Overview

A complete industrial routing portfolio supporting 5G and public and private LTE - along with cloud managed gateways enabling agility at the edge

- The heart of a business is its edge – utility substations, kiosks, pipelines, manufacturing lines, and cities, as well as roadways and the police cars, firetrucks, and buses that run over them. The need for business agility is accelerating its digitization. Examples include:
  - Secure, remote 24/7 access to meet the growing need for remote and hybrid workers
  - Digitizing the power grid to reduce outages and build grid resiliency
  - Remote data collection to improve efficiencies and help the oil industry improve operational efficiency
  - Wireless connected production lines to enable more flexible manufacturing and line adjustments

Benefits

- **Boost operational efficiency and drive better business decisions** by tracking and monitoring equipment, assets, workers, and mission-critical processes
- **Lower total cost of ownership** with a highly modular portfolio that offers multiple communication types for today's needs and is easily upgradable in the field for tomorrow's needs
- **Protect your industrial assets** with industry-leading end-to-end security capabilities that are built in, not bolted on. Gain visibility into your industrial assets with available Cisco Cyber Vision
- **Scale easily** with management tools for IT and operations that can be remotely deployed and managed
- **Minimize operational costs** with fewer truck rolls, and simplify device deployment and operations with zero-touch configuration; manage, monitor, and update devices remotely
But digitizing isn’t easy. The edge is **diverse**, with **every use case having different requirements**: different access technologies, protocol support, certifications, environmental and mounting options, and more.

In the past, organizations have been forced to solve each use case independently, resulting in **multiple vendors and deploy multiple networks**, each requiring unique training and skillsets. New wireless options, such as 5G, further complicate the edge and its evolution. Security is often an afterthought. The fragmented architecture makes it challenging to deploy at scale.

These issues, and the fact that many industries have skill gaps and a shrinking workforce, mean that they cannot transform at the rate needed. **Missed insights and blind spots are the norm.**

Organizations need a simple, more integrated approach that brings the **power of the enterprise network to scale and secure the edge** and to free up IT and operations so they can do more.

## The Cisco industrial router and gateway portfolio

All Cisco industrial routers share a core set of common characteristics. All the routers have modular designs that can help extend product life and lower costs. The flexible design enables WAN redundancy and is ready to handle 5G, public LTE - including FirstNet, and private LTE – including Citizens Broadband Radio Service (CBRS), as well as enhanced data throughputs and differentiated services.

### Additional features:

- All the routers are powered by Cisco IOS XE, a highly programmable OS ideal for process and workflow automation, simplified management with Cisco SD-WAN, and edge compute for rapid decision-making and WAN bandwidth savings
- They have built-in edge compute resources to process data locally and offer enterprise-grade security including support of Cisco Cyber Vision, have the ability to leverage the Cisco IOx framework to develop and run IoT business apps, such as Cisco Edge Intelligence
- They offer advanced security such as hardware encryption, enterprise grade multi-layer security, and much more
- The industrial router portfolio is designed to maintain performance in industrial applications and harsh operating environments – various models have extended environmental, shock, vibration, IP67, and surge ratings; a complete set of power input options; convection cooling; and DIN rail, 19-inch rack or wall mounting
- They offer a choice of management tools for IT and OT to run a connected operation at scale using Cisco management tools

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The complete line of industrial routers includes:

- **Cisco Catalyst® IR1101 Industrial Integrated Services Router.** The IR1101 is Cisco’s most compact FirstNet Ready router, providing secure connectivity for mission-critical industrial use cases. It is well suited to industrial deployments ranging from distribution automation for utilities to transportation and manufacturing as well as remote asset management across the extended enterprise.

- **Cisco Catalyst IR1800 Rugged Series Routers.** Secure, high-performance, 5G cellular routers with a modular design and Wi-Fi 6 support. Automotive compliances make these routers ideal for deployment in mission-critical mobile and remote use cases in multiple industries. With high bandwidth and throughputs from 5G and Wi-Fi-6, they enable you to power seamless experiences and drive efficiency.

- **Cisco Catalyst IR8100 Heavy Duty Series Routers.** Ready for the outdoors, the IR8100 Series is IP67 rated for dust and water protection and built for extreme temperatures; it goes wherever you need it to go. It’s not much of a stretch to say that the IR8100 Series is the last outdoor router you’ll need to buy. It’s completely modular and upgradable, from 5G to future CPU, storage, and power-supply needs. The IR8100’s chassis can be easily upgraded onsite and is designed to adapt to future changes in business or technology needs.

- **Cisco Catalyst IR8300 Rugged Series Router.** Ultra-high-performance rack-mount router that addresses both routing and switching needs as one of Cisco’s first industrial-grade, fully integrated switching and routing platforms. Enhanced security, including Cisco Unified Threat Defense and available Cyber Vision for Industrial Control System (ICS) visibility, brings zero trust to a whole new level. As a precision timing source, it keeps your assets in the field in sync, and it’s utility certified (IEEE1613 and IE61850) to help ensure compliance and reliability.

In addition to the IOS-XE powered routers, the portfolio also includes:

- **Cisco IoT Gateways.** Cisco IoT Gateways provide simple, essential connectivity for assets at mass scale. They offer low upfront costs with an affordable monthly cloud subscription. The gateways take just a few minutes to deploy with minimal IT support. Day-0 setup is fast: Plug in and power on, with no staging required. The SIM provisioning is automated, requiring no manual intervention. Essential security is built in to secure the hardware, interfaces, and all communications between the gateway and the data center. The IoT gateways are centrally managed through the easy-to-use Cisco IoT Operations Dashboard. You can remotely deploy, monitor, and troubleshoot the gateways at scale. With the IoT Operations Dashboard, you can gain insights into network usage and carry out updates remotely without sending anyone onsite.

- **Cisco 500 Series WPAN Industrial Routers.** IR510 routers enable existing field devices with Ethernet or serial connections to become part of a Wi-SUN RF Mesh network over an unlicensed 915-MHz Industrial, Scientific, and Medical (ISM) band wireless band. IR530 range extenders enable customers to cover a larger area and increase network resilience, enabling IoT applications, including smart metering, distribution automation, street lighting, and remote SCADA monitoring.