TF Kable

Connecting globally

MORE THAN JUST A CABLE SUPPLIER

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Leading producer of cables and cable systems

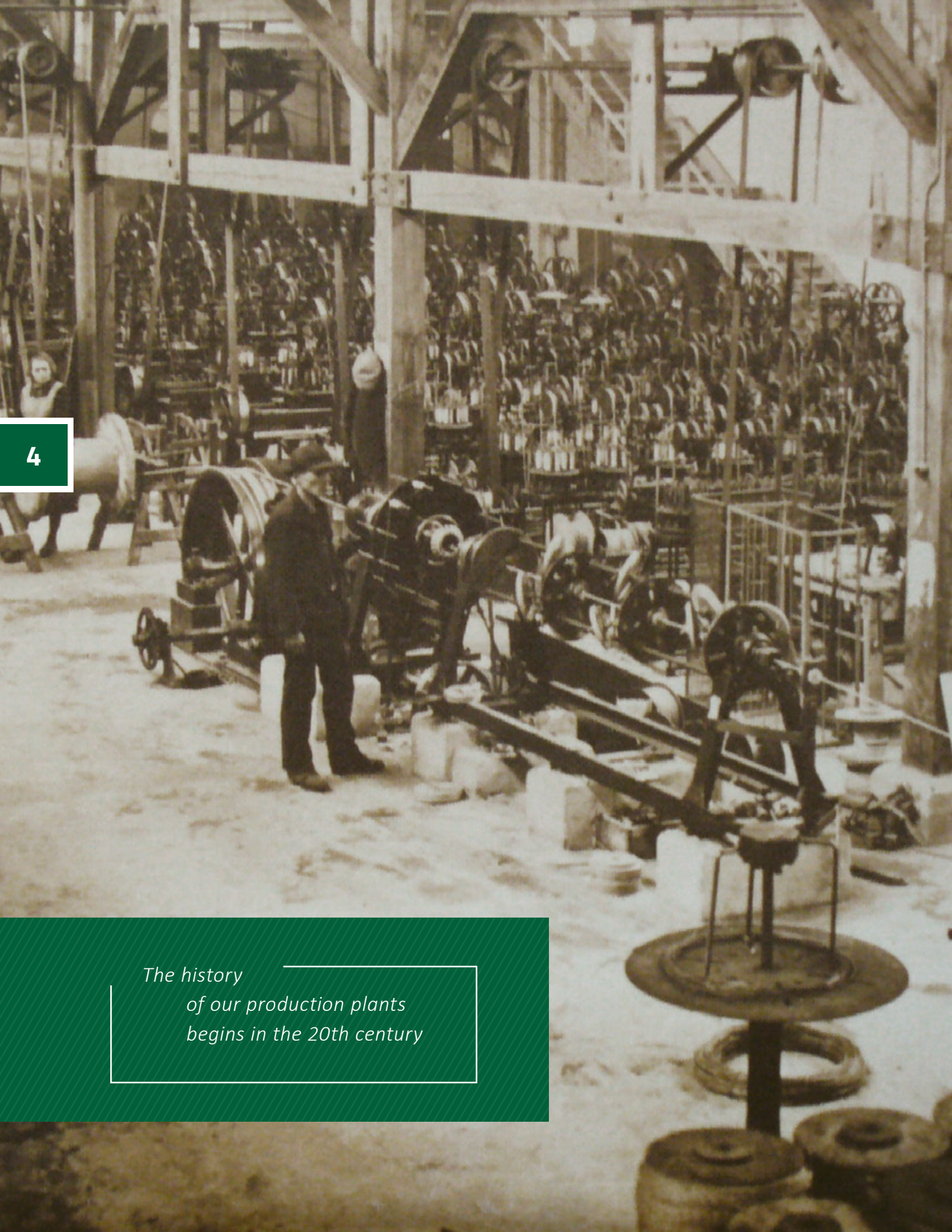
The TELE-FONIKA Kable Group has been present on the domestic and international cable industry market for more than 25 years. A stable development strategy based on full diversification of outlets enabled the strenghtening of the position of our company among world's leading cable companies with significant development potential.

Services and products provided by TFKable Group have numerous applications in the most important industry sectors – they include more than 25,000 proven standard constructions. Furthermore, they include specialist assortment tailored to the individual needs of business partners.

Additionally, our production facilities (in Poland, Serbia and Ukraine), the Bukowno-Poland recycling plant and commercial companies (responsible for the geo-regional distribution of products) demonstrate a significant development potential. This is also true in the case of our modern fire test laboratory in Krakow-Wielicka plant, which performs several hundred flammability pre-tests annually, and a laboratory of high and extra high voltages in Bydgoszcz.

As a result of implementation of our growth strategy, in August 2017 TFK. Group acquired JDR Cable Systems Ltd, the leading manufacturer of submarine umbilicals and power cables to the global offshore energy industry.

In the world's harshest environments and ever-increasing water depths, JDR's world-leading products and services bring power and control to offshore oil, gas and renewable energy systems.



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The history
of our production plants
begins in the 20th century

We look forward to the future – We connect globally

— *„We are implementing innovative solutions aimed at delivering specific values for present and future business partners. That is why we are a recognized and respected manufacturer of cables and wires - a strong market leader, which meets the expectations of the most demanding partners, sharing with them a common vision of the future.”*

— emphasized **Monika Cupiał-Zgryzek**, President of the Management Board of TELE-FONIKA Kable S.A.

Experience and competence of the TFK.Group

global relations

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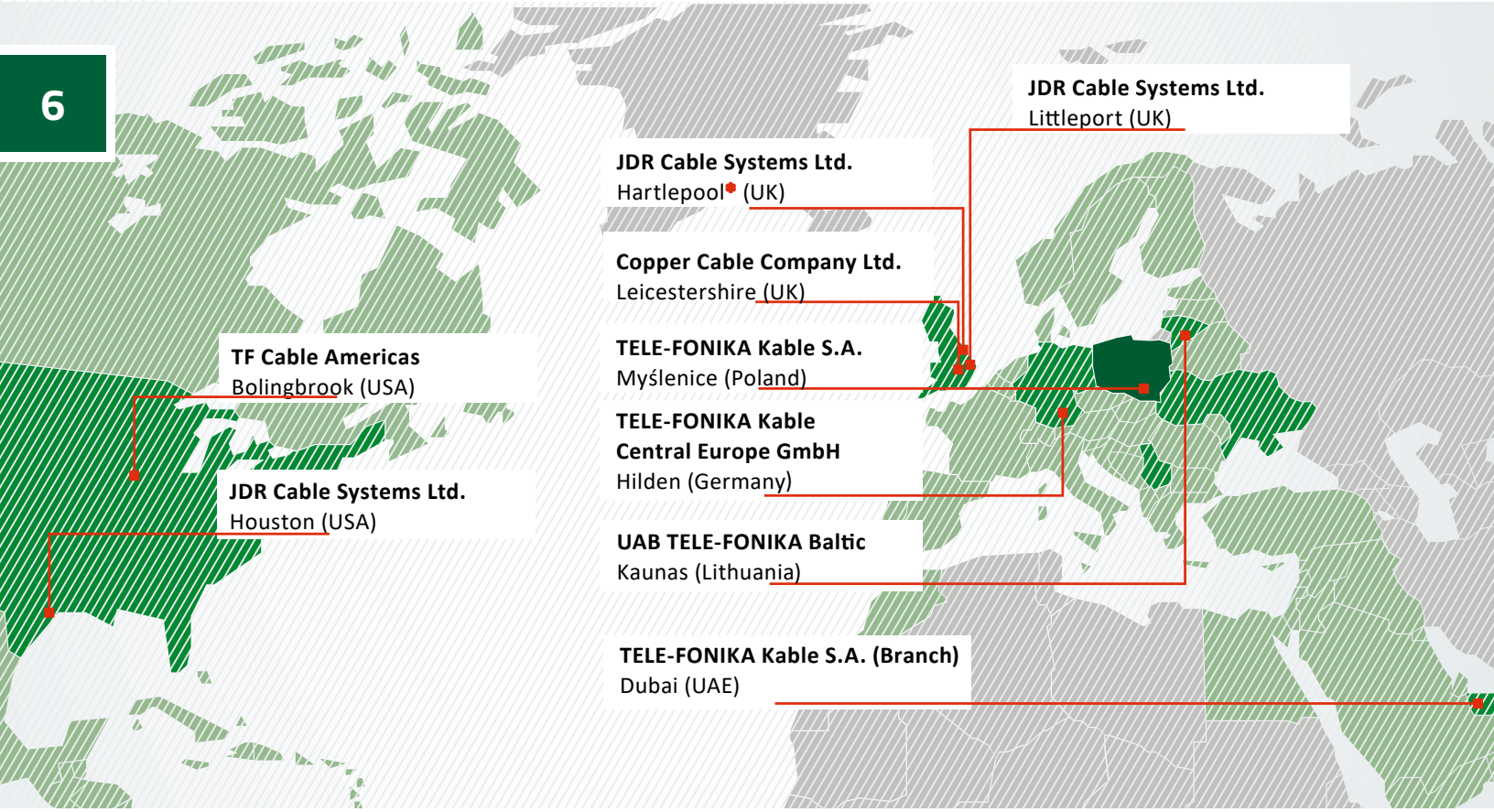


JDR Cable Systems Ltd. (Sales Representative) United States, UK

Kraków-Wielicka plant – it produces cables and wires with voltage ranging from 1kV to 30kV, including rubber insulation, used in the extractive industry and wind farms; halogen-free cables and conductors (installed inside buildings); and signaling and control cables for special applications

Kraków-Bieżanów plant – production of overhead lines from alloyed aluminum, silver plated copperconductors for railway traction networks, made on robotic technology lines

Bydgoszcz plant – the largest production center for medium, high and extra high voltage cables in Europe

Myślenice plant – production of copper and fiber optic telecommunication cables, computer cables and car cables

Zajecar plant (Serbia) – production of low and medium voltage cables, signaling and control cables, telecommunication cables, as well as halogen-free cables and wires

Chernihiv plant (Ukraine) – production of non- flammable (N)HXH and N2XH cables, self-supporting AsXSn overhead cables, aluminum and copper wires up to 1kV, including assembly wires

Bukowno-Poland plant (recycling of cable waste) – it has the recycling capacity of approx. 10 thousand tons of cable waste per year. This allows for the recovery of fractions from individual materials with purity of over 99.5%

Fire Test Laboratory in the Krakow-Wielicka production plant – it is equipped with apparatus that enables to conduct research ranging from basic tests of flame spreading on individual samples to flame spreading tests on bundles. Furthermore, it is equipped for testing density of emitted fumes and emission of corrosive gases

Laboratory of High and Extreme Voltages in the production plant in Bydgoszcz – equipped with 4 Faraday cages (three for routine testing and one for cables and cable systems testing) along with a stroke generator and its own research field for qualification tests with 500kV testing systems and 5000A heating transformer sets

JDR Cable Systems – As a result of acquiring JDR Cable Systems Limited, TFKable has expanded its assets with two UK production Facilities. JDR manufactures submarine power cables as well as subsea umbilical cables consisting of components for power distribution, data transfer, monitoring and remote control, of offshore facilities. Additionally, our sales portfolio has been extended by offshore installation and maintenance services, located in JDR's service centres in the United States, UK, ensuring constant support for our business partners.

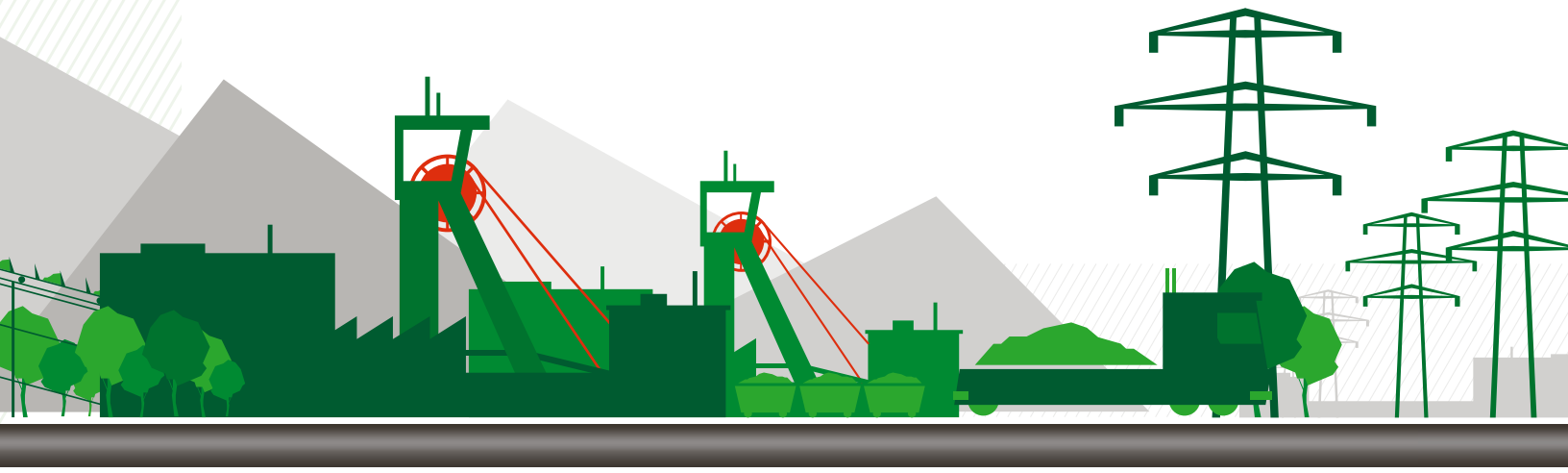
Supporting work safety system & improving quality in production processes.

THINK™ QUALITY THINK™ SAFETY

We provide

innovative and safe solutions for industry

TFKable has been designing, manufacturing and delivering cables, wires and cable systems for a wide range of applications in diverse industries for nearly 100 years and our entire product range is characterised by remarkably high durability. Our customers operate within modern and technologically advanced sectors. The products are designed to withstand extremely long operation times and harsh conditions and meet our customers' requirements.



High voltage (HV) & extra high voltage (EHV) systems

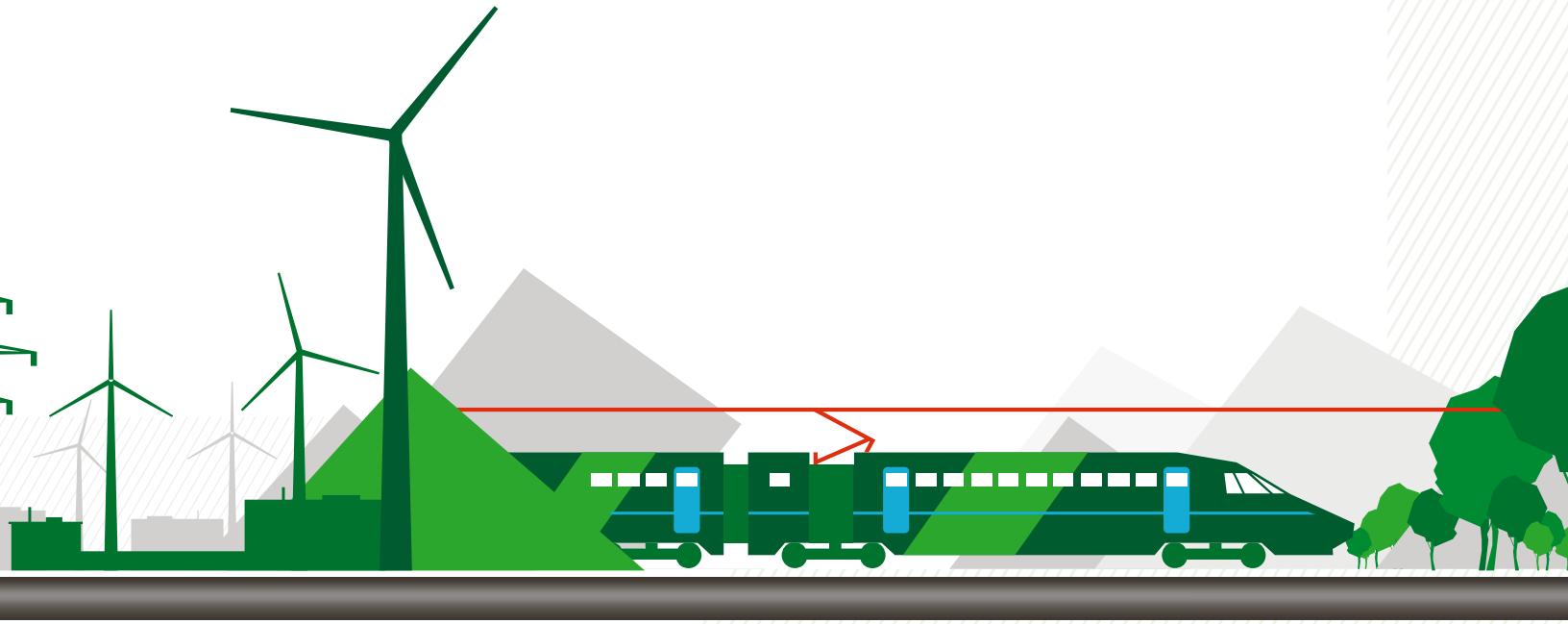
Transmission of electricity in high voltage (36-150 kV) and extra high voltage (220- 500 kV) networks has always been the biggest challenge, requiring the application of the most advanced technological solutions. Due to their nature and, importance for the economy, particularly restrictive requirements regarding trouble free and economical operation are imposed on HV and EHV transmission networks. These requirements are the driving force behind the changes in the technology of production of cables, setting new trends and standards on the market. TFKable is among a small group of reputable suppliers of such systems.

Constructions

Our construction cables and wires are designed for general purpose applications, such as providing power to residential, industrial and commercial areas, powering machines and heating and more. They are recognised among distributors and installers worldwide. Our products are designed to meet even the most stringent safety requirements. In addition to the standard electrical tests, cables for the construction industry are verified in terms of resistance to twisting, bending, hitting, working at low temperatures and a variety of other tests depending on the application and customer requirements.

Mining and Tunnels

We are Poland's leading manufacturer of mining wires and cables, and one of the largest in the world. Our cables are used in the coal, lignite, copper, and salt industries, as well as other ores. We have several different continuous production lines for mining conduits and cables, including vulcanisation, twisting, braiding and a full range of research and quality assurance equipment.



Industry

Our products are used in all sectors and industries. Our cables have a wide range of applications from powering machinery and equipment in factories and mines to powering devices requiring high power or designed through working in hostile conditions to households and public building applications. All our products are subjected to continuous quality control and have gained the approval of the largest standardisation authorities in Poland and in the world.

Automotive industry

We offer a wide range of cables and conduits, from power cables and conduits, through conduits for data transmission, to very complex control cables with the highest mechanical resistance for the automotive industry. Our products are resistant to increased temperatures, moisture, fire and various types of chemical agents. We have many years of experience in the production of automotive cables, and our proposed design solutions are adjusted to the requirements of our customers.

Renewable Energy

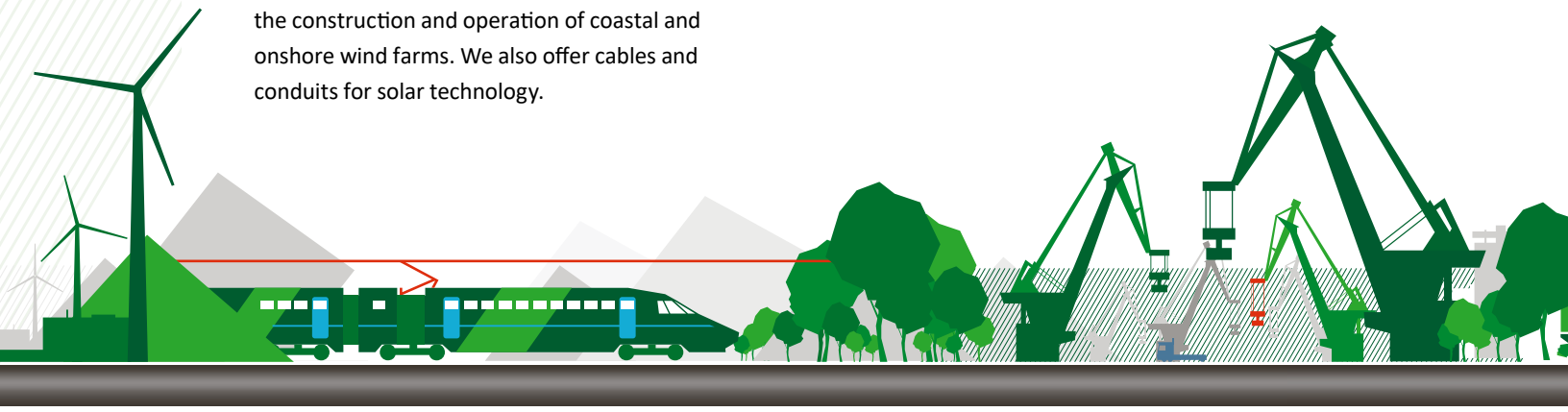
TFKable has over 20 years' experience in the production of specialist cables for wind energy generation. Our leading position is the result of continuous research, development and modernisation of machines, combined with the use of high-quality materials. We offer high and medium voltage conduits and cables and controlling/optical cables (to transmit data and ensure safety), which are used in the construction and operation of coastal and onshore wind farms. We also offer cables and conduits for solar technology.

Power engineering

We provide cables for the power engineering sector in the following product groups: low voltage power cables of up to 1 kV, medium voltage power cables from 6/10 kV to 18/30 kV, high voltage power cables from 36 to 150 kV, extra high voltage power cables from 220 to 500 kV, power cables for overhead lines and power cables of 450/750 V. Our experience and quality are verified by continuous deliveries for energy corporations.

Telecommunication

Telecommunication is a rapidly growing branch of the economy, which requires our specialists to continually broaden their knowledge and stay up-to-date with current standards. We make every effort to ensure that our products are approved by our customers, and high-quality control standards guarantee that the products meet the requirements of certifying authorities. Our product portfolio includes various designs of telecommunication cables for traditional and modern broadband transmission systems. In addition to copper telecommunication cables, teleinformation cables of 5e and 6 categories, and fibre optic cables of different types (ADSS, reinforced cables, with protection against rodents, microcables) up to 432 fibres and telecommunication cables used in the mining and shipbuilding industries.



Shipbuilding Industry

Vessel cables are one of the key products in our shipbuilding industry portfolio. We have been offering this type of cable since the beginning of the 1990s. Experience gathered from relationships with European and Far-Eastern shipyards has resulted in the development of light and compact cables with high flexibility for easy installation in tight spaces. Operational safety of the cables in the extreme maritime conditions is another very important aspect. Therefore, all existing cables have halogen-free covers which do not spread flames and do not emit harmful gases during fires. We also offer fire resistant cables, ensuring long lasting operation of safety circuits under fire conditions.

Rail

We offer a complete range of products for the railway and infrastructure industry, both underground and overground. Our offer includes special low and medium voltage cables, telecommunication cables, signalling and control cables, as well as a full range of products for overhead traction constructions that provide operational security and allow for higher speed limits.

Oil and gas

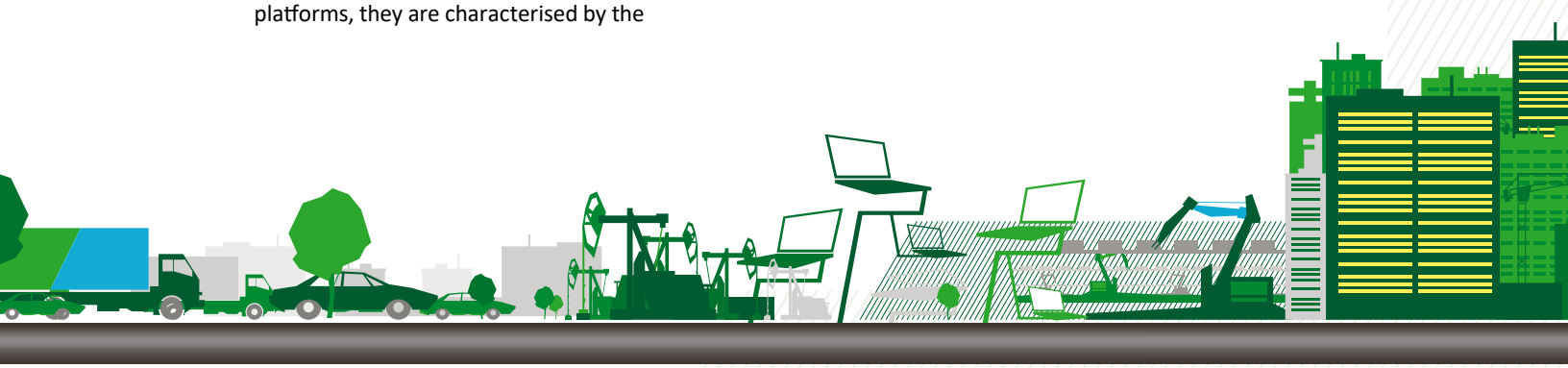
Since the late 1990s, TFKable has been engaged in the production and delivery of cables for the oil and gas industry. As the largest manufacturer of this type of cables in Europe, we offer products that meet all requirements of the certification authorities, such as Lloyd Register, DNV and ABS. Designed for operation on ships and drilling platforms, they are characterised by the excellent mechanical and chemical resistance required to work in harsh conditions. All cables are designed for operation in the harshest environmental conditions and are environmentally friendly.

Welding industry

Welding cables and wires offered by TFKable are produced in compliance with all quality standards granted by reputable certification bodies. Our products are used in all types of welding machines, meeting the highest quality requirements. They retain their high flexibility and strength. They are resistant to gases and liquids, and do not spread flames. As a result, they are used indoors and outdoors, in dry and wet conditions.

Automation

Automation is the field of science and technology covering the issues of controlling various processes, mainly technological and industrial. Controlling conduits and cables produced in TFKable's plants are used as connecting cables for control units of machines, production lines and installation lines, conveyors, for permanent placing and as flexible conduits for free movement in dry, moist and wet areas. We deliver products meeting the challenges of modern industry and infrastructure. We offer signalling cables of 0.6/1 kV, signalling and measuring cables of 300/500 V, and control cables meeting all quality standards required by the market.



JDR Cable Systems, part of TFKable Group, is a global expert in umbilical and cable connectivity to the energy industry. JDR has dynamic and flexible approach delivers the most effective solutions, building long-term partnerships and delivering highly innovated products and services for subsea and land infrastructure connections.

Renewables

JDR is a global pioneer in the development of Inter-Array Power Cables for offshore wind, wave and tidal energy projects. We have embraced the growing international market for alternative and sustainable energy delivery. Our renewable products connect power generation devices, such as wind turbines, within an offshore wind farm, and ensure power is transferred to an offshore or onshore substation. TFK.Group's UK East coast locations make it ideally located to provide, engineering, manufacturing and installation support services for the evolving renewable energy sector, which is particularly strong in Europe.

Oil & gas

We are a leader in subsea production umbilicals, subsea power cables and Intervention Workover Control Systems (IWOCS) for the offshore oil and gas industry. Our products and services are an essential element of the subsea infrastructure that enables energy to reach end-users in a costeffective, safe and environmentally responsible way. We have developed technologies that maximise the efficient delivery of power, control and communications through umbilicals and power cables. Using our state-of-the-art engineering and manufacturing capabilities, we develop and deliver custom built systems for subsea installations at ever increasing water depths. Our custom-engineered IWOCS are manufactured in-house and reinforced to protect the internal components during deployment. Individual element integrity is also assured through separate reinforcement to ensure maximum life of the product. As leaders in the design and manufacture of IWOCS packages, and with the experience of having successfully delivered more than 200 reeler systems to customers worldwide, JDR is now uniquely positioned to offer IWOCS rentals.

Product and Installation Services

Global offshore services – offshore installation and maintenance – are provided by the JDR's Product and Installation Services division. We have a network of experienced and certified technicians and service support facilities, available 24/7 to manage customer projects, for JDR and non-JDR products, on or offshore. The team has created periodic maintenance and inspection routines that include product lifecycle preventative maintenance and assurance programmes. We support customers from project installation, to final site commissioning, with full product lifecycle support. Our approach is designed to maximise client investment in a JDR product and lower the total cost of equipment ownership.

Global services

We deliver global aftermarket, installation and maintenance services. Global Services has a network of experienced and certified technicians and service support facilities, available 24/7 to manage customer projects, onshore and offshore.

We provide reliability through DEMANDED QUALITY

The only modern Polish **Fire Test Laboratory** that allows more than three hundred tests of flammability for cables and wires annually

ERCONET Media Management System that enables the analysis and effective management of energy media

Modern **Cable Waste Recycling Plant** with the processing power of any cable waste

Modern **Quality Control Laboratories** equipped with specialized control and measurement devices

Fully automatic **Im320 E mixer** designed for the production of rubber blends

Usage of 80% of waste heat from the operation of compressors for hot water heating

Reduction of pollutant emissions through the modernization of boiler houses in production plants

Specialization of production facilities that allows for effective production planning

CONDUCTOR
High purity compacted stranded copper

XLPE INSULATION
Cross-linked polyethylene
XLPE has excellent dielectric properties

BEDDING
Used to provide a protective partition between inner and outer layers of the cable

CONCENTRIC CONDUCTOR
Bare, plain, annealed electrolytic copper wires are laid over the common covering of cores with a counter helix of copper tape on top

OUTER SHEATH
Provides protection of the cable core. There are options for the composition of the sheath depending on the intended use includes resistance against fire, oils, termites, and rodents

Sustainable development through values

9
production plants, including dedicated research units, namely the Fire Test Laboratory and the High and Extra High Voltage Laboratory

8
trading companies and sales and maintenance units in 8 countries

> 3,5 thousand
skilled workers

> 25 thousand
inspected and provided cable and wire constructions

Implementation of projects for recipients in over 80 countries

No. 1
the Polish market, based on the production technology having been developed since the early 20th century.

> 500
production lines

The production potential enhanced by high-end production of submarine systems and maintenance and installation services for the petroleum, gas and renewable energy industries

Innovative environmental-friendly technologies, including the Cable Waste Recycling Plant

We create innovative solutions in the cable industry on the local and international markets.
We cooperate with significant industrial and scientific partners – they help us to ensure reliability.

EUROPACABLE, International Cablemakers Federation, WindEurope, American Wind Energy Association, Polish Economic Chamber of Electrotechnics, British Cable Makers Association, East of England Energy Group, NOF Energy, The Polish Wind Energy Association, British Polish Chamber of Commerce