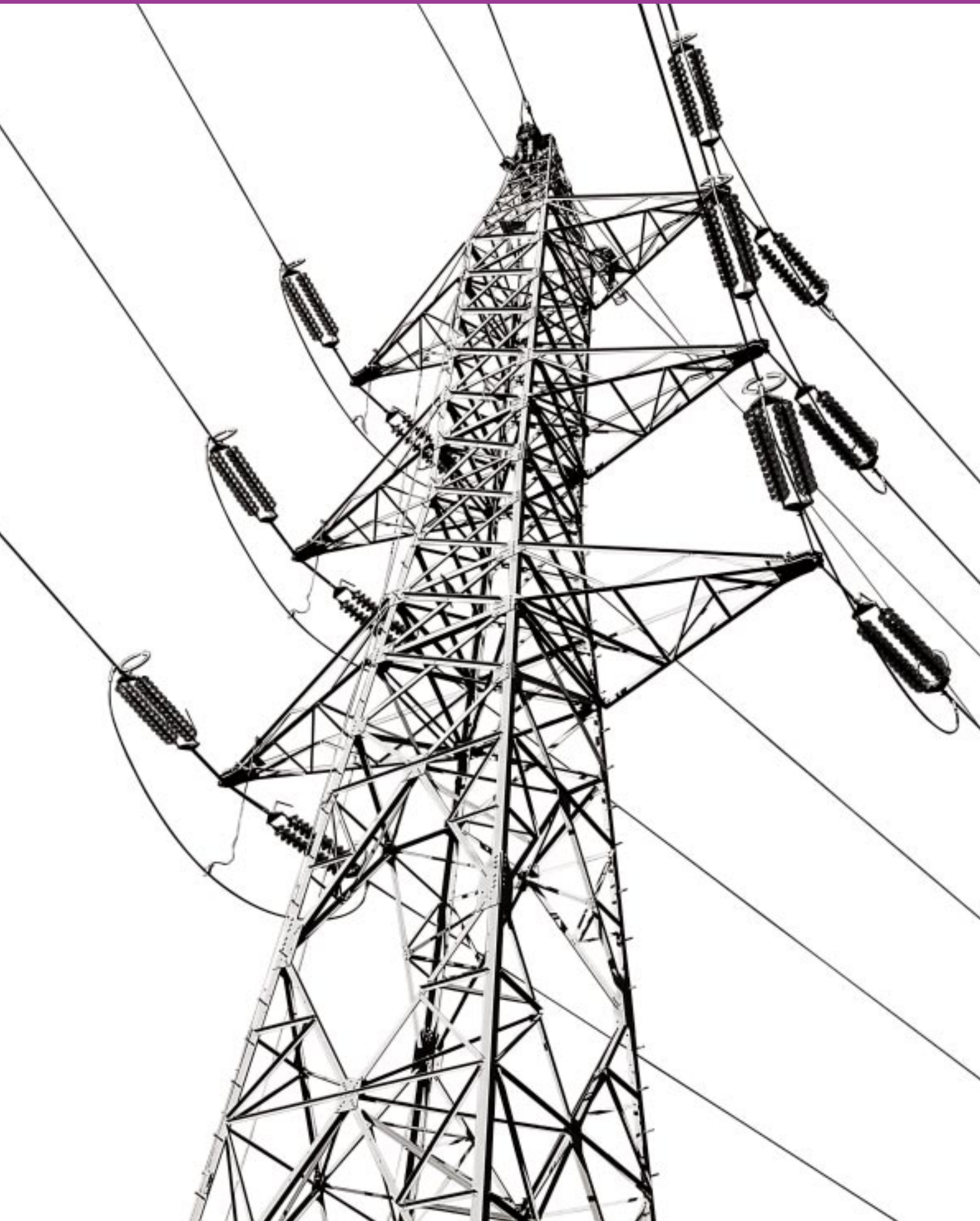


# Energy \_



# On the ground, in the sky, even underwater, energy can go anywhere with

High, medium and low voltage cables, overhead and underground lines, submarine and special cables, accessories, superconductors... the Energy Division alone accounts for almost half of Nexans' total sales. It is 2nd Worldwide for power cable production.

On 31/12/2000  
4.7%  
of the Group's activities

Total sales of 2,062 million euros\_ (at constant copper price)  
9,026 employees\_

No.1 Worldwide for submarine power cables\_

No.1 European for equipment cables\_

No.2 Worldwide for power cables\_

No.2 European for high voltage and medium voltage power accessories\_



Yvon Raak

**“Our aim was first and foremost to modernize our production facilities. This year, we have made huge investments, especially in the Charleroi high voltage plant. By consolidating our activities, we have gained a full-length lead on the rest of the profession. In 2001, we will continue our investment policy while at the same time developing our employee’s skills in order to bring our plants to “top level” in best practices worldwide for all industries combined. For turnkey projects and special cables, we are now focusing on customer relations and innovation.”**

## Nexans, second-largest supplier in the world

The Nexans Energy Division, number 2 worldwide for power transmission cables and systems, has the majority of its production facilities in Europe, Canada and South-East Asia. It adapts its production capacities and products to the ongoing economic situation and the major regional markets. In this way, Nexans meets the dual challenge of controlling costs and meeting international standards by producing cables that are less costly, more resistant and offer higher performance. Over the last few years in Europe these markets have witnessed overproduction of high and medium voltage equipment, but a growth in demand for special cables.

In Asia, the emerging markets offer great opportunities.

Given this general context, Nexans this year has pursued the policy of restructuring its production sites that began in 1996. The consolidation of resources has enabled the modernization of the production means. A cost-reduction program has been implemented, involving improvements in design, manufacturing processes, packaging, transport, and raw material purchasing policies. The logistics platforms have also been streamlined.

## High voltage: more power, fewer pylons

Nexans proposes a full range of products for high voltage network operators, covering all technologies and all

standards, from 63 to 500 kV.

To meet the new European requirements of high voltage electricity transmission, it has developed a range of specific products. One example among others is the Aero-Z solution, which enables old-generation cables to be replaced by more efficient special geometry cables while conserving the existing pylons. The Belgian national grid is now equipped exclusively with these new cables. Even if many countries are increasingly laying underground cables for low and medium voltage lines, the market for aboveground high voltage cables still has strong potential in countries with vast expanses of land, such as Russia, the USA, in South-East Asia and South America.



**Cablings the depths**

The "Skagerak" is one of just two ships in the world capable of carrying very heavy submarine cables and laying them at depths of up to 2,300 metres.



**Equipping trains with more reliable cables**

Nexans produces complete systems for catenaries. These cables, made of copper and various alloys, offer greater tensile strength and greater safety at high speed. In tunnels and public places, HFFR cables guarantee fail-safe operation of power, alarm and communication systems. Nexans' modular and upgradable cables and accessories can be adapted to suit any railway system in the world.

**"20,000 leagues under the sea"**

Nexans is one of the world leaders in the manufacture and laying of submarine cables and oil platform equipment. This activity demands an exceptional level of expertise. Submarine cables must be corrosion-resistant and withstand both the extremely high pressures and high mechanical stresses exerted during laying. The high voltage submarine cable market is of capital importance at present as very large projects are being brought back onto the agenda. This is the case between Morocco and Spain, Norway and the British Isles, the Philippines, Indonesia, Cyprus, and between

Australia and Tasmania. To ensure the capability to respond optimally to these huge demands, Nexans has consolidated its personnel and streamlined its production means on a single site at Halden in Norway, a country renowned for its maritime skills. Nexans also produces umbilical cables that route fluids, data and power to oil platforms at sea. The prospects are turning out to be excellent: with its order book well filled for the coming years, Nexans is consolidating its position as second in the world on this market.

**Medium and low voltage: out to win new territories**

Power distribution networks are becoming increasingly large and complex. Nexans provides these networks with a full range of medium voltage (from 3 kV

to 60 kV) and low voltage (1 kV) cables and accessories to ensure the distribution of electricity to consumers. Each product is manufactured to the specifications of the national or regional distribution grids.





#### Ensuring fire safety: the HFFR solution

Nexans has developed halogen-free, low-smoke, fire-resistant cables to ensure the safety of personnel in power stations and substations. These cables are also used in nuclear power plants, as they resist radiation for the 40-year life of the reactor, and the constraints imposed by such an environment.

#### Did you know?\_

Today, a top-of-the-range car packs about 5 km of cables on average. Soon, electronics will represent 30% of the purchase price of a vehicle. With temperatures under the car bonnet exceeding 150°C, wires and cables need insulation and sheathing robustness that will stand up to virtually anything.

Nexans' strategy consists in strengthening its position in countries where it has a newly acquired presence, such as Turkey. It recently formed an alliance in Lebanon with the local company Liban Câble, which also enabled it to acquire a presence in Egypt. The Group is also very active in South-East Asia, where it has bought Daesung Cable, a company with subsidiaries in Vietnam and Tanzania. This strategy of geographical expansion is backed by a strong capacity for innovation. Nexans is one of the world leaders in cold-shrinkage technologies for medium voltage accessories.

#### General market: when the building sector is OK, everything is OK!

To ensure their energy requirements, "smart" buildings are equipped with resistant and reliable cables that combine several functions. Nexans' low voltage cables equip office blocks, residential buildings and industrial facilities with high-performance electrical networks. They are especially renowned for their robustness and fire-safety characteristics. Nexans is present in fourteen countries to serve this market.

#### Special miniature cables for on-board electronics

Nexans produces a large variety of special cables. They comply with very precise

requirements defined by the customers. The automotive and aeronautical industries in particular, which make increasing use of small electric motors and onboard electronic circuitry, are large consumers of high-reliability, highly-protected miniature cables. The production of these "made to measure" cables requires very close collaboration with the customer, which often means seconding Nexans engineers to work in the customer's own development teams. The year 2000 saw the signing of contracts with major car manufacturers such as BMW and Mercedes, as well as the equipment manufacturer Valeo for the supply of high-performance wires integrated



in harnesses and flat conductor ribbon cables. Nexans also provides cables with improved fire resistance and low smoke emission, flexible cables for systems integrators, and cables for industrial equipment, large projects, infrastructures, etc.