

Renewables



CONNECTING THE WORLD. TODAY AND IN THE FUTURE

**Prysmian Group is world leader
in the energy and telecom cables
and systems industry.**

**With 140 years' experience,
the Group is strongly positioned
in high-tech markets and offers
the widest possible range
of products, services, technologies
and know-how.**

140

YEARS OF
EXPERIENCE

25

R&D CENTRES
AROUND
THE WORLD



We specialise in underground and submarine cables and systems for power transmission and distribution, special cables for applications in many different industries, and medium and low voltage cables for the construction and infrastructure sectors.



For the telecommunications industry, the Group is the world's largest provider of cutting-edge cables and accessories for voice, video and data transmission, offering a comprehensive range of optical fibres, optical and copper cables and connectivity systems.



We are committed to environmental responsibility in our production processes, the protection of the global environment, and the responsible management of relations with the local communities in which we work.



For us, innovation means meeting the needs of our customers and communities by understanding their business drivers as quickly as they do. To do that, our team of over 900 Research & Development professionals is constantly looking to the future, predicting and identifying emerging trends in each of our industries and sectors. Acting on this intelligence from 25 R&D centres around the world, we're constantly close to our customers in their own local markets.

Prysmian Group for the Energy Transition

The energy transition from fossil fuels to renewable sources is one of the greatest and most urgent challenges faced by humanity. The production of electricity and heat generates 25% of all global CO₂ emissions. Accordingly, the Prysmian Group is deeply committed to supporting the development of smarter and more sustainable

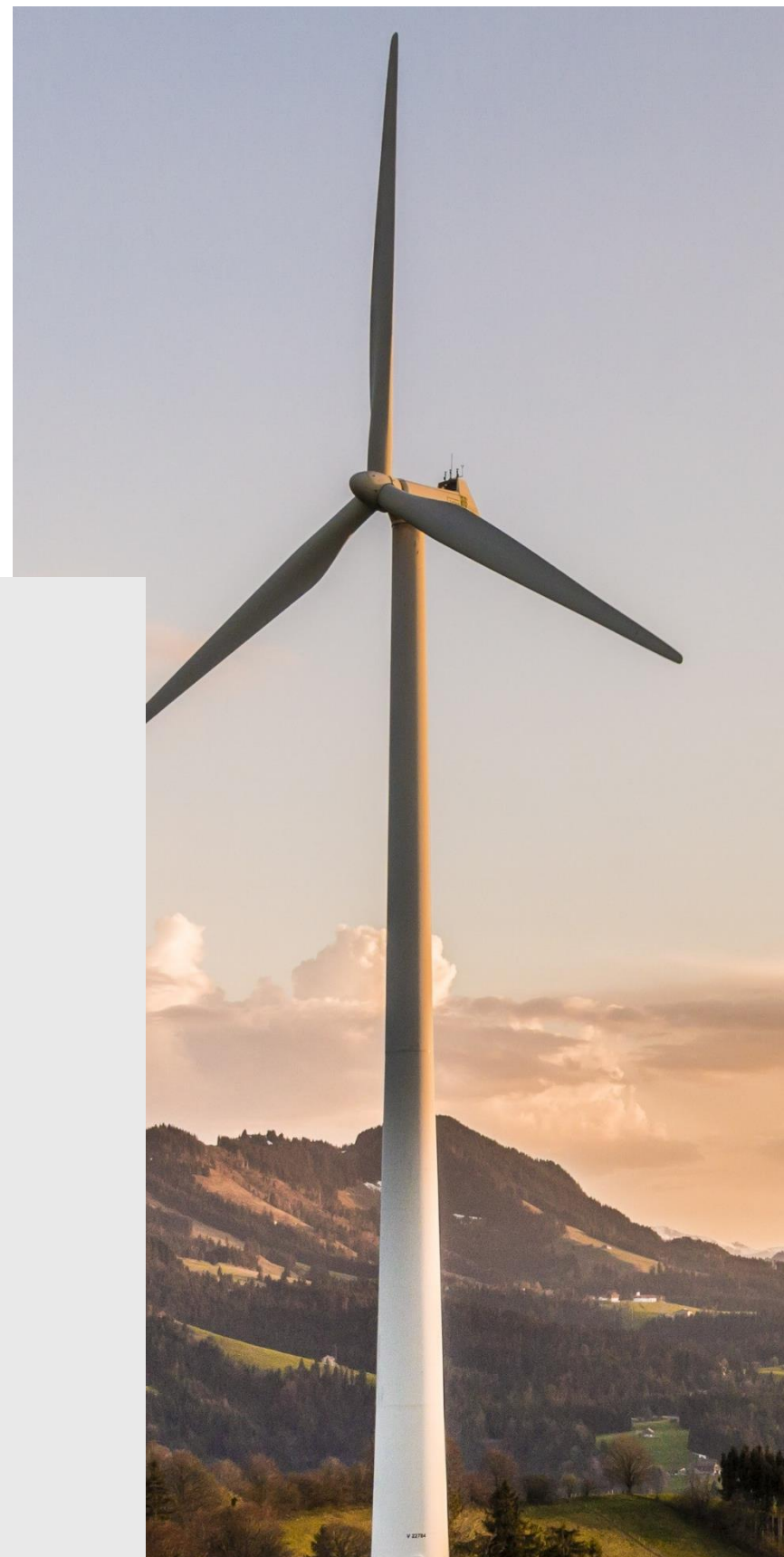
Electricity and heat generate 25% of global CO₂ emissions

electricity grids. The Australian Federal Government recently committed to net-zero emissions by 2050. To deliver this, the offshore wind power sector will need an efficient, sustainable and reliable electricity transmission system, capable of supporting the transition to renewable energy at ever more competitive costs.

Cable technology in support of the energy transition

Cables (especially HV terrestrial and submarine cables) are and will be an essential component in completing the energy transition, as they are responsible for the generation of electricity by offshore wind farms and for the interconnections between systems and countries, thus supporting the implementation of more integrated, efficient and sustainable electricity grids. More specifically:

- cables represent the backbone of electricity grids, the components without which it would not be possible to transmit and transport energy from one country to another;
- cables (especially terrestrial and submarine cables) make the entire electricity grid more efficient, facilitating the exchange of energy between different countries / consumption areas with different consumption models, thus enabling consumers to obtain access to cheaper and cleaner energy;
- submarine cables transmit electricity from the sea, where the wind farms are located, to the land, where the primary distribution network is located;
- terrestrial cables transmit electricity from the areas in which it is generated (the landfall of submarine cables) to the places in which it is consumed.



3000 meters+

Cables at deeper depths
with the Leonardo da Vinci

Prysmian Group roadmap for innovation

Research efforts are focused on a number of main objectives:

- cables that can be installed at ever greater depths and in any marine environment, even reaching a depth of 3,000 metres; ever longer interconnections, to link countries that are far apart;
- cables for the wind farms furthest from land (e.g. floating wind farms), located in the most windswept areas;
- increase the intrinsic reliability of cables, limiting their dispersion, and equipping them with sensors capable of monitoring the system;
- increase cable productivity, contributing to a significant reduction in system installation costs. In particular, more productive and reliable cables help to optimise installation costs (fewer trenches and therefore easier access to the permits needed to complete an interconnection).

In the same way, the objective in the optical fibre sector is to ensure ever greater levels of flexibility, without loss of signal quality, and to prepare for the 5G challenge that will require the market to install new infrastructure to an almost unprecedented extent.

On every continent, in applications that range from air and rail transport infrastructure to heavy duty and renewable industries such as on- and offshore wind turbines, Prysmian's specialist cable solutions sit at the heart of significant international projects; supporting the work of major customers, with high-performing, durable and safe technology.

As the world leader in cabling, we draw on global expertise and local presence to work in close proximity with our customers, delivering products and service platforms built on easy contact, bespoke solutions and effective supply chain, meeting their specialised requirements, to help them drive the wheels of industry and achieve sustainable growth and profitability.

THE LARGEST CABLE-LAYING VESSEL IN THE WORLD

The Leonardo da Vinci cable-laying vessel is now under construction. This ship will strengthen the ability of Prysmian to execute projects and our reputation as a “one-stop-shop” service provider.

The Leonardo da Vinci, which joins the current Prysmian fleet of three vessels, will be the best performing cable-laying vessel in the world

Cables for Australian Conditions

We offer cable solutions to enable the production and supply of renewable energy

From harsh Australian underground mines to hazardous oil plants and from offshore wind farms to ships and railways, our cables and wires play a central role in distributing safe and reliable power.

Our industrial cables have been designed to withstand the most extreme Australian conditions such as high-speed, oil and fuel, mud, moisture, acids, basis and rodents, as well as extreme low and hot temperatures, UV irradiation and ozone.

If you want to make sure your investments will run smoothly and safely we will gladly be you partner offering total solutions including the highest quality in cables as well as services. In short, you’ve come to the right place.

Battery Storage – Flexible Cables

Battery Storage is an emerging market in the renewables space. An energy storing innovation; batteries offer an opportunity to store unused power. This technology has to potential to be stored when demand for power is low and distributed when demand is high. The flexible nature of the product has the potential to revolutionise the renewable industry creating more accessible power.

Prysmian offers a comprehensive range of flexible cable solutions with Class 5 conductors for fixed installations. With Flexible XLPE and Fire Performance cables, Prysmian has a full suite of cables for the Renewable Market.

Flexible Single Core Cables

For mains, submain and sub circuits unenclosed, enclosed in conduit, buried or in underground ducts for building and industrial plants where not subject to mechanical damage. Suitable where space is at a premium and/or where conditions of overload may occur. Green star accredited.



Products

- Flexible 90 °C XLPE
- XLPE/PVC (SDI) X-90 Orange 0.6/1kV
- Flexible 110 °C
- R-E-110 (SDI) 110 °C Black 0.6/1kV

Features and Benefits

Cost Savings through flexibility

- Easy to handle and install
- Easy to bend and are less stiff
- Require no bending tools
- Require fewer people to install

Superior cable management

- Product availability
- Shorter lead times
- Cables can be cut to length
- Reactive local support

Long-life performance

- Australian designed and made
- Cables made from premium components

Safety- performance that ensures peace of mind

- High flexibility ensures easier handling – reducing the risk of workplace injury and fatigue.

Quality – superior manufacturing and support

- Independently certified by a NATA accredited facility
- Exceeds Australian Standards
- Expert quality control

Fibre Optic Cables

Prysmian is dedicated to bringing its expertise and product innovation to the specialty fibre market segment, with a comprehensive product range offering solution for the Renewable Industry for active and passive components. We’re combining state-of the-art glass technology, with advanced coating and buffer technology in an industrialized manner and paving the way towards unprecedented performances and new applications: High-Temperature coatings, Radiation hardened optical fibre, tight geometry optical fibres, and many more.

Products

LoR@t

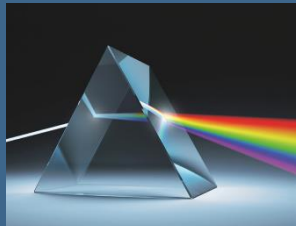
Prysmian dielectric LoR@t fibre optic cables are a lightweight rodent resistant cable for use in areas occasionally exposed to rodents. LoR@t cables are lightweight, flexible and easy to handle. Australian made? Yes, of course. Prysmian designed this cable in Australia for Australian conditions. It provides a short-term level of resistance to smaller rodents but is not completely rodent proof.

Hse EXTRA@CORE

If you are after a product that is can withstand any attack, look no further than Hse EXTRA@CORE. It’s the toughest direct burial High Strength cable yet. The HSE EXTRA@CORE is qualified using enhanced Axial Compression Resistance (ACR) Test method. It’s small light weight and available in lengths up to 10.5km.

LoR@t Features and Benefits

- **Hard jacket** for termite resistance – provides resistance to short term exposure from small rodents
- **Direct burial** – reduces the cost of installation
- **Non-metallic design** – allows installation in areas of high electromagnetic interference field and removes the risk of susceptibility to lightning strike.
- **Smaller Diameter** – reduces the space needed to install



Wind Farms

To meet an ever-growing need for power, the world is increasingly turning to renewable and sustainably sourced energy.

In response to this demand, Prysmian’s cables are helping wind turbine manufacturers around the globe to harness the true potential of this natural power source.

Always aware of our responsibility to the planet, we’re constantly aiming to help renewable industry partners by delivering cables that benefit the future of both our world and their businesses. And so, reflecting this commitment to sustainability, we offer premium quality products for wind turbines, proven in the field with long-lasting and trouble-free attributes

Our certified quality management with a worldwide focus ensures that product quality is always at the highest level, from the procurement and production processes, right through to the delivery process. With a focus on sustainable and environmentally friendly production processes, the Prysmian Group ensures that the fundamental principles of sustainable energy concepts are also implemented in its own company.

Wind Products

Offerings	
Medium Voltage Cables	For voltage classes of power from 6kV up to 55kV we offer single and four core medium voltage flexible cables, optimized for torsion twist in the tower down to -40°C
Low Voltage Cables	For the connection from the generator to the transformer down the tower. Fully optimised for twisting at high and low temperatures in accordance to various standards.
Control Cables	Copper and fibre optic data cables for use in fixed and flexible installations. Designed for data transmission in low and high temperatures in accordance to various standards.
Customised cable set solutions	Prysmian Group is specialized in the design, manufacture and delivery of customized cable sets with various terminations. Including low and medium voltage cables, data cables as well as fibre optic cables.
Speciality Cables	Different applications require different designs. For special application like EMC or hot oil we have specially designed cables.
Fibre optic	We have a comprehensive and specialized program of prefabricated cable kits, customized solutions and accessories, for within or between towers, and grid connection.



Cables
optimized for
torsional stress
in the tower

at -40°C

PRYSMIAN TERMITEX®
A REVOLUTIONARY CABLE
PROTECTION SOLUTION

Offshore Windfarms

Renewable energy resources are abundant and inexhaustible. They have the potential to meet global energy needs while reducing emissions and mitigating climate change. Offshore wind applications are fundamental in meeting this increasing demand for greener energy.

As a world leader in this area, Prysmian Group has a long-standing track record of offering our customers proven, cost-effective cable designs and operating systems. We’re committed to investing in new and upgraded manufacturing and installation assets. We do this so we can offer the broadest possible range of innovative products and technologies, strengthening our services and capabilities in production and project execution for the offshore wind market.

As a trusted and dedicated partner, we continue to support the needs of this growing industry, offering medium voltage inter-array cables, High Voltage Alternating Current (HVAC) and High Voltage Direct Current (HVDC) export cables. As well as supply and turnkey solutions, we also offer monitoring and maintenance services. And we’ve developed a wide range of tailor-made accessories to meet even the most demanding customer requirements.

Prysmian Termitex®

Prysmian’s Termitex® is a revolutionary cable protection solution, that provides resistance to any termite attack. It is the result of years of research conducted in Prysmian laboratories, in collaborations with organisations such as CSIRO.

This solution utilises additives, which are incorporated into the HDPE sheath of a cable. As well as providing at least 30 years of protection against termites, it also offers a number of benefits over traditional methods of termite protection, including: ease of handling and installation, cost effectiveness and complicity to health, safety and environment regulations. Resulting in reduction of the Total Cost of Ownership.

Through including the additives to the HDPE sheath, it means that the original cable design, does not necessarily need additional layers. This results in a smaller cable diameter than that of the traditional methods.

This smaller diameter results in cost savings in labour and materials, due to:

- Smaller bending radius
- The cable being lighter and easier to handle/install – shorter installation time
- Longer lengths possible on drum, so there may be less joints and joint pits required – shorter installation time and less manpower
- Reduction in Civil Costs

Solutions for the Solar Industry

Always aware of our responsibility to the planet, we're constantly driving innovation in our industry, aiming to help renewable industry partners deliver projects with benefits for the future of both our world and their businesses.

And so, reflecting this commitment to both innovation and sustainability, we offer a full range of quality solar and photovoltaic products, renowned in the field for their easy installation, reliability and longevity attributes and complying with all major international standards.

Our customers

Our technologies are hard at work across the renewables sector, supporting the operations of contractors, developers, grid operators, PV panel makers, PV power generation system integrators and even entire solar parks.

In recent years, Prysmian Group has supplied components and services to worldwide solar installations from residential installation to large scale utility projects. The total equipment supplied exceeds a generation capacity of 40 GW.

DOMESTIC APPLICATION SOLAR CABLES

Our Solar Cables comply with the H1Z2Z2-K standard. These no smoke zero halogen cables can withstand temperatures from -40°C to +125°C. Tough enough for the harshest environments in Australia, they are also resistant to ozone, UV-light, acids, alkalis and abrasions.

Despite being tough, these solar panel cables are easy to install due to easy stripping, extraordinary flexibility and a smaller outer diameter. These have conductors that are made of electrolytic tinned copper class 5 in accordance with IEC 60228, for better durability and better conductivity over the life of the PV unit. Solar cables that you can trust, no matter what.



Solar Products

Prysmian Solar PV Cables

TECSUN - our premium brand made in Germany with over 15 years of experience and more than 1,000,000 km sold. This cable is overperforming the standards of PV cables, suited for the roughest conditions and for direct burial

PRYSUN - our new global brand, compliant with European standard EN 50618 and international standard IEC 62930

Features

- Rated Voltage 1500V DC
- Lifetime >25 years
- UV Resistance
- Ozone Resistance
- Flame Retardancy on
- Single Cable
- Low Smoke Halogen Free
- Acid and Alkaline Resistance
- Maximum Operating Temperature of the Conductor 90°C (20.000 hours at 120°C)
- Resistance to Cold

Asset Management

PRY-CAM grids for wind turbine application

A revolution in monitoring, condition assessment and asset management of electrical systems. The worlds of monitoring, condition assessment and asset management of electrical systems are undergoing a revolution that can help prevent failures and interruptions, increasing uptime and safety, enhancing assets' longevity and significantly reducing maintenance costs and risks.

PRY-CAM Portable

PRY-CAM PORTABLE is an integrated portable instrument for the automatic acquisition, processing and classification of pulse signals generated by PD phenomena occurring in insulating materials of Medium and High Voltage electrical systems and equipment, such as transformers, electrical machines, cables systems and switchgear.

Network Components

Accessories play a vital role in a power system of the wind farm. Prysmian has gained expertise in the design, manufacture and testing of products across all voltages during many years of partnership with customers. We can offer you a comprehensive range of accessories for glanding, jointing, connecting and terminating MV systems.

The range includes joints (also transition, trifurcating and branch joints), terminations (both for indoor and outdoor use) and separable connectors. In addition, we can provide you with engineering services capable of fulfilling any power system specifications or requirements and of delivering customised solutions.

PRYSMIAN GROUP HAS SUPPLIED COMPONENTS AND SERVICES EXCEEDING GENERATION CAPACITY OF

40 GW



For data-driven power



PRYSMIAN AUSTRALIA PTY LTD

1 Heathcote Road, Liverpool 2170
NSW, Australia
Ph: 1300 300 304
Email: sales.au@prysmiangroup.com
www.prysmiancable.com.au

PRYSMIAN NEW ZEALAND LTD

30 Binsted Road, New Lynn 0600
Auckland, New Zealand
Ph: (09) 827 3109
Toll Free: 0800 492 225
Email: sales.nz@prysmiangroup.com
www.prysmiancable.co.nz

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