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**Customized cable solutions  
for security, reliability and safety in airports**

# Changes in the air...

Scheduled passenger traffic of airlines is currently growing at about 5% a year, with the Asia Pacific region continuing to lead the world (14% domestically). This has had an impact on passenger aircraft ground infrastructure on all continents. New, large airports are being built everywhere. And existing facilities are undergoing massive upgrades, not only to accommodate passenger growth, but to handle a new generation of super jets, like the Airbus 380. Currently, there are nearly 300 projects to build or refurbish airports worldwide, including 40 major hubs.

Given the complexity and density of air traffic, overall flight safety has become a concern. Airports increasingly need enhanced equipment, systems and networks to assure safe takeoffs, landings and ground and air control. Terminal and building safety is also an issue, especially since the dramatic fires in Düsseldorf, Amsterdam, and Istanbul airports. Current world instability and asymmetric threats (terrorism) have heightened security concerns. In fact, 97% of airports now see security as a high or medium priority.

Privatization and competition have forced airports to take on what were once airline responsibilities: passenger

self-service, self-boarding, common-use kiosks, duty-free shops, parking lot security, adjacent hotels, and people movers. Increasingly, airports are turning towards higher levels of technological investment to manage their business effectively, and improve services for operators, tenants and passengers.

## What airports expect from cable manufacturers:

- Cables, components and systems to enhance operational safety, and fire performance
- Security solutions throughout the airport for baggage handling, passenger control, intrusion
- Efficient, robust, reliable and upgradable energy and telecommunications networks
- Ability to handle rapid expansion due to the new Airbus 380 and passenger growth
- Advanced IT solutions, like Video-Over-IP and enhanced LAN/WAN capability
- Cost-efficient infrastructures to meet the “common-use” trend among airlines
- Cable innovations geared to the complex airport setting
- Ability to transport, deliver, install, and maintain anywhere in the world
- Environmental responsibility, including recycling



...call for new cable solutions on the ground

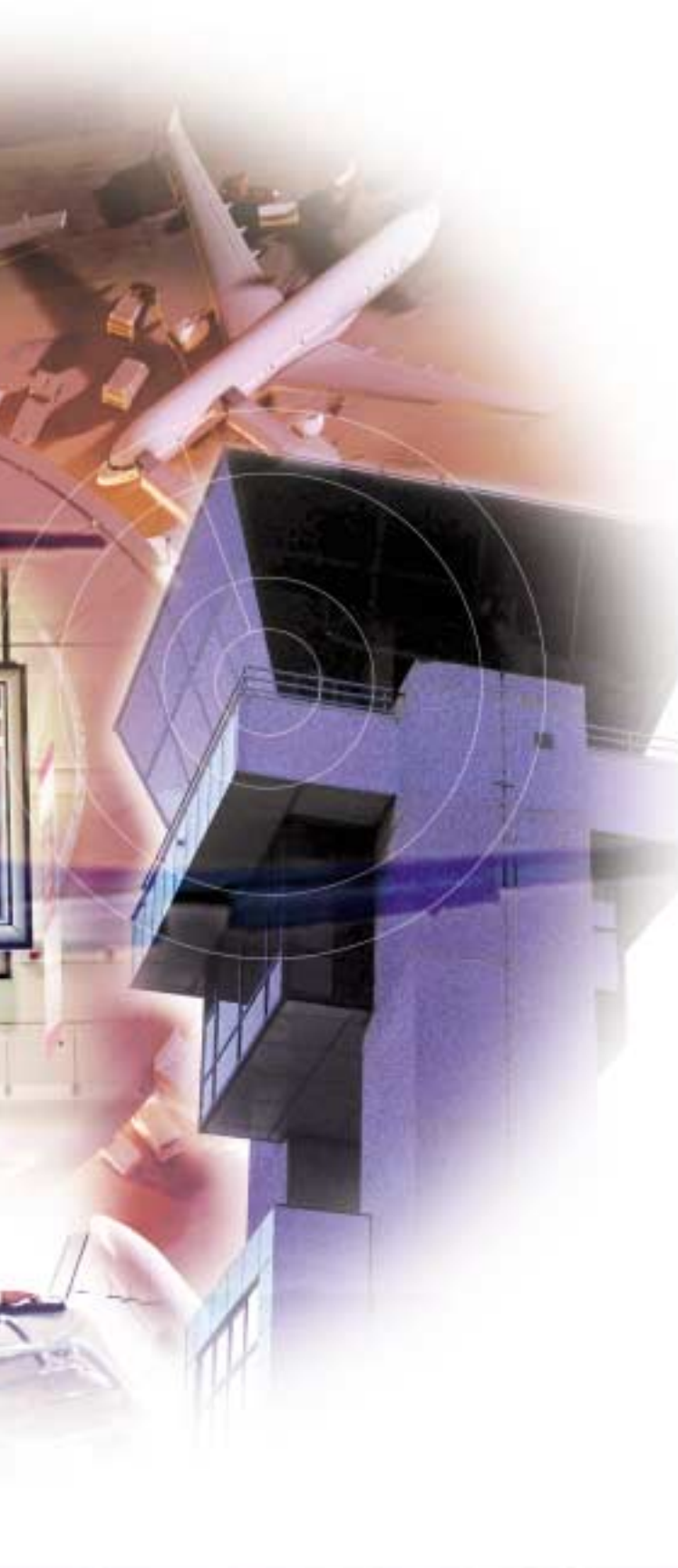
Nexans supplies a complete range of cables and accessories for airport infrastructures, from key energy and communication networks to multiple terminals and hangars, control towers and runways. This means that we can provide a complete cable package for an entire airport, including standard and special cables, connectivity, and active components.

Our twin expertise in energy and telecommunications allows us to find hybrid or complementary answers, drawing on products developed for other industrial, infrastructure and building markets. For example, the autonomous power and communication networks of the airport must connect to the city or country networks and use products which are compliant with the local standards of power utilities and telecom operators. Another example, train stations and office buildings share many of the same security, safety and service concerns as airports. And so, we apply proven cables, like ALSECURE® fire-performance cables. Because aviation is high-tech, we are on the leading edge of innovation in energy networking, Local Area Networks, optical fiber technologies and advanced building solutions. Our Competence and Research Centers not only

follow airport trends, they often set them by developing new products and standards. Since airports are a global business, we are dedicated to serving this vertical market with interchangeable and compatible products.

**Nexans expertise for security, reliability and efficiency**

- A complete range of airport products from one experienced supplier
- Next-generation telecom networks for Triple-Play, Industrial Ethernet, and air traffic control
- Advanced energy networks
- Global expertise for upgrading existing airports and building new international hubs
- Preliminary layout, design, technical assistance, installation and maintenance training
- Fire-safety cables to protect employees, passengers and the building itself
- Rapid and customized development of specific products that soon become off-the-shelf
- Reliable delivery through dedicated logistics, and plant capacity worldwide
- Environmentally-friendly products with low Electromagnetic Interference (EMI)
- Full conformity with aviation legislation and specifications worldwide



**N**exans provides a full range of cables and accessories...

## BACKBONE NETWORKS

### HV/MV XLPE underground cables and joints

Used in ducts or galleries for the energy backbone to maintain power in all circumstances for radars, control tower and runway lighting equipment. Cold-shrink joints make installation easier.

*These cables and joints currently equip Madrid Barajas and Incheon airports (Korea).*

### LV cables for weather beacons

To connect the weather beacons on the airfield. *Nexans provided cables like these for Madrid Barajas airport.*

### Multimode and singlemode fiber optic cables and interconnecting components

High bandwidth telecom network cables for Voice, Data, Image, and EMI-protected control cables for control networks between radars, Instrument Landing Systems (ILS), beacons and control towers.

*Nexans supplies FO cables for Madrid Barajas airport with LSZH materials for radar control networks; Nexans also supplies Optical Distribution Mainframes for telecom network management at Charles-de-Gaulle airport.*

## TERMINALS (AND HANGARS)

### LV/MV energy cables

A wide range of cables and wires for overall energy supply, lighting, heating, air conditioning, etc.

*Their smooth sheathing and strippability makes them easy to install.*

### LV flat cables

240-600 V cables provide a backbone into which junction boxes can be easily attached.

*These cables are ideal for temporary or modular corridors in the terminal or hangar environment.*

### Prewired conduits

These conduits can accommodate energy cables, or telephone, coaxial and LAN cables.

*Conduits reduce two operations to one, saving time, money and space in large maintenance hangars.*

### ALSECURE® fire-reaction and ALSECURE® PLUS fire-resistant cables

The former cables (up to 1 kV) prevent fire propagation and dramatically reduce smoke emission; while the latter provide LV power for alarms, smoke evacuation, lighting, sprinklers and Safety Lighting Systems which continue to operate during a fire. *ALSECURE® is used in offices and elevator shafts in Barcelona airport and Charles-de-Gaulle in Paris. ALSECURE® PLUS has been installed in Charles-de-Gaulle, Nice and Bâle-Mulhouse airports.*

### Elevator and escalator cables

Flat or standard energy and control cables in PVC or halogen-free versions.

*Nexans supplied ThyssenKrupp, who produced elevators for the new Dubai airport.*

### Bus cables

Provide signal transmission for buildings, security, lighting and indoor climate control.

*Omnipresent in the airport environment for controlling vital functions.*

### CCTV and Video-Over-IP cables

A fiber link (sometimes with coax) handles multiple surveillance cameras where distance is a factor.

*For sharp digital images and luggage tracking, IP cameras will eventually replace expensive CCTV cameras.*

### Anti-intrusion cables

Standard cables that give a simple on/off signal for doors, window frames, etc. *Nexans also designs special cables for motion detectors in sensitive airport areas.*

### Cables for baggage handling systems

Flexible, halogen-free, fire-retardant signalling, control and power supply cables for conveyor belts and motors, as well as bus and fiber-optic cables for steering.

*Nexans has furnished cables to airports in Madrid, Dubai, Beijing, Hong Kong and Singapore.*

### VFD cables

Special Variable Frequency Drive cables can be used for conveyors, fans, pumps and elevators.

*Nexans supplied Halifax International Airport in Canada.*

### Public address cables

High performance loudspeaker cable for reliable public announcements.

*These silver-copper cables deliver a full sound spectrum and continue to function during a fire.*

### LAN cabling systems

Category 6 and 7 copper and fiber for horizontal backbones and airport "campus" cabling.

*Allow large hubs to operate over longer distances (terminal to control tower) at higher data speeds.*

*Nexans LAN solutions are being installed in Incheon International Airport in Korea.*

### Active networking systems and accessories

Fast Ethernet and Gigabit Ethernet converters and switches for fiber and copper-based network infrastructures.

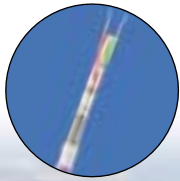
*Applicable to bookings, airport management, and maintenance operations. They have been installed at Frankfurt, Munich, Düsseldorf, Cologne-Bonn airports.*

### Intelligent Terminal Management

LANsense, wireless, powered LAN devices, LANmark solutions for airport management.

*Endow airport back office, building and control functions with next-generation capability. Nexans is supplying LANsense systems for Incheon International Airport.*

**Bus, Batibus and Profibus cables**  
for controlling vital airport functions



**LAN/WAN cabling systems**  
for terminals and CT telecommunications



**Active equipment**  
for copper and fiber-based networks



**VDI, CCTV and VoIP cables**  
for control surveillance of the airport



**HV/MV XLPE underground cables and joints**  
for energy networks



**LV cables**  
to connect the weather beacons



**LV/MV energy cables**  
for overall energy supply in terminals and CT



**LV flat cables**  
for temporary or modular corridors



**Prewired conduits**  
to accommodate energy or telecom cables



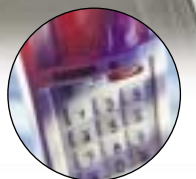
**ALSECURE®**  
fire-reaction cables and  
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fire-resistant cables

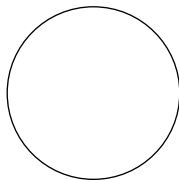
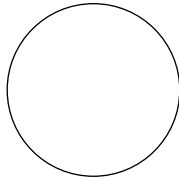


**Elevator and escalator cables**

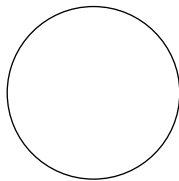


**Anti-intrusion cables**  
for motion detectors

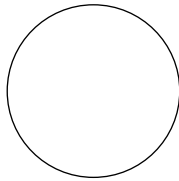




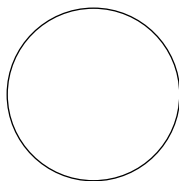
400 hertz cables  
to hand off power  
to aircraft while parked



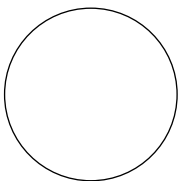
Intelligent Terminal  
Management  
for all airport  
management functions



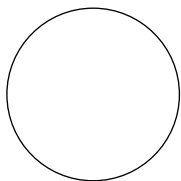
Active networking  
systems and accessories  
for bookings and airport  
Management




Public address  
cables  
for loudspeakers



Cables for  
baggage handling  
systems



VFD cables  
for conveyors, fans,  
pumps and elevators



## SERVICES to meet operational goals

### **Global expertise**

As a cable supplier serving diverse markets, Nexans not only follows world trends from the inside, it develops best-of-class solutions no matter where they come from. For example, what we learned in public and industrial buildings and subway stations is directly applied to terminals and control towers.

### **Local presence**

Because Nexans is present around the world, the international airport business always has experts close at hand, speaking their language, familiar with the challenges they face, and being able to draw on both local and company-wide resources. Fast, reliable supply, and correct installation are a priority.

### **Technical leadership**

A high-tech international hub, often built by an international consortium, requires state-of-the-art products, especially in the area of special cables (e.g. for fire-performance and data reliability). With its Competence and Research Centers, Nexans has always remained one step ahead.



Global expert in cables and cabling systems

Nexans is the worldwide leader in the cable industry. The Group brings an extensive range of advanced copper and optical fiber cable solutions to the infrastructure, industry and building markets. Nexans cables and cabling systems can be found in every area of people's lives, from telecommunications and energy networks, to aeronautics, airports, automobile, railways, building, petrochemical, medical applications, etc. With an industrial presence in more than 30 countries and commercial activities worldwide, Nexans employs 20,000 people and is listed on the Paris stock exchange.

**For any further information, please contact:**

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or visit [www.nexans.com](http://www.nexans.com)