BELDEN
SENDING ALL THE RIGHT SIGNALS

Signal Transmission Solutions

**Applying Our
Expertise and
Solutions to Your
Applications**

BELDEN
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Introducing the NEW Belden...
Sending All The Right Signals™ for Your Transmission Needs

Belden has been an industry leader in providing reliable cabling products for over a century. More recently, our direction has allowed us to add new product lines, technologies, resources, and the many combinations of these, to create specific signal transmission solutions for our customers. To illustrate this point, we have created this guide to Belden capabilities as a demonstration of the breadth of resources we have today to meet the needs of your specific applications. Belden, as an expert in signal transmission technology, has more to offer than anyone else.

Cable
Copper and
Optical Fiber

Connectivity
Copper and
Optical Fiber

**Enclosures
And Racks**

**Cable
Management**

**Wireless
Solutions**

**Active Networking
Devices**

The Belden brand is built on four pillars –

1– We identify customer needs.

2– We innovate technology solutions
to meet those needs.

3– We draw from a very broad product
resource set to identify the various
products or systems for your
individual application.

4– We provide you with local product access
and support through our global networks.

This is our Solutions Process, a never-ending
cycle of bringing more resources and
innovation to provide reliable solutions
for our customers.

More Products,
More Technologies,
More Systems...
More Belden Solutions
Than Ever.

Constant Innovation –

We're continually evolving with state-of-the-art optical fiber, copper and wireless solutions to provide the best signal transmission performance. Our core cabling solutions have been extended to include products such as mission-critical switches, enclosures, racks, cable management and more. Belden's history of innovation continues at a stronger-than-ever pace.

Broad Product Resources –

Belden has a broader and deeper selection of signal transmission products than any other company. Our sales, distribution and installation teams are ready to provide you with an unprecedented array of products for your facility or project. Collectively, they represent hundreds of thousands of possible combinations, ensuring we can deliver that one "right signal solution" for you.

INNOVATION

RESOURCES

AVAILABILITY

Belden®
SOLUTIONS

Global Availability –

Belden's global manu-facturing footprint, distribution centers, networks and strong logistics combine with our worldwide sales and customer service teams, and our vast dealer and installation resources, to provide the availability and service you need around the world. This local access to Belden products and support anywhere in the world is unequalled by any other company.
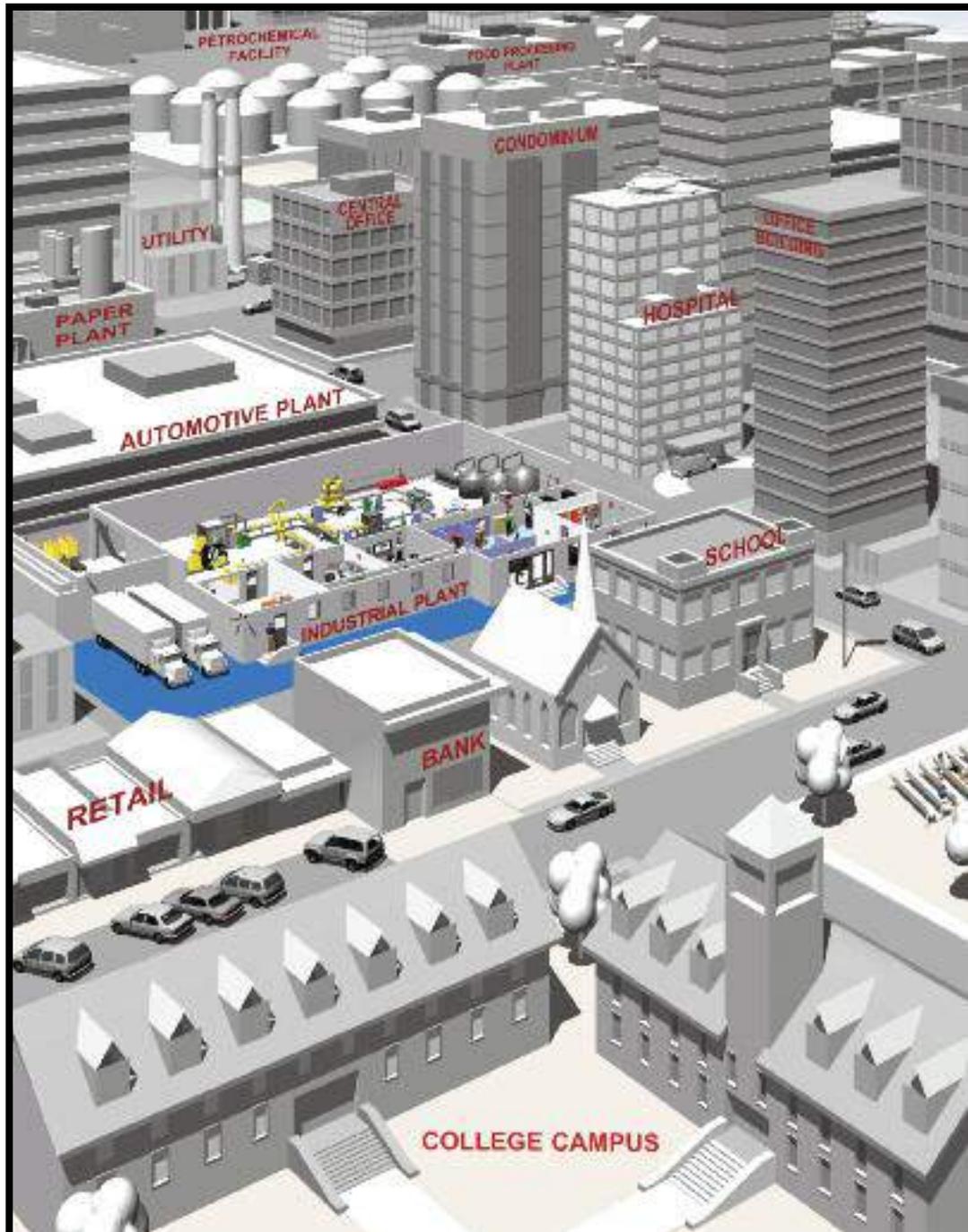
Solutions for Our Customers –

Customer-Centric Design® is more than product development. Our focus on customer needs involves ongoing discussions, identifying customers' product or technology needs, staying at the top of our craft and providing continuous support throughout the product life cycle. As a result, innovation at Belden never rests and service is our priority.

![Belden — Sending All The Right Signals]

Belden—
Meeting the Signal Transmission Needs of Industry, Commerce, Education, Healthcare and Entertainment Everywhere

With thousands
of products available,
Belden is uniquely
positioned to meet
your signal transmission
needs. If we don't have
what your application
requires, we'll design
it with you!

Providing Expert Signal Transmission Technology

Looking at this cityscape, you'll see a sea of buildings whose inhabitants have a wide range of signal transmission needs. To answer these needs, Belden offers thousands of signal transmission products—and the desire and ability to provide whatever solutions you need.

Belden's unique expertise falls within the broadcast, building networks, security, industrial and residential arenas—which extend to a whole host of markets, such as:

- Office complexes/buildings
- Universities/college campuses/schools
- Data centers
- Utilities
- Sports stadiums
- Financial institutions
- Retail outlets
- Power generation plants
- Hospitals/medical facilities
- Correctional facilities
- TV and radio broadcast studios
- Casinos
- Petrochemical facilities
- Processing plants
- Houses of worship
- Pulp and paper plants
- Government
- Audio/Video post-production facilities
- High tech industries
- Cruise ships
- Automotive plants
- Entertainment venues

To give you an idea of the range and depth of solutions Belden can provide, the following pages overview three sites: an office building, a broadcast studio and an industrial plant.

Belden Solutions for the Commercial Enterprise
Including Office Buildings and Institutional Facilities

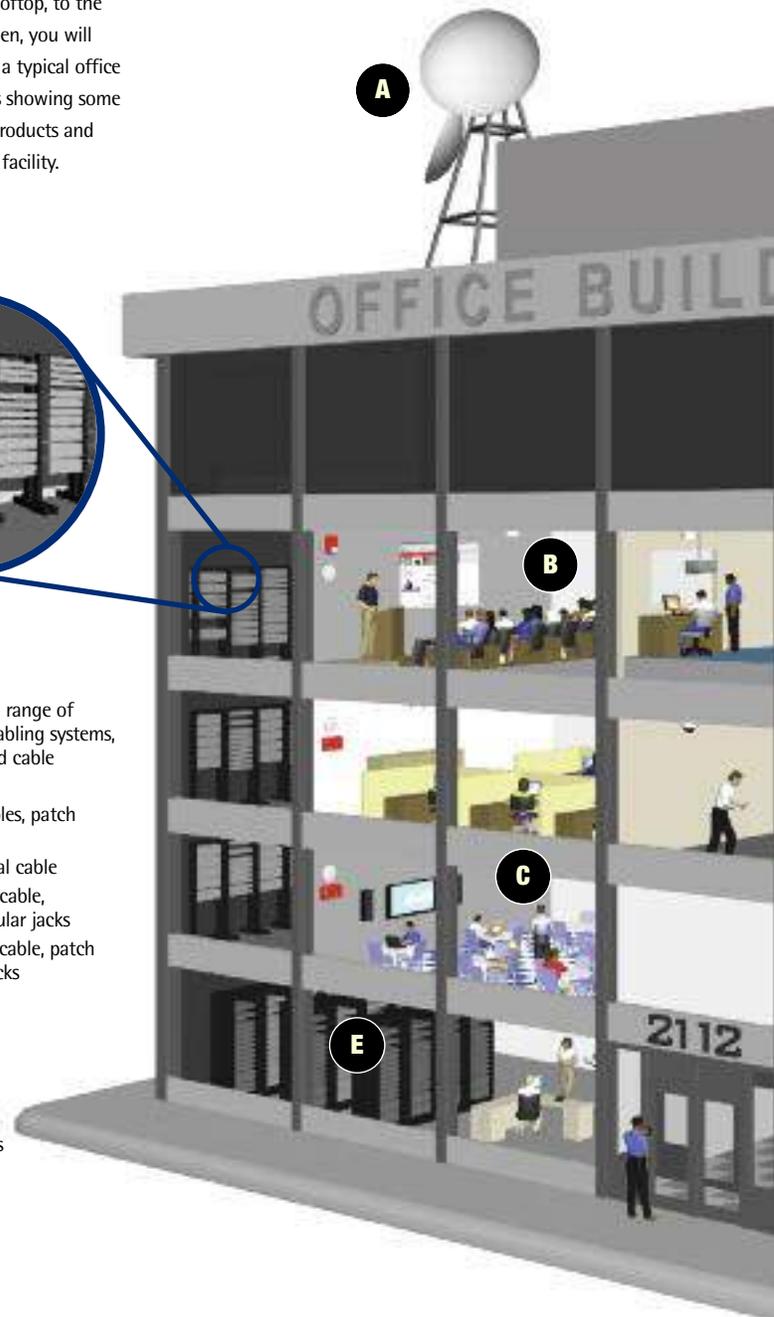| Application	Belden Products
A **Broadband Tower**	RF cables, cable ties
B **Auditorium**	HD video cables, audio and speaker cables, automated lighting, window and climate control cables, networking cables and connectivity, workstation outlets and faceplates, wireless mobility points, fire alarm cables, cable ties
C **Lounge**	Video cables, networking cables and connectivity, workstation outlets and faceplates, wireless mobility points, audio speaker cables, fire alarm cables, cable ties
D **A/V Conference Room**	HD video cables, audio and speaker cables, automated lighting, window and climate control cables, networking cables and connectivity, workstation outlets and faceplates, wireless mobility points, cable ties
E **Data Center**	Full range of copper and optical fiber structured cabling systems, enclosures and racks, patch cord/cable management units, power distribution units, climate monitors, adaptive enclosure heat containment systems, wireless mobility exchanges, alarm and climate control cables, cable ties
F **Building Entrance/ Lobby**	Access control cables, Pan/Tilt/Zoom CCTV camera cables, networking cables and connectivity, workstation outlets and faceplates, fire alarm cables
G **Coffee Shop**	Wireless mobility points, audio/video cables, fire alarm cables, cable ties
H **Parking Garage**	Access control cables, CCTV camera cables, fire alarm cables, cable ties

From the building entrance, to the rooftop, to the parking lot, and everywhere in between, you will find reliable Belden solutions. Here is a typical office building and a few detailed examples showing some of the many applications of Belden products and systems used in a typical commercial facility.
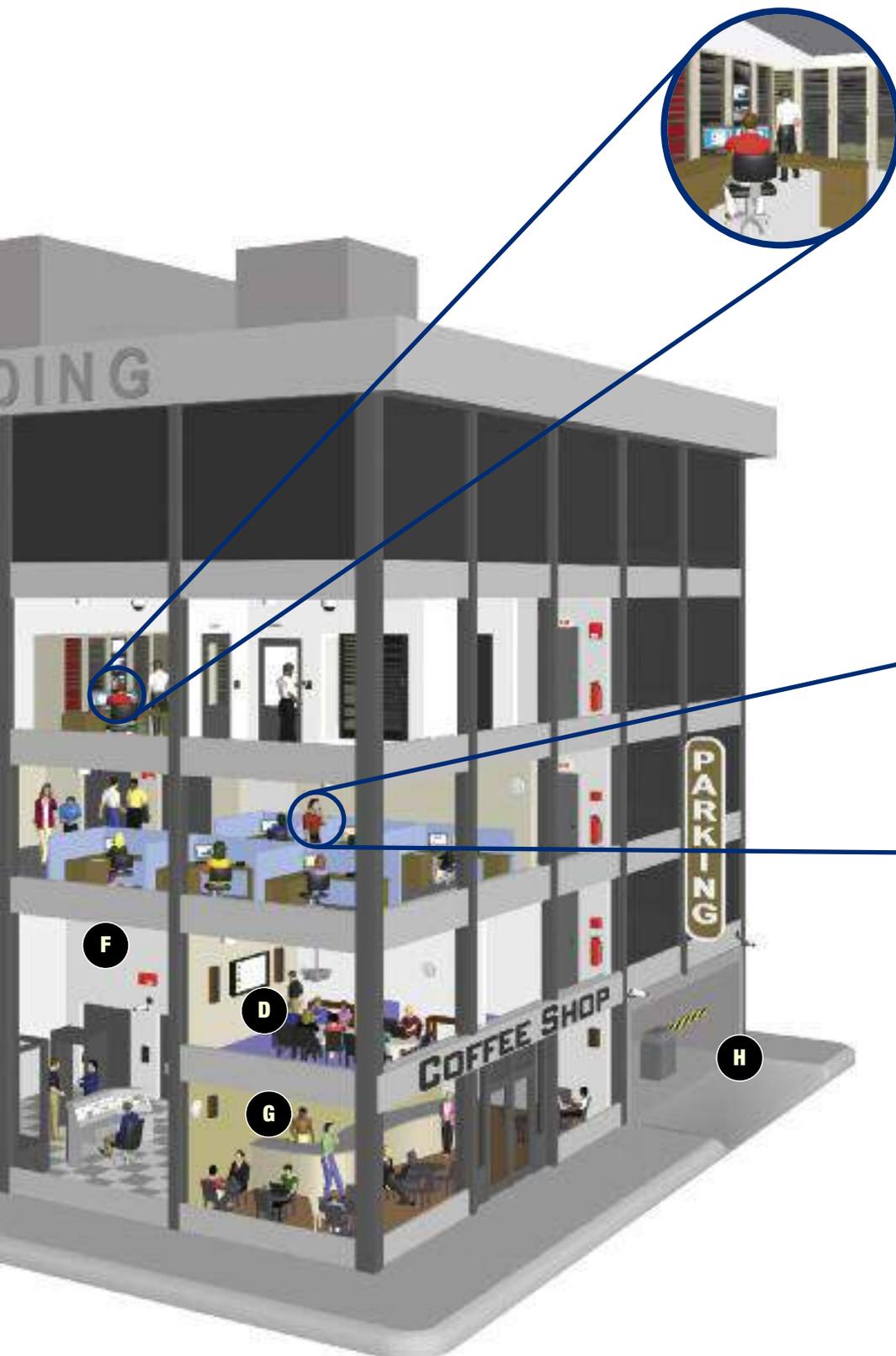
Telecommunications Room

Typical Belden products include a full range of copper and optical fiber structured cabling systems, racks, wireless mobility exchanges and cable management accessories, such as:

- IBDN Fiber*Express*® optical fiber cables, patch panels, adapters and patch cords
- Optimax® field connectors for optical cable
- IBDN System 10GX® (10 Gb) copper cable, patch panels, patch cords and modular jacks
- DataTwist® and MediaTwist® copper cable, patch panels, patch cords and modular jacks
- IDC cross-connect systems
- Racks
- Wireless mobility exchanges
- Headend cables
- New Generation® audio cables
- Patch cord/cable management units

Control Room

Belden products used in this application include access control, security and alarm cables, CCTV camera cables, cables for Emergency Voice/Alarm Communications (EVAC) systems, cabinets and enclosures, wireless mobility exchanges, Heating, Ventilating and Air Conditioning (HVAC) system cables and cable ties, including products such as:

- Secured/Keyed LC optical fiber connector system
- IBDN Fiber*Express* optical fiber cables, patch panels, adapters and patch cords
- IBDN System 10GX (10Gb) copper cables, patch panels, patch cords and modular jacks
- DataTwist and MediaTwist copper cables, patch panels, patch cords and modular jacks
- Workstation outlets and faceplates
- Banana Peel® access control cables
- New Generation CCTV camera cables
- Safe-T-Line® cables for EVAC systems
- Enclosures and NEMA cabinets
- New Generation HVAC system cables
- New Generation fire alarm cables
- Cable ties

Office Areas

Belden office solutions include copper and optical fiber cables and connectivity, wireless mobility points, fire alarm cables, climate control cables, Pan/Tilt/Zoom CCTV camera cables, sound (paging) cables, surface raceway systems and cable ties or, more specifically, products such as:

- IBDN System 10GX (10 Gb) copper cables and modular jacks
- DataTwist and MediaTwist copper cables and modular jacks
- Workstation outlets and faceplates
- Wireless mobility points
- Pan/Tilt/Zoom CCTV camera cables
- New Generation fire alarm cables
- Safe-T-Line cables for EVAC systems
- New Generation HVAC control cables
- New Generation audio cables
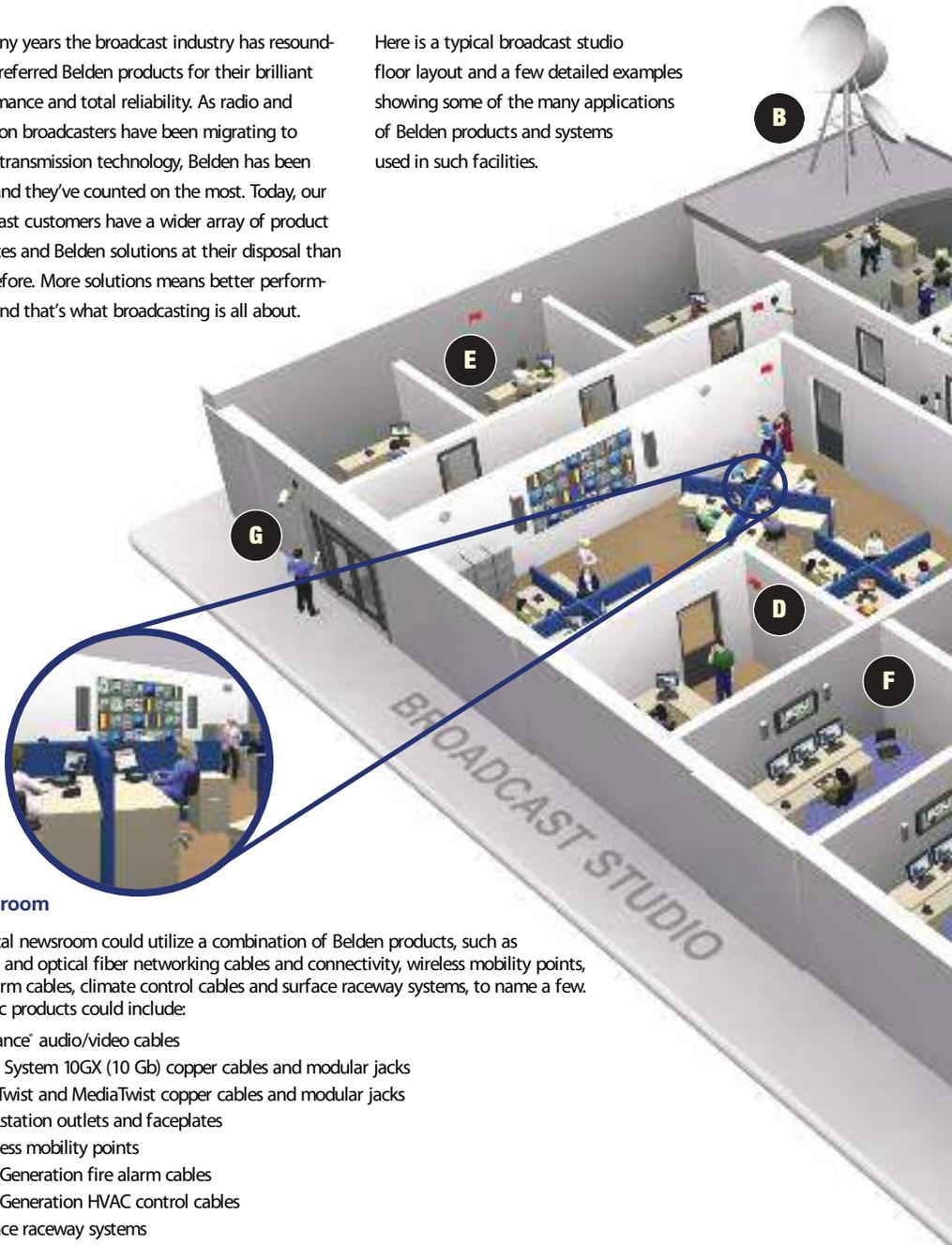- Surface raceway systems
- Cable ties

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Belden Solutions for the Broadcast Studio
Including Network, Pre- and Post-production Facilities and Venues

Application	Belden Products
A Automation Room	Audio/video cables, satellite uplink cables, headend cables, fire alarm cables, wireless mobility points, networking cables and connectivity, cable ties
B TV Broadcast/ Broadband Transmission Tower	Satellite uplink/ downlink cables, RF cables
C Master Control Room	HD-SDI coaxial cables, AES/EBU audio cables, audio/video cable assemblies, networking cables and connectivity, speaker cables, fire alarm cables, wireless mobility points, cable ties
D Newsroom Manager	Networking cables and connectivity, wireless mobility points
E Office Area	Networking cables and connectivity, wireless mobility points, fire alarm cables, speaker cables, cable ties
F Editing Bays	HDTV coaxial cables, audio cables, networking cables and connectivity, wireless mobility points, cable ties
G Building Entrance	Access control cables, lighting control cables, CCTV camera cables
H Broadcast Truck	HD-SDI coaxial cables, AES/EBU audio cables, audio/video composite cables, Electronic News Gathering (ENG) cables, Electronic Field Production (EFP) cables, copper and optical fiber networking cables and connectivity, tactical fiber optic cables, cable ties

For many years the broadcast industry has resoundingly preferred Belden products for their brilliant performance and total reliability. As radio and television broadcasters have been migrating to digital transmission technology, Belden has been the brand they've counted on the most. Today, our broadcast customers have a wider array of product resources and Belden solutions at their disposal than ever before. More solutions means better performance, and that's what broadcasting is all about.

Here is a typical broadcast studio floor layout and a few detailed examples showing some of the many applications of Belden products and systems used in such facilities.

Newsroom

A typical newsroom could utilize a combination of Belden products, such as copper and optical fiber networking cables and connectivity, wireless mobility points, fire alarm cables, climate control cables and surface raceway systems, to name a few. Specific products could include:

- Brilliance® audio/video cables
- IBDN System 10GX (10 Gb) copper cables and modular jacks
- DataTwist and MediaTwist copper cables and modular jacks
- Workstation outlets and faceplates
- Wireless mobility points
- New Generation fire alarm cables
- New Generation HVAC control cables
- Surface raceway systems
- Cable ties

Engineering Room

The engineering room, with a data hub and core control equipment, can utilize copper and optical fiber networking cables and connectivity, wireless mobility exchanges, enclosures and racks, cable management, audio/video cables and cable ties. Several popular Belden products for this type of application include:

- Brilliance audio and video cables
- Brilliance control cables
- IBDN FiberExpress optical fiber cables, patch panels, adapters and patch cords
- Optimax field connectors for optical cables
- IBDN System 10GX (10 Gb) copper cables, patch panels, patch cords and modular jacks
- DataTwist and MediaTwist copper cables, patch panels, patch cords and modular jacks
- IDC cross-connect kits
- Enclosures and racks
- Power distribution units
- Climate monitors
- Adaptive enclosure heat containment systems
- Wireless mobility exchanges
- Patch cords/cable management units
- Cable ties

TV Broadcast Studio

The studio itself hosts a collection of Belden products, including audio/video cables, camera cables, cables for lighting and climate control, fire alarm cables and cable management. More specifically, these can include popular Belden products such as:

- Brilliance AES/EBU digital audio cables
- Brilliance HD-SDI composite (copper/optical fiber) camera cables
- Precision audio/video snake cables
- Digital patch cables
- New Generation fire alarm cables
- New Generation HVAC control cables
- Surface raceway systems
- Cable ties

Belden Solutions for the Industrial Enterprise
Including Manufacturing and Processing Plants, Utilities and
Other Harsh Environment Facilities

Application	Belden Products
A Warehouse	CCTV camera cables, access control cables, fire alarm cables, networking cables and connectivity, cable ties
B Manufacturing Supervision Office	Networking cables and connectivity, wireless mobility points, cable ties
C A/V Conference Room	Audio/video cables, HD-SDI video cables, speaker cables, CCTV camera cables, networking cables and connectivity, automated lighting, window and climate control cables, workstation outlets and faceplates, wireless mobility points, fire alarm cables, cable ties
D Office Area	Networking cables and connectivity, wireless mobility points, fire alarm cables, climate control cables, workstation outlets and faceplates, surface raceway systems, cable ties
E Lunchroom	Networking cables and connectivity, video cables, speaker cables, fire alarm cables, EVAC system cables, wireless mobility points

Belden has developed the most comprehensive line of industrial cabling solutions in the world today. Whether you are networking your factory floor and/or your process equipment and devices to their controllers and on to the control room, or relaying data between the control room, the engineering department, various office sites or remote manufacturing locations—or operating variable frequency motor drives, continuous motion equipment and other process equipment—Belden has the cabling solution you need. Since productivity depends on seamless data communications, you can rely on Belden to maximize your uptime—dependably and continuously—no matter how tough your environment might be.
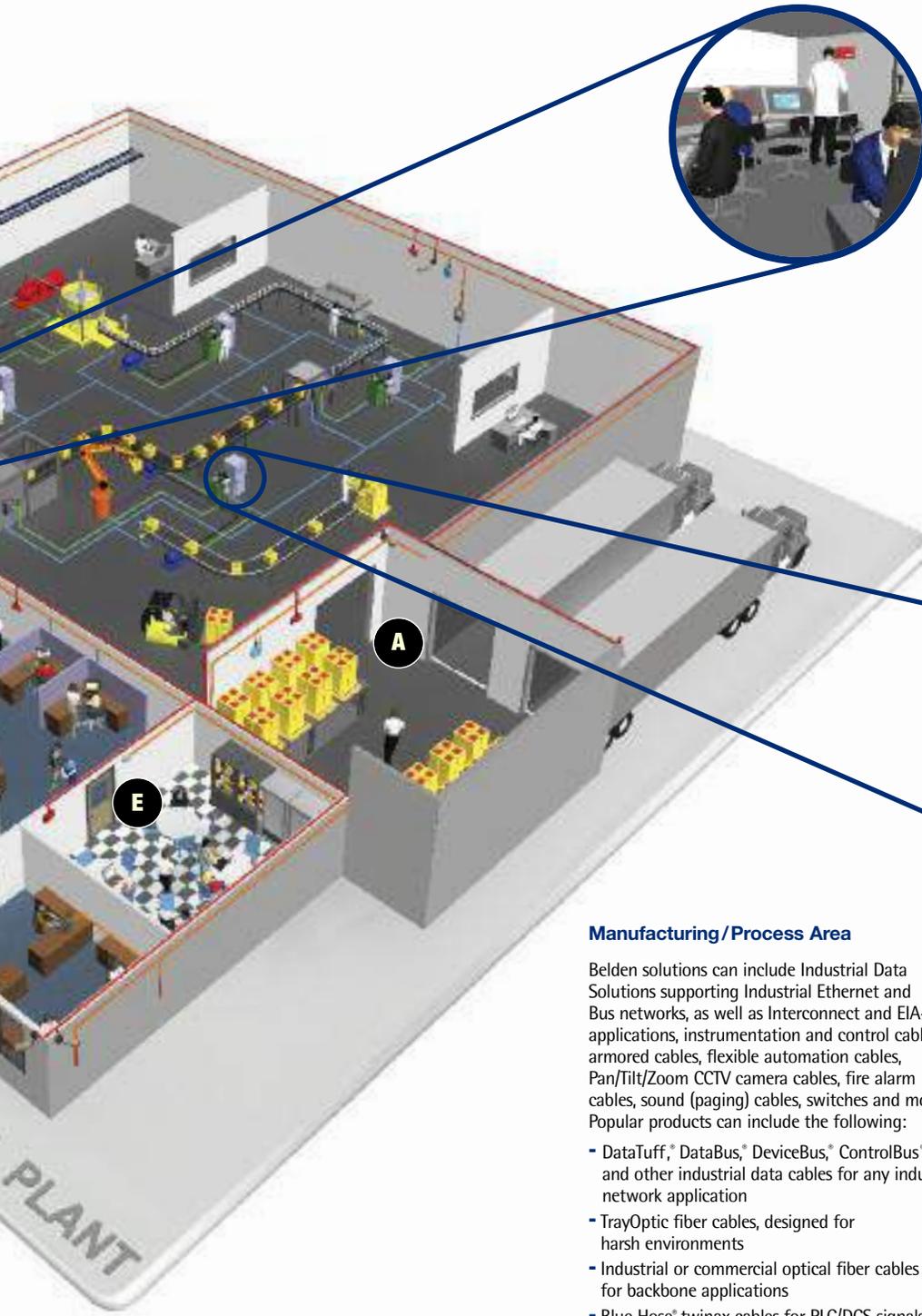
The facility illustrated here represents a typical industrial enterprise—from office, to manufacturing or processing cells, to shipping—and the Belden solutions you can find in each of these applications.

Data Center

Belden's Industrial Data Solutions® network cables integrate with the data hub by incorporating a number of other Belden products, such as copper and optical fiber networking connectivity, wireless mobility exchanges, enclosures and racks, cable management, audio/video cables and cable ties. Specifically, these can include:

- TrayOptic® optical fiber backbone cables
- IBDN FiberExpress optical fiber cables, patch panels, adapters and patch cords
- Optimax field connectors for optical cables
- IBDN System 10GX (10 Gb) copper cables, patch panels, patch cords and modular jacks
- DataTwist and MediaTwist copper cables, patch panels, patch cords and modular jacks
- Enclosures and racks
- Power distribution units
- Climate monitors
- Adaptive enclosure heat containment systems
- New Generation audio cables
- Wireless mobility exchanges
- Patch cords/cable management units
- Cable ties

Security Office

Belden can outfit all cabling solutions for security applications, including CCTV camera cables, fire alarm and access control cables, and cables for EVAC systems. In addition, Belden supplies audio/video cables, climate control cables, copper networking cables and connectivity, wireless LANs, enclosures and cable management. Specific products can include:

- IBDN System 10GX (10 Gb) copper cables and modular jacks
- Workstation outlets and faceplates
- Wireless mobility points
- New Generation Pan/Tilt/Zoom CCTV camera cables
- New Generation fire alarm cables
- New Generation HVAC control cables
- New Generation audio cables
- Surface raceway systems
- Cable ties

Manufacturing / Process Area

Belden solutions can include Industrial Data Solutions supporting Industrial Ethernet and Bus networks, as well as Interconnect and EIA-485 applications, instrumentation and control cables, armored cables, flexible automation cables, Pan/Tilt/Zoom CCTV camera cables, fire alarm cables, sound (paging) cables, switches and more. Popular products can include the following:

- DataTuff,® DataBus,® DeviceBus,® ControlBus® and other industrial data cables for any industrial network application
- TrayOptic fiber cables, designed for harsh environments
- Industrial or commercial optical fiber cables for backbone applications
- Blue Hose® twinax cables for PLC/DCS signals
- Variable Frequency Drive (VFD) cables
- Belden Infinity® flexible automation cables for robotics and continuous motion systems

- 300V Power Limited Tray Cable PLTC/ITC, 600V Tray Cable (TC), and thermocouple cable products
- New Generation Pan/Tilt/Zoom CCTV cables
- New Generation fire alarm cables
- New Generation audio cables
- Cable ties
- MACH backbone switches
- LION control room switches
- MICE modular managed switches
- OpenRail compact switches
- OCTOPUS IP67 switches
- RS and Spider Series of unmanaged field level switches
- EAGLE firewall and VPN appliance
- BAT wireless LAN access points/clients
- HiVision and Industrial HiVision network management software

BELDEN
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See www.belden.com for a complete listing
of Belden locations.

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