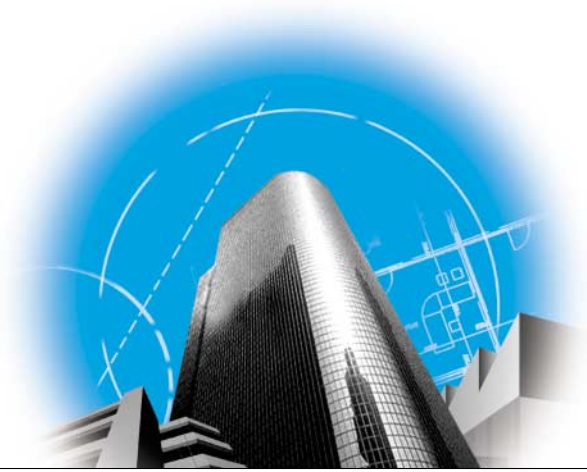


**N**exans



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**Global cable expertise  
for buildings**

# Challenges for home, office, public and industrial buildings

Late in the last century, a trend emerged to make both old and new buildings more intelligent, through computer-controlled heating, ventilation and air-conditioning (HVAC), fire-protection, security and lighting systems. Rapidly, Information Technology refined the notion of “smartness” through shared tenant services (STS) like private broadband, and Local Area Networking (LANs) to greatly enhance building automation and management. By allowing buildings and factories to adjust to actual heating and lighting conditions, these IT solutions generated important energy savings. The buzzword for today’s homes, buildings and industrial sites is “sustainable design” which creates economic value while valuing the environment. Thus, high priority is given to comfort and security, operational efficiency, and energy conservation.

- Private home and apartment owners want more personal comfort, convenience and security, i.e. a “smart” home, with features like solar heating, lighting with continuously dimming electronic ballasts, real-time energy monitoring and built-in broadband.

Today’s homes use dozens of different cables, from floor-heating to security alarms. They expect all cabling to be tidy, efficient and competitively-priced.

- Public buildings range from malls to banks, theaters, cinemas and government buildings, schools and libraries. Offices include historic, conventional and smart buildings. They all demand a wide range of cables (energy and data) which can meet space constraints, and provide for future needs. For new generation “green” buildings, constructors want integration and modularity. Public safety is of utmost importance.
- Industrial sites, too, are becoming more complex, security-conscious and environmentally responsible. There are up to 60 different types of control and energy cables on a factory floor, in addition to LANs. Cables must be multipurpose, reliable and durable in tough environments, assuring high safety for personnel and infrastructure in terms of fire-performance, low smoke and noxious gases.

**Sustainable buildings require sustainable cabling.**



# Nexans provides a full range of cables...

## Power distribution

From the private family home to apartment blocks and public buildings (malls, banks, cinemas, theatres, government buildings, universities, hospitals, etc.), Nexans has developed a complete range of tough and reliable energy cables that often combine various functions to save space and eliminate duplication:

- building wires and cables,
- copper, copper-alloy and aluminium conductors,
- low, medium and high voltage cables and accessories.

*Dominating the Shanghai skyline, the Gin-Mao tower is 82 stories and 420 meters tall. To meet the challenge of weight in a vertical structure, we developed a mechanically reinforced cable to carry energy sky high.*

## Heating

Radiant heating cables for implantation in floors have been manufactured by Nexans since 1926. Floors are heated at low temperature through embedded cables and then radiate warmth to the surroundings, thus achieving maximum comfort and energy utilization.

*An aluminium laminate makes our cable very installer-friendly and water-resistant, while our factory-made connection to the "cold tail" assures maximum safety and expected product lifetime. Our patented heating cable mat is a new product for direct under-tile installation.*

## Lighting

Nexans manufactures the copper winding wire used in ballasts for halogen lamps, fluorescent lamps, and High Intensity Discharge (HID) for streets, stadiums and hangars. The electronic ballasts, which consume less energy than magnetic ones, are the way of the future.

*We recently developed winding wires for Philips to be used in ballasts for fluorescent lights.*

## Datacom and telecom installations

Nexans offers a host of cables and cabling solutions, with space constraints, easy upgrades, expansion and security in mind, delivering performance, reliability and value for money:

- cabling systems: from off-the-shelf products to fully integrated solutions,
- LAN copper and fiber solutions: low electromagnetic interference (EMI) for domestic networks; high capacity, expandability, fire-safety for buildings and sites,
- telecom copper and fiber: for outdoor drops and indoor distribution frames,
- accessories, connections, and cabinets.

*Nexans has installed complete Cat 6/Class E copper cabling for Swiss Life's new UK headquarters in the Albert Docks, Liverpool. The "green" cable used is Low Smoke and Zero Halogen (LSZH).*



**Copper and fiber LANs**  
for work stations and videoconferencing



**Audio/visual cables**  
for surveillance



**Medium-voltage cabinet**  
for sector distribution



**Telecom cables**  
for multimedia



**Copper and fiber LANs**  
for communication and production



**Elevator cables**



**High-voltage cables**  
for power distribution



**Ballasts**  
for halogen and fluorescent lamps



**Low-voltage wires**  
for HVAC



**Rubber cables**  
for tools and robots



**HFFR and LSZH cables**  
for fire security



**Field bus and hybrid cables**  
for automation and process control



**Medium-voltage power cables**



**Heating cables**  
for radiant warmth



**Alarm wires**  
for burglar protection



## ...for convenience, efficiency and safety

### Electronic installations

For security and control purposes, Nexans provides a host of Voice/Data/Image (VDI) cables for several applications, including access control for buildings, and burglar and fire alarms. A range of audio and video cables are used for Public Address systems, ambient music, video publicity, and surveillance for public buildings, airports and industrial sites.

*Nexans is delivering alarm cables to the global security services company, Group 4 Falck. They are used in the fire-alarm system at Malmö airport in Sweden, and security systems in several new offices and factories under construction in the Gothenburg area.*

### Industrial installations

To meet the demands of large production sites, Nexans produces over 60 different types of control and energy cables (low, medium and high voltage) which are highly reliable and durable in tough conditions, while assuring high standards of operational safety:

- control cables for machines,
- high-temperature and precision cables,

- rubber industrial cables,
- industrial automation cables for robots,
- fiber and/or copper cables for LANs.

*To meet the specific challenges of dangerous environments, Nexans offers numerous sheathing solutions, ranging from resistant thermoplastic coating to handle oil, water, extreme temperatures, rodents, etc. to lead sheathing for dangerous chemicals.*

### Safety and environmental solutions

Nexans has designed a full range of low-smoke, low-corrosive, fire-retardant cables for fixed electrical installations, lighting control and internal equipment, in addition to a series of fire-resistant cables for all emergency systems, alarms and fire-fighting equipment.

- Halogen-Free, Fire-Retardant (HFFR) building wires and cables,
- HFFR industrial cables,
- Halogen-Free, Fire-Resistant special cables: security & control, elevator cables, emergency, etc.,
- Low-Smoke and Zero-Halogen (LSZH) cables of all types.

*Over a three-year period, Nexans will provide over 1,000 km of special HFFR cables to the European Organization for Nuclear Research (CERN) based in Geneva. These extremely safe cables are also highly resistant to nuclear radiation.*

### Components and accessories

Nexans manufactures more than just cables. It produces numerous cabling accessories, interconnection devices, like the innovative GG45 connector to Category 7 which has become an international standard. It also produces special tools, like the 4x4 cable caddy with a cage capable of resisting up to 1 ton of pressure, that was co-developed with installers to facilitate their job.



## Service from the ground up

**To ensure that residences, buildings and industrial sites continue to meet the objectives of energy-efficiency, environmental safety and sustainable design, Nexans offers services that only a worldclass cable manufacturer can provide:**

### **Expertise**

With a long experience in the building industry and a vast range of products, Nexans has both off-the-shelf products and customized solutions for special needs. After a careful analysis of the customer's real needs, we find the ideal match of cables, often integrating various energy and data functions. This can involve eliminating electro-magnetic interference (EMI) present in homes, implementing a LAN network that can grow with your business, or developing new shielding for improved safety and reliability in manufacturing.

### **Global presence**

Since today's companies are often global, with plants and branch offices located worldwide, important cost-savings and structural efficiencies can be achieved by uniform cabling solutions which respect local standards.

Nexans has the broadest geographical presence in the cable industry, with plants on 5 continents and representatives in 65 countries. Building designers, cable installers and site managers are thus assured of getting everything they need from one vendor wherever they are.

### **Performance**

Nexans is committed to increasing performance and lowering costs through the right use of materials and a knowledge of product integration. Constant innovation by our competence centers means that efficiency is steadily improving in mechanical and environmental terms (e.g. lead-free cables). Our fully-automated logistics centers guarantee fast delivery and flawless stock management. Since cabling has been our core business for nearly a century, our customers have come to appreciate dealing with a company of specialists.

### **Partnership**

Since a good product must be correctly installed to work well, we pioneered our own Certified System Installer (CSI) program to train and certify installers of LANs. With suppliers, we monitor the quality of materials (e.g. rubber, silicon and copper). Nexans takes a "privileged supplier" approach with key customers, which involves the exchange of supply-chain data through electronic data interchange (EDI) and e-procurement practices. With a richly detailed and permanently updated website, and dedicated e-service, Nexans is a key player in the electronic marketplace. Finally, in tune with our eco-friendly initiative, we recuperate obsolescent cables (left by installers in Nexans disposal bins) from certain partner-distributors.



# Nexans enhances both living space and workplace

## Private residences:

Nexans provides a family of products which respect the latest norms and the highest levels of security. "Rigid" cables are used for fixed installations and control panels, and can be installed in tubes, moldings and baseboards. We also provide power distribution cables for house drops, and a full range of data cables and LAN cabling systems for telecommunications and multimedia. Various solutions are available for private broadband wiring.

## Public and office buildings:

Nexans proposes a broad range of energy and data cables. A new generation of fiber and/or copper LANs makes it possible to seamlessly upgrade to higher speeds over longer distances. Installers and engineers appreciate our modular, integrated and space-saving solutions. Fire-resistant cables provide vital data and assure uninterrupted power supply (UPS), while low-smoke, low-toxicity halogen-free cables protect people and equipment.

## Industrial complexes:

Nexans provides superior cables which can handle high voltages safely, and operate in hot, cold, oily and corrosive conditions. "Rigid" cables are used for fixed energy sources (low, medium and high-voltage), while rubber cables equip robots and mobile industrial equipment. Our copper and/or fiber LANs meet the demands of advanced automation, while fire-resistant cables (sometimes also halogen-free) protect both workers and equipment.

## This variety of cables requires a cable manufacturer with broad experience. As a global supplier to the construction business, Nexans provides:

- wide choice of building and industrial cables and accessories from a sole supplier
- advanced fiber and copper LANs for next-generation homes, buildings and sites
- complete range of LV/MV/HV cables
- reduced weight and volume for compact installation
- modular and flexible systems for easy upgrades

- off-the-shelf products and fully integrated cabling systems
- interconnective solutions for worldwide compatibility
- advanced fire-resistant cables
- low-smoke, low-toxicity halogen-free cables
- fast delivery wherever you are in the world
- conformity to the highest quality standards
- dynamic R&D focused on protecting people, buildings and the environment





Global expert in cables and cabling systems

Nexans is the worldwide leader in the cable industry, with an industrial presence in 28 countries and commercial activities in 65. The Group employs 17,500 people. Its sales amount to 4.8 billion Euro. Nexans brings an extensive range of advanced copper and optical fiber cable solutions to the infrastructure, industry and building markets. Its cables and systems can be found in every area of people's lives, from telecommunications and energy networks, to aeronautics, aerospace, automobile, railways, building, petrochemical, medical applications, etc.

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