGINAL TMC

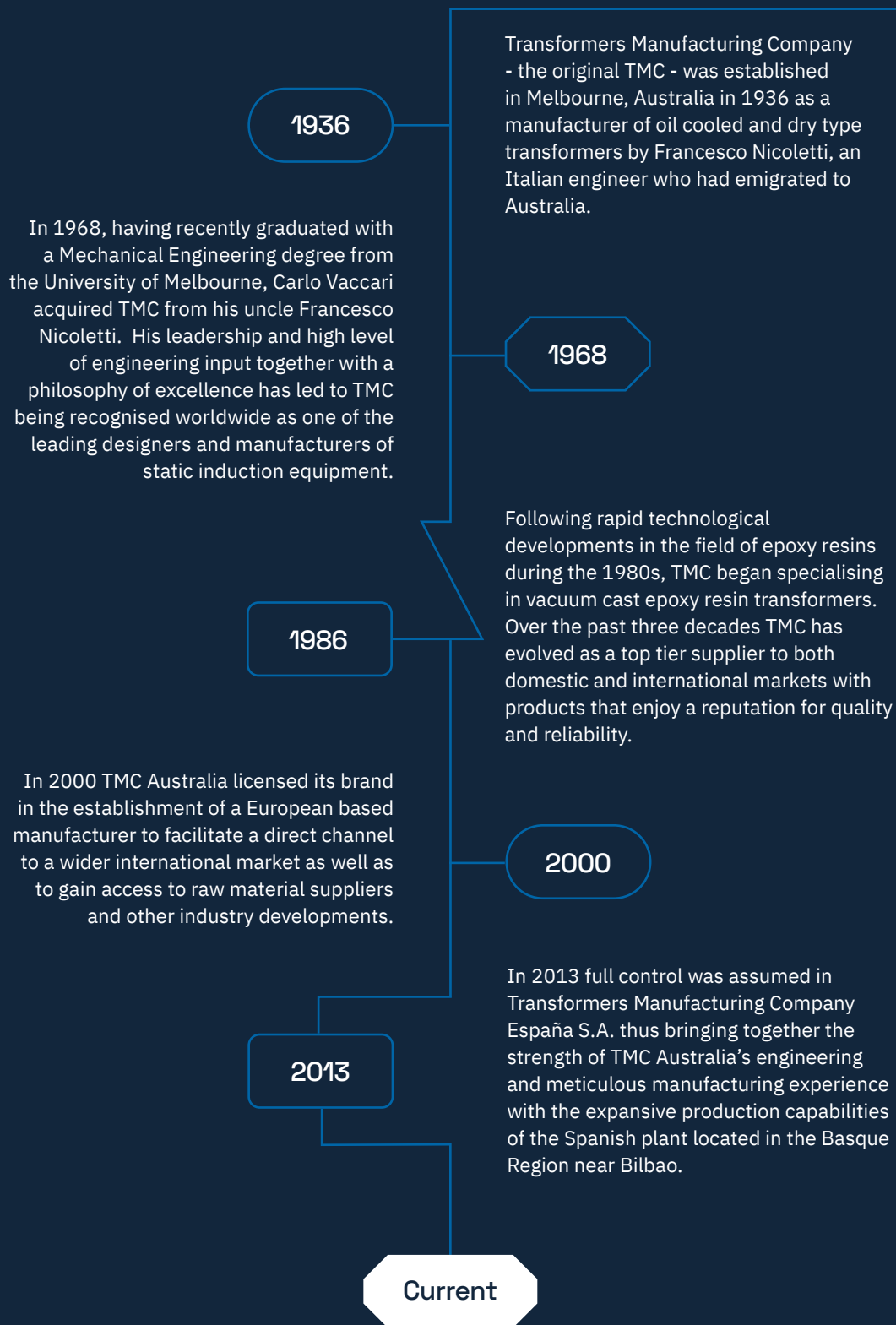
Tried and Trusted for more than 85 years

AUSTRALIA and SPAIN

COMPANY PROFILE

# Transforming since 1936

*Excellence in engineering and  
manufacturing are key to the stability,  
expansion and success of TMC.*



Since 2013, the market reach of TMC Spain has evolved from being predominantly domestic to more than two-thirds of its production being exported either to European countries or further afield to the Middle East, North America, South America and South East Asia.

TMC Australia continues to serve Australasian markets with its highly specialized production output.

# Synergy

The technical and production experience of TMC Australia and TMC Spain combine synergistically to facilitate the design and manufacture of the most sophisticated transformers and reactors in the most efficient and cost-effective manner.

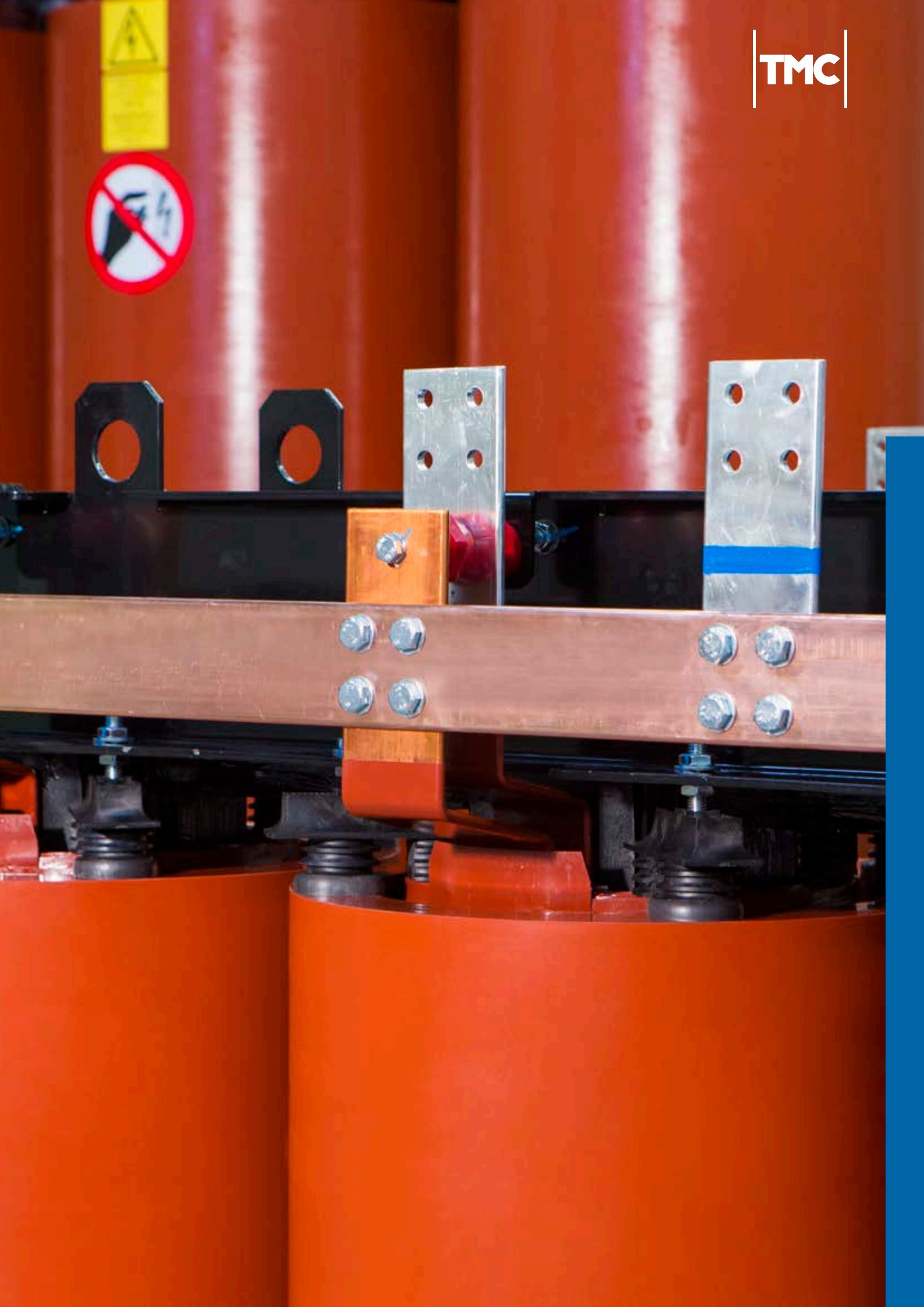
This experience has enabled both businesses to expand locally and globally as each draws on the strength and support provided by the other.

Since 2013, the technical knowledge of TMC Spain has been further enhanced by the vast experience of TMC Australia. This has enabled the manufacture of larger, more complex transformers with ratings up to 30MVA and 72kV.

Simultaneously TMC Australia has secured access to a European base from which to source the highest quality raw materials as well as selected componentry manufactured by TMC Spain enabling it to provide superior, cost effective solutions for its local Australian and Southern Hemisphere customer base.

Both TMC Australia and TMC Spain benefit from economies of scale gained in their combined purchasing power.

*The stability and success of TMC Australia over more than eight decades and the global expansion of TMC Spain over the past decade can be attributed to an ingrained tradition of engineering and manufacturing excellence which result in products of the highest quality and reliability.*



COMPANY PROFILE

# Meticulous engineering





TMC follows meticulous design principles, developed and refined over decades and tens of thousands of engineering projects, serving a wide range of industries and applications, particularly where reliability and quality are critical.

TMC engineers solve complex engineering challenges with innovative technical solutions. They work synergistically using a collaborative approach enabling all engineers access to the team's vast experience and expertise.

TMC engineers are closely connected to the manufacturing process and remain involved during production when new technical milestones are presented.

Technical designs are carried out with the aid of proprietary software that solves transformer design algorithms for optimum electromagnetic and economic outcomes.

TMC has designed and manufactured elegant and bespoke solutions for customers who have been unable to solve technical challenges elsewhere and has earned a worldwide recognition for its engineering ingenuity.

TMC engineers travel to tradeshows and conferences to remain current with industry developments such as changing Electrical Standards and innovations in production machinery design and raw materials. They also travel between the two manufacturing facilities to facilitate continuous improvement.

# Manufacturing finesse



TMC has invested substantially in machinery and tooling that is second to none, in order to maximise production quality.

Machines have been custom designed and commissioned from the best European manufacturers with detailed input from TMC engineers. Longstanding relationships with these suppliers allows TMC to adapt and upgrade its plant as materials and technologies evolve.

Preventative maintenance programs and double up plant ensure machine downtime is negligible.

Coils are wound using the most sophisticated, high precision European winding machines in the world. **Tuboly Astronic** from Switzerland for High Voltage and German **Stollberg Siebold** for Low Voltage foil, including one of the largest dual wide foil winding machines in the world, as well as **Stollberg** wire winding machines.

Casting Plants are custom designed and produced by Italy's **BP2 Inox**, world renowned for their expertise in vacuum technology.

TMC uses only the highest quality raw materials from longstanding, predominantly European suppliers who in turn use the world's best machinery to cut and craft their materials.

Complementing the magnificent plants are highly skilled, long term employees, who have developed expertise over decades.

TMC has a deliberate focus on double skilling its workforce to prevent bottlenecks and manage workflow to honour its delivery commitments.

*Complementing meticulous engineering is manufacturing finesse based on the philosophy “**only the best will do**” when it comes to production inputs.*



COMPANY PROFILE

# Manufacturing Australia



*TMC Australia produces more than 150 transformers per annum in cast resin, open winding (VPI) and oil cooled with a total power of more than 250MVA.*

TMC Australia specialises in the manufacture of bespoke, often complex and highly sophisticated distribution and power transformers and reactors. Decades of reliable, high quality output has earned TMC Australia a worldwide reputation for excellence in engineering and production.

TMC Australia manufactures a comprehensive array of induction equipment such as dry type cast resin, vacuum pressure impregnated (VPI) and oil cooled transformers and reactors – including applications for rectifier, BESS and variable speed drive (VSD) connections.

TMC Australia's reference list is enviable as very few companies come close to the breadth of TMC's engineering and manufacturing expertise.

TMC is the only local manufacturer of cast resin transformers and one of only a handful of local manufacturers of oil cooled transformers in Australia.

Through its commitment to excellence and quality, TMC has established a loyal customer base, many of whom have been purchasing transformers from TMC for more than 50 years.



**6740** m<sup>2</sup> (73,000 ft<sup>2</sup>)  
production space.



Over **200** tonnes of Aluminium  
and Copper wound per annum.



**50** tonnes of Epoxy Resin  
cast per annum.



**40** full time employees  
working 2 shifts per day.

# Manufacturing Spain

Since 2004, TMC Spain has specialised in the design and manufacture of vacuum cast epoxy resin transformers.

In 2007, the company purchased land to construct a designed-for-purpose state of the art manufacturing facility in Northern Spain's productive Basque Country.

Since its linkage with TMC Australia in 2013, the business has continued to invest in new plant and equipment to enable production and testing of more sophisticated products for its expanded, global customer base.

In 2019, TMC Spain was homologated by ADIF, the network manager of Spain's fast rail network, for the supply of 72kV class traction rectifier transformers.

TMC Spain holds certificates in ISO 9001, 14001 and 45001 and since 2017 has maintained CSA certification relevant for the North American market.



**9000** m<sup>2</sup> (97,000 ft<sup>2</sup>)  
production space.



**800** tonnes of Aluminium  
and Copper wound per annum.



**200** tonnes of Epoxy Resin  
cast per annum.



**48** full time employees  
working 2 shifts per day.

*TMC Spain produces up to 1200 cast resin transformers per year with a total power of more than 1200MVA.*



# Production plants



## Winding machines

- 7 Tuboly Astronic High Voltage Winding Machines
- 2 Tuboly Astronic Low Voltage Winding Machines
- 1 Tuboly Astronic Vertical Wire Winding Machine
- 2 Stollberg Siebold Low Voltage Winding Machines
- 1 LAE Foil Low Voltage Winding Machine
- 2 Stollberg Horizontal Wire Winding Machines

## Casting plants

- 3 BP2 Inox Casting Plants with Siemens Simatic control
- 1 Meier Prozesstechnik Vacuum Pressure Impregnation Plant
- 1 Maxima Impianti-Vacuum Impregnation Plant

## Machinery

- 4 Idrocalor Curing Ovens
- 5 Furnace Engineering Curing Ovens
- 1 Farley Core Cutting and Stacking Machine
- 20 Gantry Cranes with 40 tonne maximum lifting capacity



# Test laboratories



## TMC Spain

Three independent 400kVA SIME Test Bays calibrated and independently certified to conduct a full range of Routine and Type Tests in accordance with all recognized National Standards including IEC, ANSI, IEEE and CSA.

- 200kVA Supsonik solid state generators with both 50Hz and 60Hz stabilized output
- OEMER 100Hz and 150Hz power generators
- 400kV AME Full Wave and Chopped Wave Impulse Generators
- Omicron Partial Discharge measurement units
- Bruel & Kjaer Sound Analysis System
- Glaninger Circuit for Impulse Test
- Perkin Elmer Glass Transition Temperature Measurement

**TMC Spain offers online Factory Acceptance Testing (FAT) services for customers unable to attend the laboratory. The system has multiple cameras to allow effective remote witness testing.**

## TMC Australia

Two independent 400kVA Test Bays calibrated and certified to conduct a full range of Routine and Type Tests in accordance with all recognized National Standards including IEC, ANSI, IEEE and CSA.

- 400kV Passoni & Villa Full Wave and Chopped Wave Impulse Generator
- 200Hz and 300Hz Power Generators
- Omicron Partial Discharge measurement units
- 20kADC Test Transformer-Rectifier
- Full range of ancillary measurement apparatus.

## Special tests by independent laboratories

**Climatic Test C2, Environmental Test E2, Fire Behaviour Test F1**  
CESI Testing & Certification Division Milan Italy

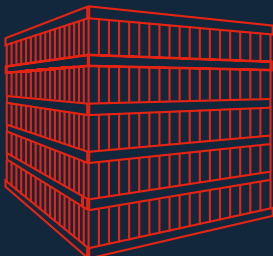
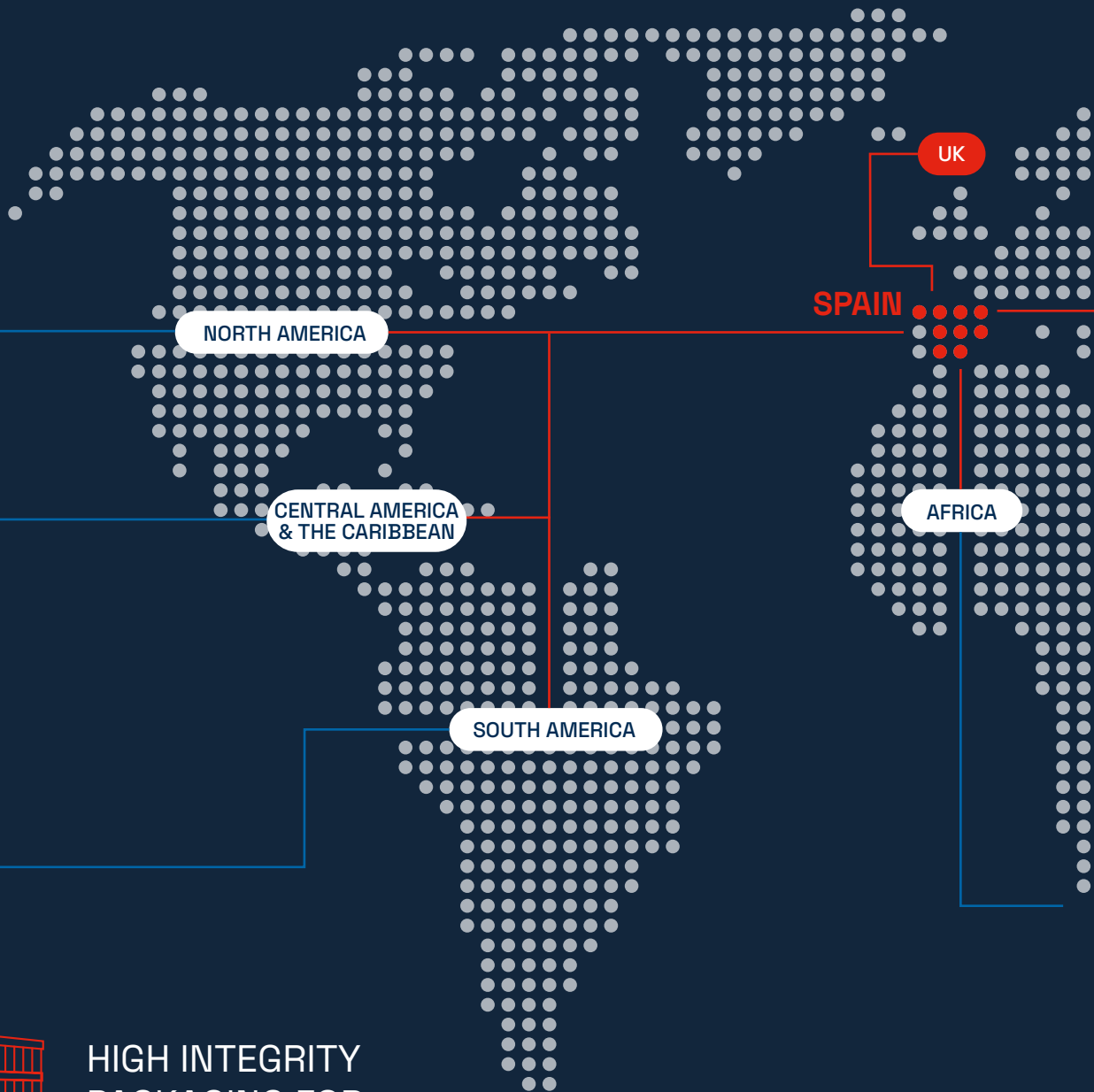
**Climatic Test C2, C3, Environmental Test E2, E3, E4**  
Tecnalia Electrical Equipment Laboratory Bilbao Spain

**Short Circuit Withstand Test**  
Tecnalia Electrical Equipment Laboratory Bilbao Spain  
Testing & Certification Sydney Australia

**Seismic Qualification**  
Bristol Earthquake And Engineering Laboratory UK

**DNV GL Offshore Standard OS-D201**  
DNV GL Oslo Norway

# Global customer base



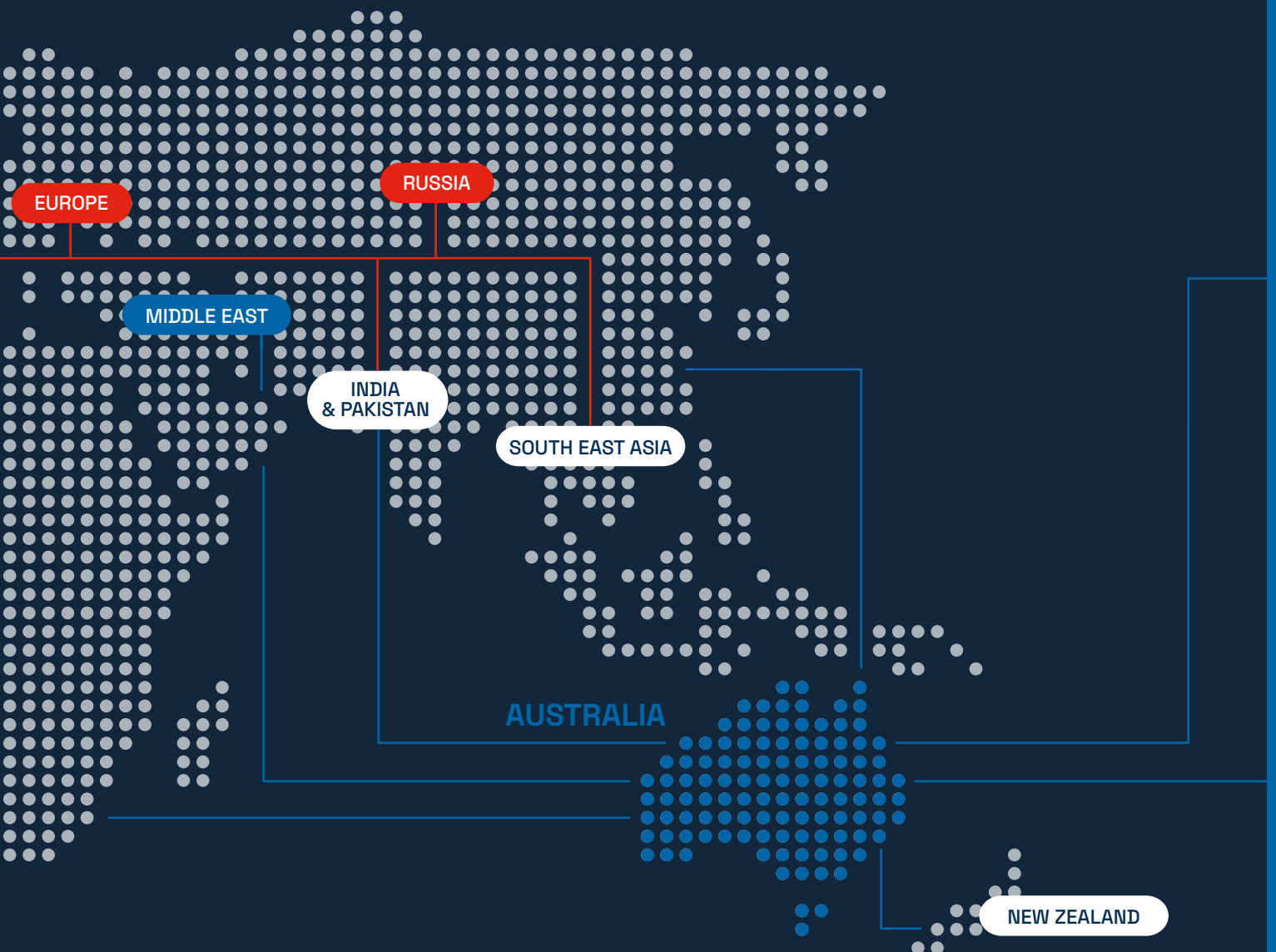
HIGH INTEGRITY  
PACKAGING FOR  
INTERNATIONAL  
SHIPPING

## Direct sales to customers

TMC has long term relationships with both domestic and export customers going back decades. Some of TMC's customers are themselves high profile industry names such as Siemens, ABB, Hitachi, Eaton, Ormazabal, WEG, General Electric and Schneider Electric. Other multinational customers include Rio Tinto, BHP, Acciona, Porsche, Iberdrola, Alcoa, Thyssen Krupp, Toshiba, Ford, Kimberley Clark, Shell, Sims Metal, and Bluescope Steel.

## Valued distributor network

TMC has established a network of select distributors in strategic locations around the globe who have valuable local connections and knowledge. TMC works closely with these distributors to optimize solutions for customers in these regions.



*TMC products are expertly packed for export in vacuum sealed bags and wooden shipping crates*

# Product range

*TMC manufactures transformers up to 30 MVA 72kV including:*

Distribution	Welding
Power	Submersible
Rectifier / Inverter (Converter)	Induction Heating / Oven
BESS & VSD Converter	Water Cooled
Neutral Earthing	On Load Tap Changer (OLTC)
Low Voltage	Off Load Tap Changer
Motor Starting Autotransformers	Vacuum Pressure Impregnated
Seismic Rated	Phase Shifting
Silicone Free	Substation / Mobile Substation

---

*TMC manufactures a broad range of reactors including:*

Air Cored  
Iron Cored  
Iron Shroud  
Current Limiting  
Shunt  
Damping  
Tuning  
Smoothing  
Neutral Earthing

---

1W

TMC



# Cast Resin DISTRIBUTION



1600-2240kVA 20000-10000/400V  
Dyn5 ANAF IP00

1250kVA 20000/420V  
Dyn11 AN IP00



# TRANSFORMERS



250kVA 3000/420V  
Dyn11 AN IP00

# Cast Resin SPECIAL





1500kVA 24940-12470/600-208V  
YNyn0yn0 ANAF 60Hz with 5 limb core

# TRANSFORMERS



3300kVA 25000/1300-1300V  
Yd11Yy0 Traction Class IXA

# Cast Resin POWER



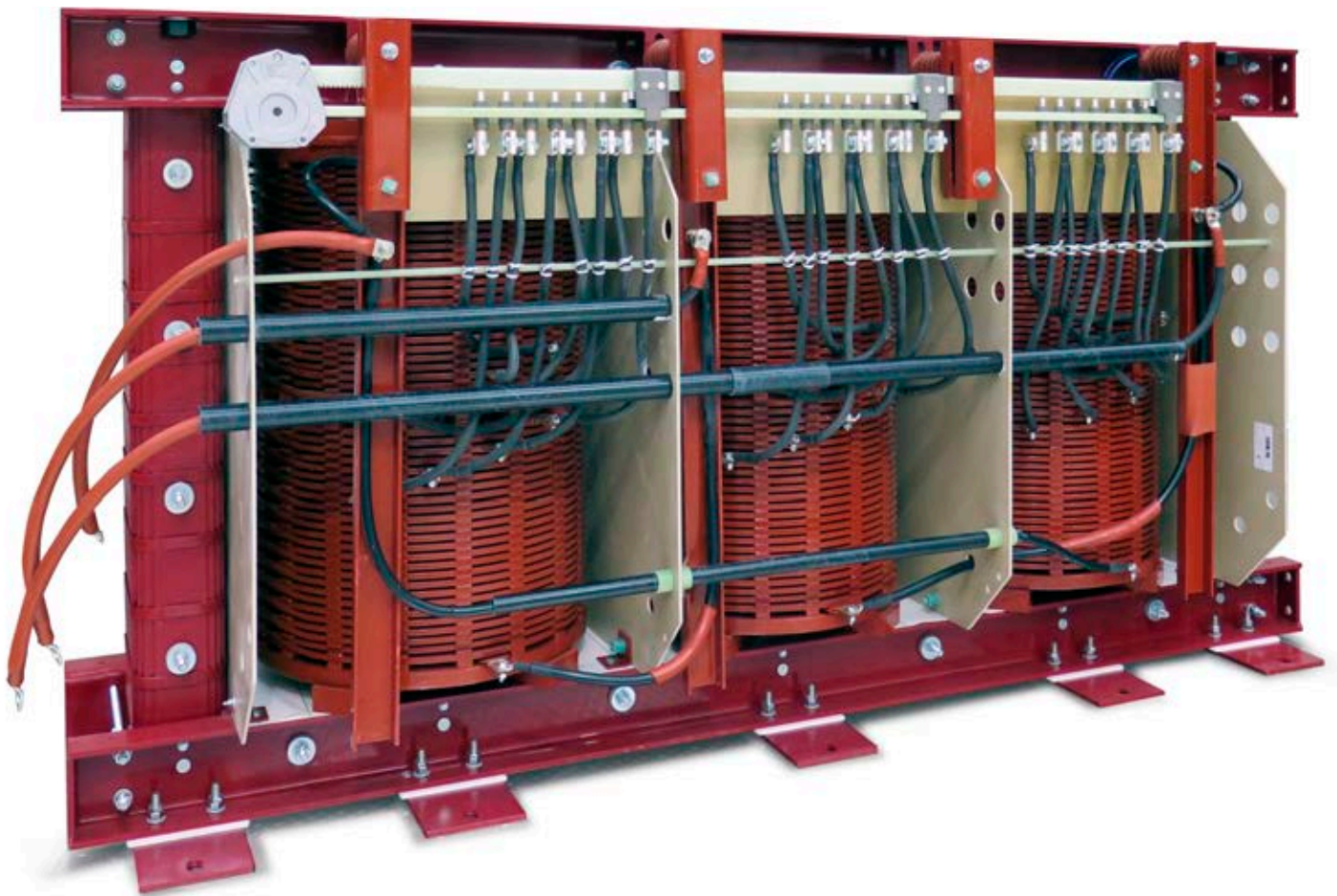
3300kVA 66000/1300-1300V  
Yd11Yy0 AN Traction Class IXA

16000/20000kVA  
33000/11000V Dyn1 ANAF  
IP00 with OLTC

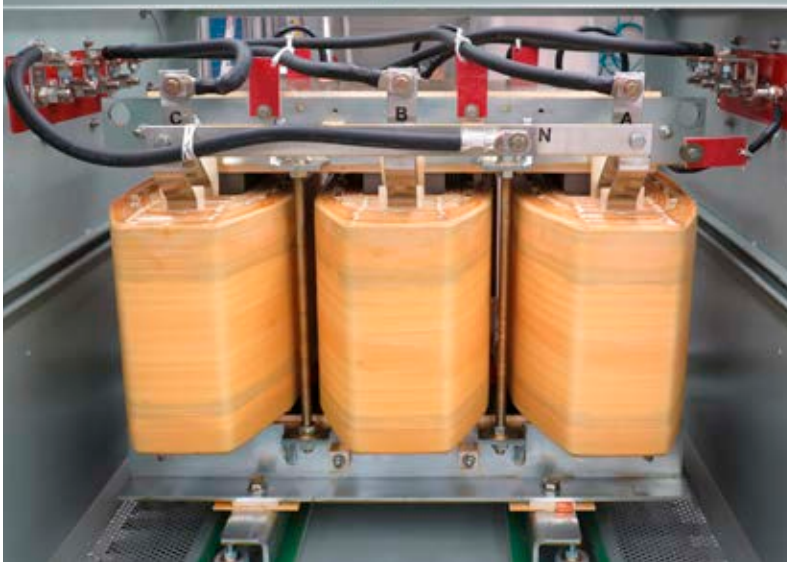
# TRANSFORMERS



# VPI DRY TYPE



2000kVA 11000/1050V Dyn11  
GNAN IP66 with  
Off Load Tap Changer  
and 5 Limb Core (IP00 shown)



200kVA 415/415V  
Dyn1 AN IP21  
(front and rear panels  
removed)

# TRANSFORMERS



VPI Open Winding  
coil detail

# Oil cooled POWER





5350kVA 66000/600-600V  
Yy0d1 ONAN  
Power Transformer

# TRANSFORMERS



5350kVA  
66000/600-600V  
Yy0d1 ONAN  
Rectifier Transformer

# REACTORS



700kVAr 11000V 36.74A IP43  
Cast Resin Shunt Reactor  
(enclosure panels removed)



31.8mH 2100A/3sec  
36kV 10 Ω 1Phase IP00  
Cast Resin Neutral  
Earthing Reactor



0.5mH 6400ADC 1500VDC  
ONAN Smoothing Reactor  
(cable box cover removed)



0.016mH 2887A 400V 50Hz  
Air Cored Current Limiting Reactor

# Indoor ENCLOSURES

IP20—42/NEMA TYPE 1&2



12.5MVA 13800/6600V  
AN IP20 with marshalling box



630kVA 10500/400V  
AN IP31

500kVA 11000/1000V AN IP21  
(panels removed) with HV Cable  
Box and Separable Connectors



# Outdoor ENCLOSURES

IP43—55/NEMA TYPE 3 and Up



12000-15000kVA  
22000/6600V ANAF IP54



2500kVA 10000/750V  
IP43 Marine grade stainless steel



400/480kVA  
660/400V LV/LV Cu ANAF  
IP53 (panels removed)

# Sealed ENCLOSURES

IP66+





750kVA 11000/1050-415V  
GNAN IP66



3200kVA 22000/1850-1850V  
AFWF IP56

# Installations by sectors

## Civil infrastructure

- Hospitals
- Education
- Shopping Centres
- Stadiums
- Public Buildings
- Hotels
- High Rise Buildings

## Renewable energy

- Solar Farms /Photovoltaic
- Thermosolar
- Wind farms
- Hydroelectric
- Cogeneration
- Biomass
- Wave

## Mining

- Underground
- Aboveground
- Infrastructure
- Oil and Gas
- Shovel Duty

## Utilities

- Generation
- Transmission

## Military structures

- Naval dockyards
- Aerospace installations

## Transport

- Mass Transit Trams & Trains
- Fast Rail Networks
- Railway Substations
- Marine Substations with OLTCs
- Airports
- Roads and Tunnels
- EV Fast Charging Stations

## Industrial

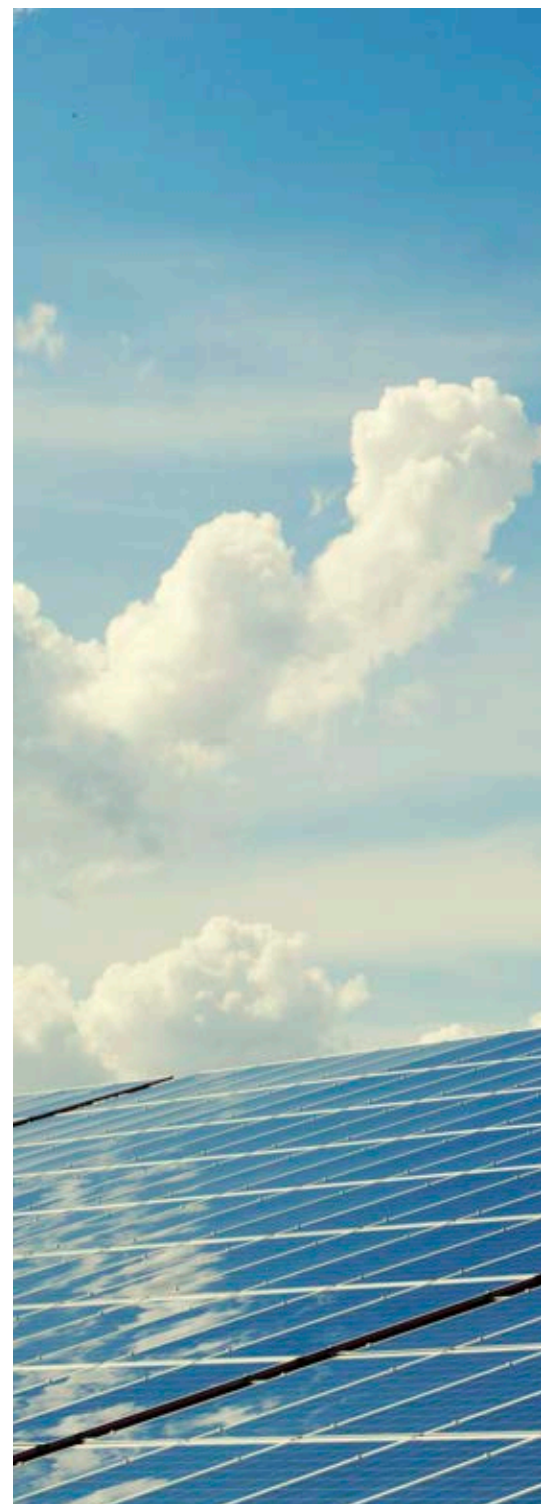
- Data Centres
- Petrochemical Plants
- Heavy Manufacturing
- Processing Plants
- Pulp and Paper Plants
- Cement Factories
- Scientific Installations

## Marine & Offshore

- Water Treatment
- Reservoirs
- Desalination Plants
- Sewerage Treatment Plants
- Ports
- Shipping
- Offshore Platforms
- Offshore Wind Farms

## Sensitive and extreme environments

- Nuclear Plants
- Seismic Conditions
- Heavy Vibrations

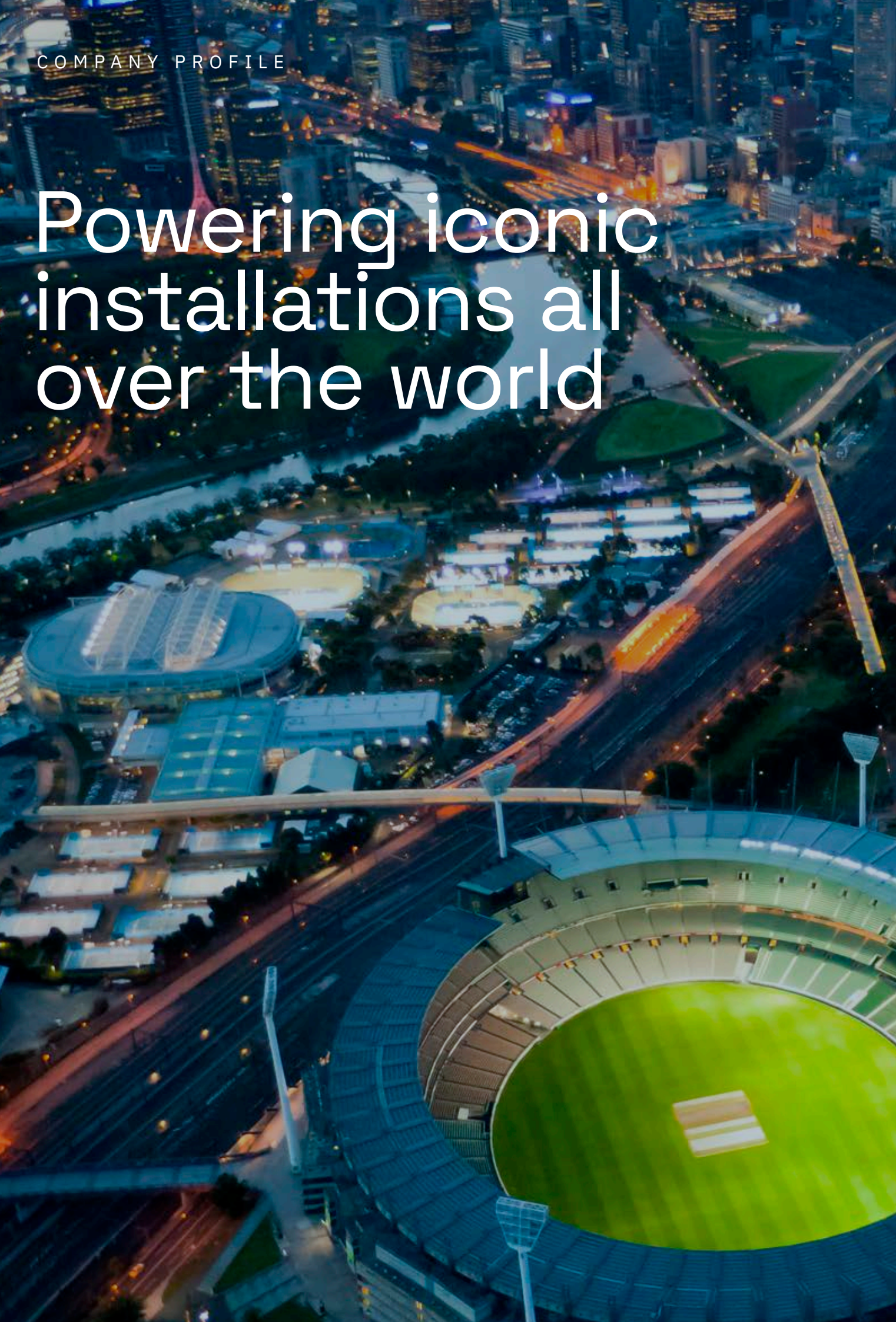


*TMC manufactures transformers well suited for harsh loads, extreme rugged environments and wherever safety is paramount.*



COMPANY PROFILE

# Powering iconic installations all over the world



*Multinational customers purchase again and again from TMC for their installations all over the world.*

Lights of the Melbourne Cricket Ground – Australia's premier stadium, the 10th largest in the world— with a capacity for 100,024 spectators.

# Mining



TMC has been supplying transformers to the world's top iron ore producers in the Pilbara, Western Australia for more than four decades.

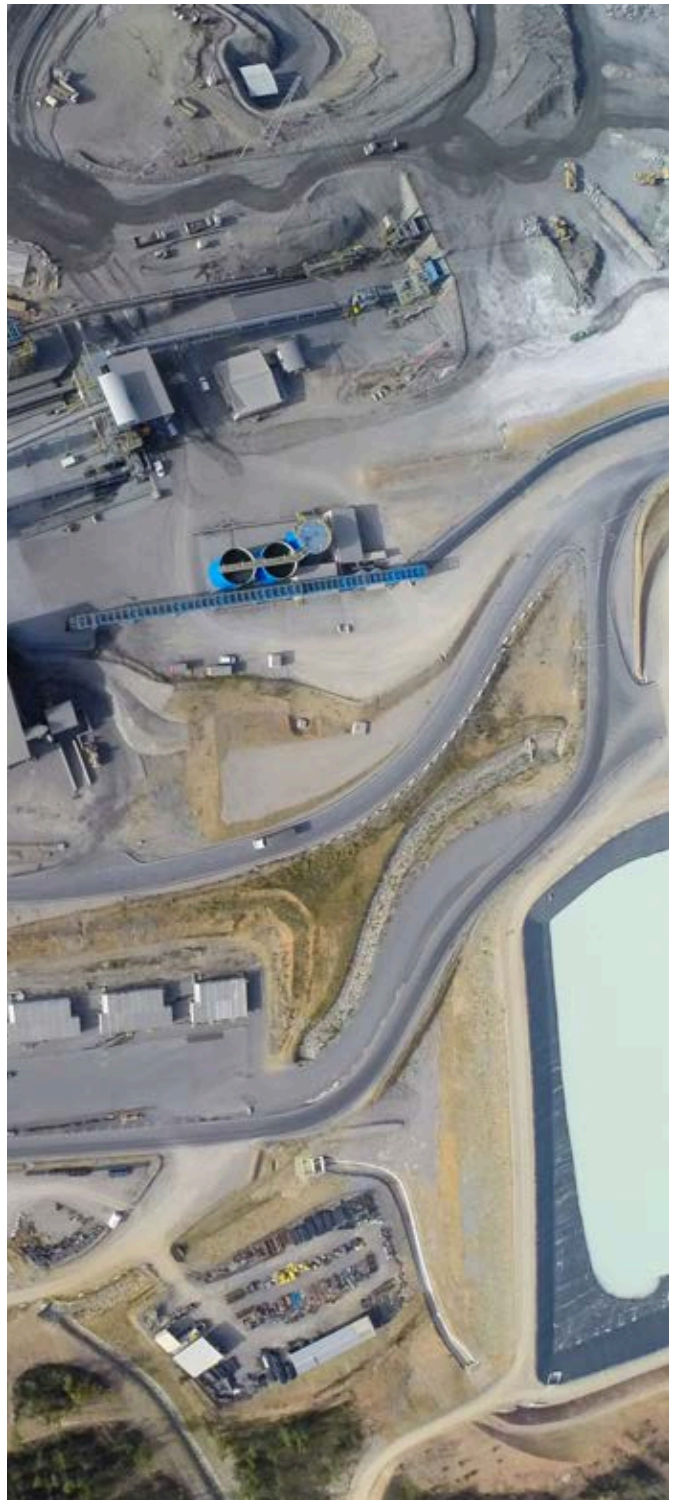


Mining conveyor belts above and below ground often in harsh environments – rough, hot, dry & salty.

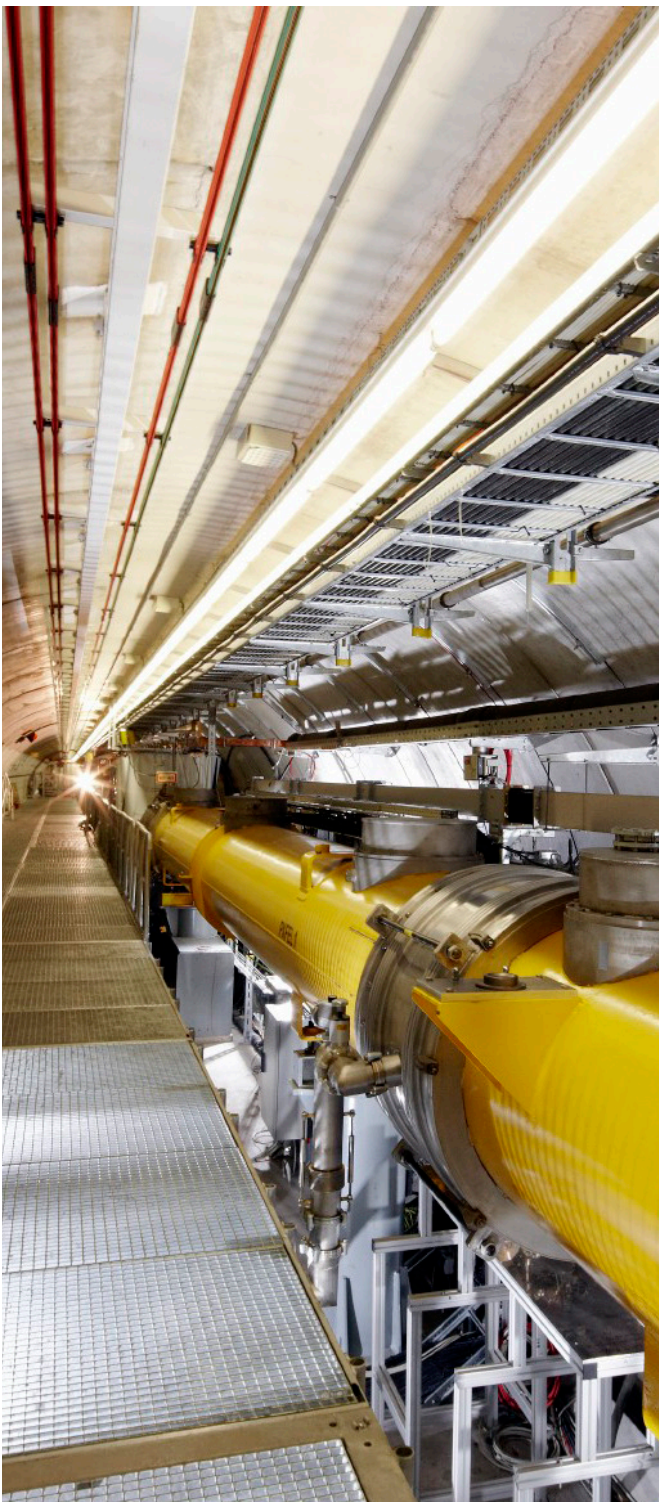


Electric powered mining shovels with TMC transformers on board operating in remote and rugged locations.

MATSA Copper Mine Huelva, Spain is more than 250km > in length. The mine produces copper, zinc and lead concentrates primarily for export.



# Industry and Infrastructure



ArcelorMittal steel plant in Asturias, Spain produces 1,2 million tonnes per annum of blast furnace-basic oxygen furnace (BF-BOF).



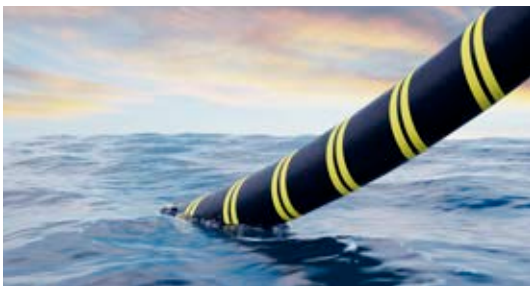
The Deep Space Network, NASA's international array of giant radio antennas in Canberra Australia and Madrid Spain support interplanetary spacecraft and orbital missions.



La Mat Tunnel, 8.5km high voltage tunnel running between Spain and France through the Pyrenees Mountains carrying 400kV cables for energy distribution.

< DESY Research Centre, Hamburg Germany is one of the world's leading facilities for particle acceleration. Its accelerators PETRA III and FLASH are the world's most brilliant synchrotron radiation source and the world's first free-electron laser for soft X-rays.

# Civil Infrastructure



Marea, the 6600km transatlantic Subsea Cable, running from Spain to USA is the highest capacity submarine cable in the world providing capacity to send 160TBs data per second.

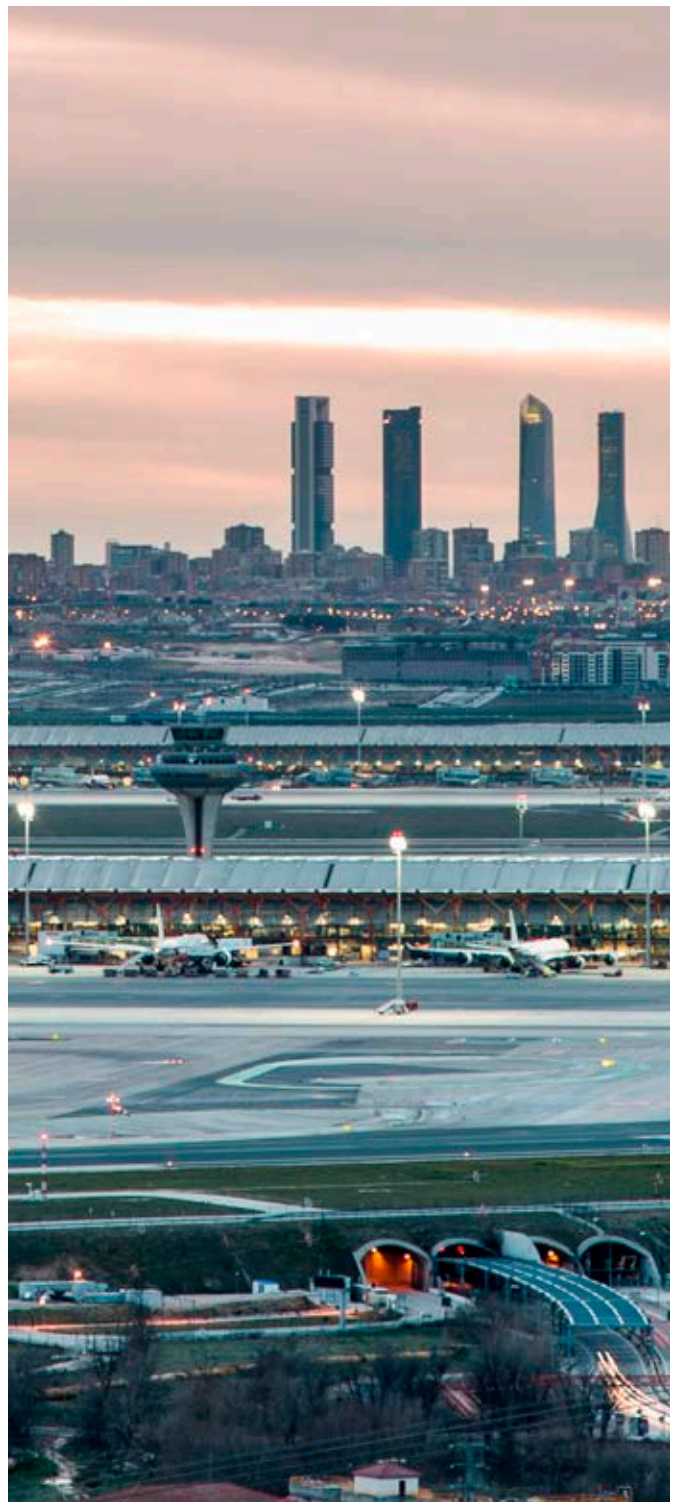


Messe Frankfurt – among the world’s largest trade fair and congress facilities.



EV fast charging networks across Europe and Australia.

TMC transformers power Spain’s major airports including > Madrid, Barcelona, Valencia, Majorca, Tenerife and Bilbao as well as airports in Italy, Germany, Portugal Australia, and Thailand.



# Traction



Spain has the second longest high speed rail network in the world. TMC is a homologated supplier to ADIF, the network manager and has supplied a significant portfolio of transformers across various applications.



Multi-tension traction substation feeding the CAF Track test circuit in Corella, Navarra used in development and testing of passenger and freight trains.



Cañizo Tunnel, Spain 5372m long servicing high speed trains connecting Madrid and Galicia.

< Melbourne Trams, Victoria Australia, is the world's largest tram network comprising more than 250kms of double track carrying around 207 million passengers per annum.

# Medical & Biotechnology



Huca Hospital, Asturias Spain is one of the country's most significant hospitals covering nearly 190,000m<sup>2</sup>.

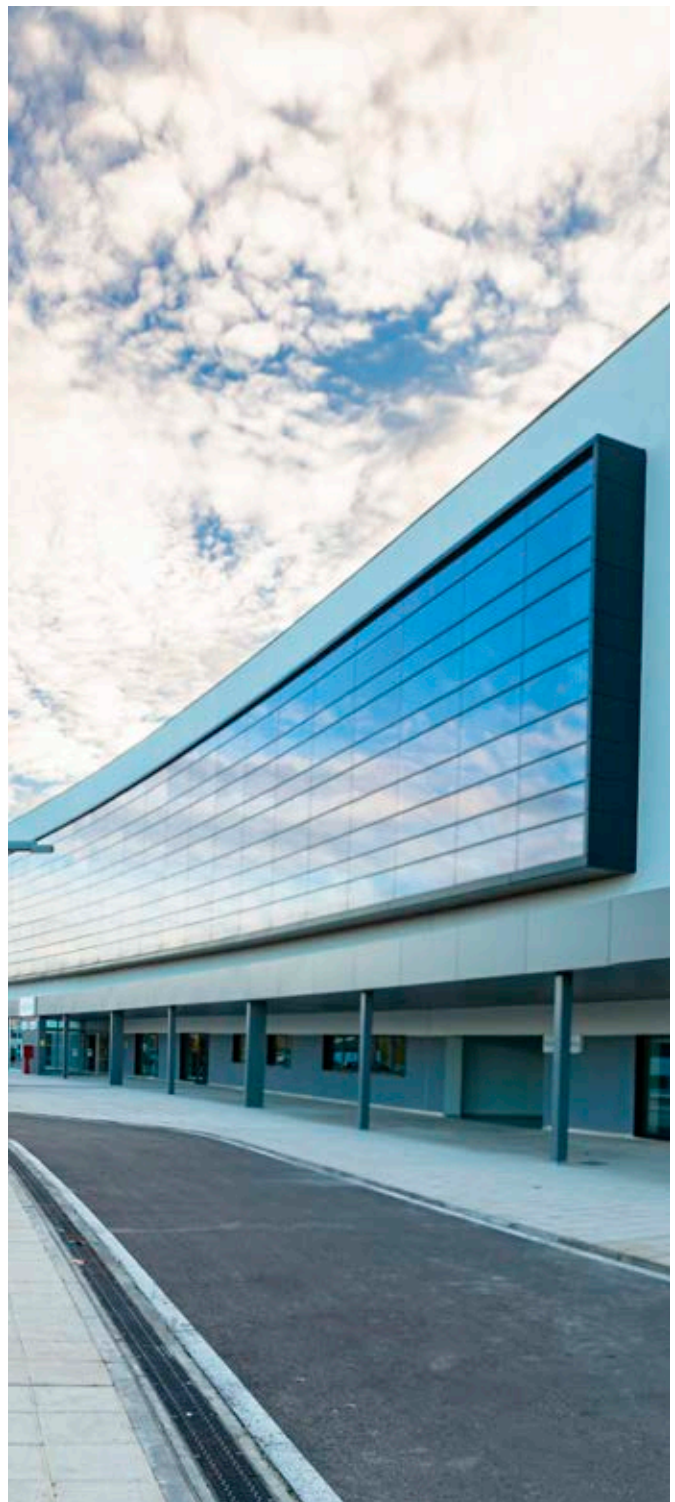


TMC transformers power important pharmaceutical and biotech facilities involved in research and production facilities across Europe as well as emerging markets such as Pakistan.



University Hospitals in Madrid and Barcelona Spain, Munich, Goettingen and Koblenz Germany, as well as general hospitals in Pakistan, Thailand, Australia and Bolivia.

Toledo Hospital, Castilla – La Mancha, Spain, opened > in 2019. Costing more than €300 million it is one of the most modern medical facilities in the country.



# Marine



The Victorian Desalination Plant delivers up to 150 billion litres of high quality water per annum to 5 million+ residents of Melbourne Australia – around one third of the city's needs.



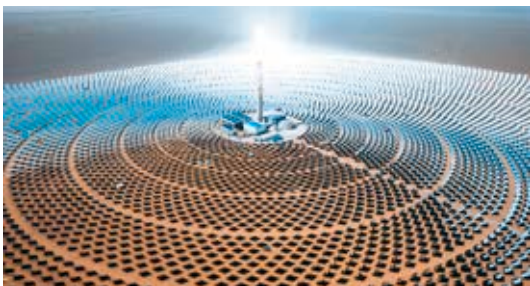
TMC transformers are found in water treatment plants across 5 continents, often in outdoor enclosures IP43 to IP66 and NEMA 4X for added environmental protection.



The MSC terminal at the Port of Valencia Spain has 2 x 16MW TMC transformers powering the gantry cranes.

< Offshore gas platform. Australia's North West Shelf is the country's largest integrated energy project.

# Renewable Energy



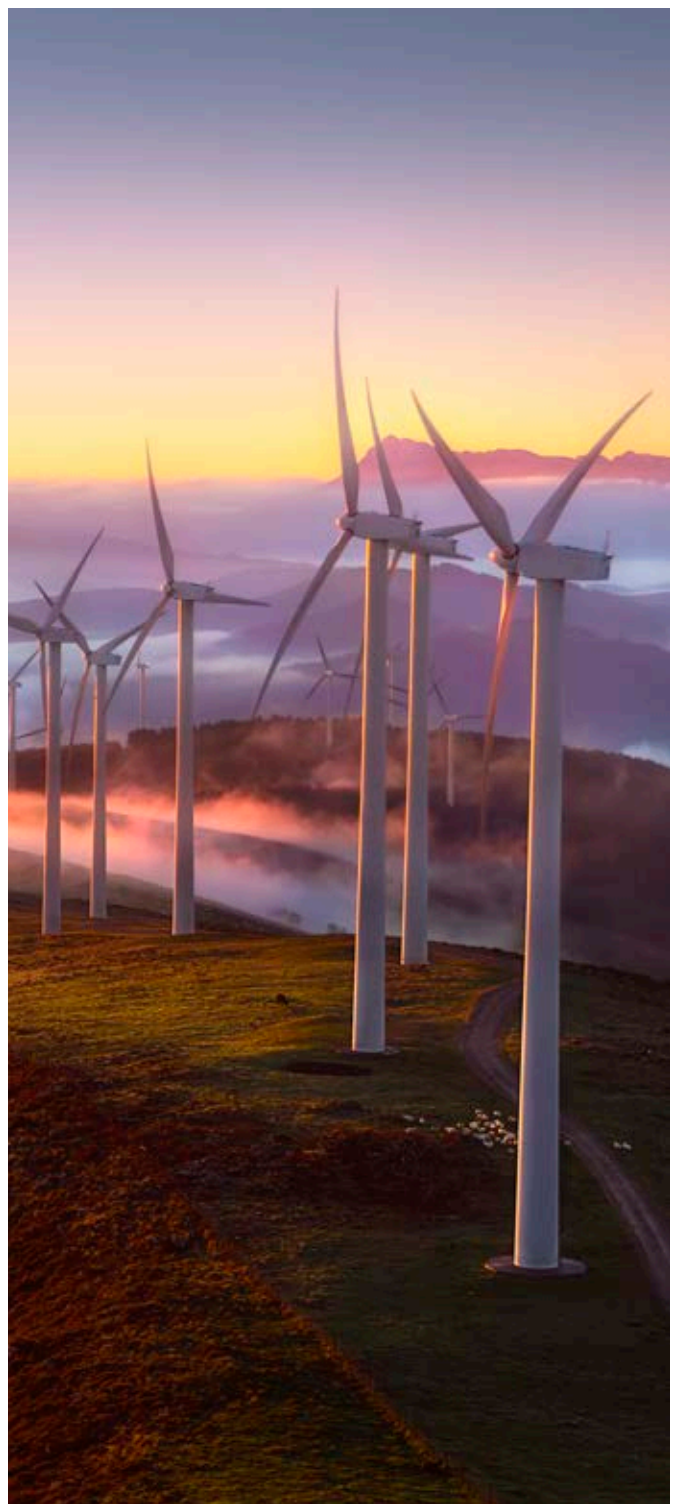
Thermosolar Plants across Spain and Northern Africa focus the sun's energy on a collection tower to produce pollution free energy.



TMC has a huge portfolio of transformers across photovoltaic farms throughout the world including Núñez de Balboa in Spain, Europe's largest solar farm.



H2 Iberdrola's green producing hydrogen plant at Puertollano Spain, is being developed for industrial use. It is Europe's largest H2 plant and will prevent emissions of 39,000 tCO2/year.



Over 60 wind farm installations across Europe are > powered by TMC Spain transformers

# Utilities and Power Generation



Hydroelectric Stations in Australia, Spain, Portugal, Colombia, Thailand, Guatemala, Chile and Ecuador.



Nuclear Plant, Sellafield UK and nuclear plants in Spain, Switzerland and Finland.



Biomass plants in Spain, Germany and Central America use organic waste from logging and agriculture to generate electricity classified as renewable, clean and from sustainable sources.

< Natural gas combined cycle power plants and Turbine generators in Germany, Brazil, Bangladesh and Australia.



# TMC

## TRANSFORMERS

### ESTABLISHED 1936

#### AUSTRALIA

**Transformers Manufacturing Co Pty Ltd**  
19 Ewing Street  
Brunswick Victoria 3056 Australia  
+61 3 9356 8700  
[sales@tmc.com.au](mailto:sales@tmc.com.au)

#### SPAIN

**Transformers Manufacturing Co España S.A.U.**  
Polígono Bidosola Parcela B1  
48142 Artea (Bizkaia) España  
+34 94 631 22 80  
[ventas@tmc.com.au](mailto:ventas@tmc.com.au)