

Kontron KCell 5G Gateway

# High-Speed, Secure and Robust Connectivity for Industrial and Mobile Applications

Fast, stable and secure connectivity between field devices, control systems, and cloud applications.



Ultra-Fast 5G Connectivity

Dual 2.5 Giga-bit Ethernet Ports

Compact and Robust Design

Advanced Routing & Filtering

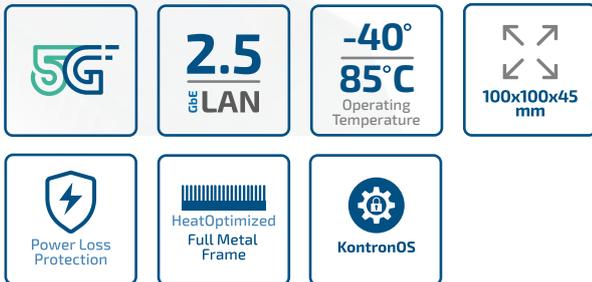
Security by Design:  
Runs KontronOS

Equipment Cloud

# KCell 5G Industrial Gateway

The **Kontron KCell 5G Industrial Gateway** is a compact, high-performance cellular-to-Ethernet bridge designed for mission-critical industrial and mobile use cases.

With **5G NR data rates up to 4.95 Gbps downlink** and **550 Mbps uplink**, and **dual 2.5 GbE interfaces**, KCell ensures fast, stable, and secure connectivity between field devices, control systems, and cloud applications.



## Key Features

### Ultra-Fast 5G Connectivity:

- › Supports SA/NSA 5G operation with global frequency band coverage, ideal for both private MPN and public networks.
- › Dual 2.5 Gigabit Ethernet Ports  
For taking full benefit of the air interface speed or for redundant uplinks or LAN/WAN separation.

### Compact & Robust Design:

- › Built for industrial environments — resistant to vibration and temperature extremes.
- › Advanced Routing & Filtering:  
Based on OpenWrt, enabling flexible policy-based routing, firewalling, traffic shaping, and VPN integration (WireGuard, IPsec, OpenVPN ...).

### Security by Design:

- › Runs KontronOS, featuring:
- › Secure Boot and SELinux for trusted execution.
- › A/B partitioning for safe over-the-air updates.
- › Compliance with **RED CyberSecurity** guidelines.
- › Vulnerability monitoring process and responsive firmware updates.

### Management & Monitoring:

- › Local and remote management interfaces - CLI, Web UI, Kontron Equipment Cloud (option) - for fleet-scale maintenance.

**Fast, stable and secure connectivity** between field devices, control systems, and cloud applications.

## Ideal for

- › Industrial Automation
- › Smart Cities
- › Transport and logistics
- › Public safety
- › Energy infrastructure
- › Video surveillance

# Use Cases and Applications

## Autonomous Factory Carts and Mobile Robots

### Challenge:

Reliable, low-latency connectivity for AGVs (automated guided vehicles) and robots moving across factory zones.

### Solution:

KCell provides 5G link to private MPN or public network, enabling real-time telemetry and control without cabling.

### Benefit:

Mobility without downtime; reliable handover; implied reconfiguration of production lines.



## Connected Vehicles on Public or Private Campuses

### Examples:

Airport operations vehicles, logistics trucks/forklifts, foundry transporters, mining excavators.

### Solution:

KCell serves as vehicle gateway for sensor data, navigation and fleet management, using VPN for secure cloud backhaul.

### Benefit:

Improved visibility and safety; real-time maintenance data; centralized control over private 5G.



## Asset and Trailer Tracking

### Challenge:

Global connectivity for trailers and containers crossing borders.

### Solution:

Worldwide 5G/LTE band support ensures seamless tracking and remote diagnostics anywhere.

### Benefit:

Continuous data flow for fleet management and predictive maintenance.



# Use Cases and Applications

## Surveillance and Broadcast Applications

**Use Case:**

Remote public webcams, security cameras, mobile broadcast units.

**Solution:**

KCell replaces fixed lines, providing high uplink throughput and QoS management for HD/4K video streams.

**Benefit:**

Fast deployment without civil works; secure VPN tunnels to control centers.



## Fixed Wireless Access / Factory Reconfiguration

**Challenge:**

Cabling delays reconfiguration of industrial shop floors.

**Solution:**

KCell provides "Fixed Mobile Replacement" connectivity for machines and control systems via 5G.

**Benefit:**

Greater flexibility and faster layout changes with no downtime.



## Rural and Temporary Infrastructure

**Use Case:**

Construction sites, events, or agriculture deployments.

**Solution:**

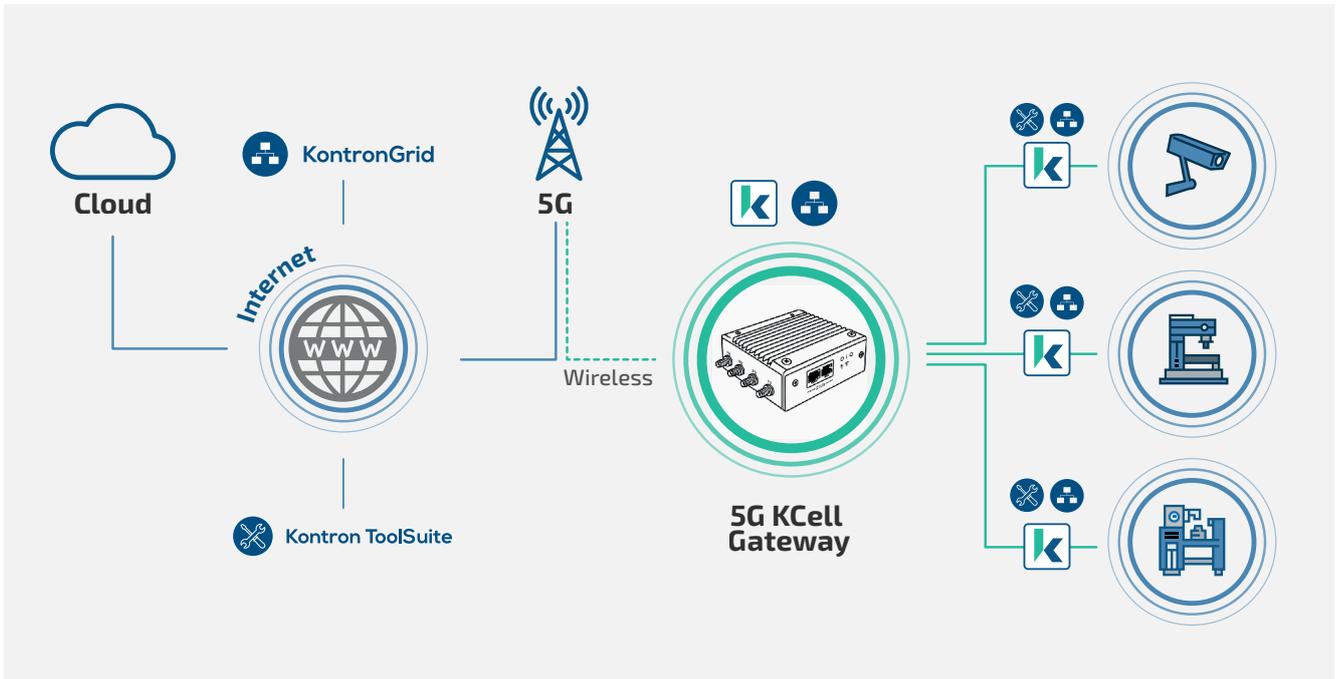
KCell delivers instant secure Internet and IoT access where fiber is not available.

**Benefit:**

Reduced setup time and costs; plug-and-play networking for IoT devices and cameras.



# KCell 5G Industrial Gateway



## Related Products

**IB17M-W**  
5G M.2 Broadband  
Modem Card



**5G R17 Gateway**  
KCell 5G Industrial  
Gateway



**KDemo-16-NGeCall**  
5G Automotive  
Solutions



# KCell 5G Industrial Gateway

<b>MOBILE</b>	<p><b>5G NR standalone (SA) and non-standalone (NSA) Sub-6 – 3GPP Release 17</b> 200MHz, 3xCA, 20L LTE</p> <p><b>5G Sub-6GHz SA:</b> DL 200MHz, 4x4 MIMO, 256QAM, 4.95Gbps UL 100MHz, 2x2 MIMO, 256QAM, 550Mbps</p> <p><b>5G Sub-6GHz NSA:</b> DL LTE 40MHz + NR 160MHz (2CC) UL LTE 20MHz + NR 100MHz</p> <p><b>4G DL/UL Cat 20/13, 2.0Gbps/200Mbps</b></p> <p><b>5G bands (worldwide):</b> n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29(DL), n30, n38, n40, n41, n48, n66, n67, n70, n71, n75, n76, n77, n78, n79</p> <p><b>4G bands (worldwide):</b> B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46, B48, B67, B68, B70, B71 Public Network and MPN bands support Extensive EN-DC and LTE-CA support Downlink Carrier Aggregation SA</p>
<b>ETHERNET / WIRELESS</b>	<p><b>2 x 2.5Gbit WAN/LAN Ethernet0</b> Option: WiFi 7, 2.4GHz, 5GHz, 6GHz bands</p>
<b>TSN Option for MPN</b>	<p><b>3GPP Rel.17 time domain conversion</b> <b>TSN-supporting Ethernet switch and ports</b> <b>TSN Traffic prioritization</b></p>
<b>NETWORK</b>	<p><b>Routing:</b> Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP, NHRP), Policy based routing</p> <p><b>Network protocols:</b> TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SFTP, FTP, SMTP, SSL/TLS, ARP, VRRP, PPP, PPPoE, UPNP, SSH, DHCP, Telnet, SMPP, SMNP, MQTT, Wake On Lan (WOL), DHCP Option: VoIP passthrough support</p>
<b>SECURITY</b>	<p><b>Secure boot, SELinux, Authentication, Firewall, Attack prevention, port and tag based VLAN separation, Mobile quota control, WEB filter, Access control</b></p> <p><b>Firewall:</b> Port forward, traffic rules, custom rules <b>VPN options:</b> OpenVPN, Ipsec, GRE, PPTP/L2TP, Stunnel, DMVPN, SSTP, ZeroTier, WireGuard, Tinc, Tailscale</p>
<b>MONITORING &amp; MANAGEMENT</b>	<p><b>WEB UI: LuCI web and extensions, custom</b> <b>Option: KontronOS/KPort</b> <b>FOTA, SSH</b></p>
<b>PHYSICAL SPECIFICATIONS</b>	<p><b>Metal casing with heat sink</b> Dimensions (W\H\D): 100x44x100 mm / Weight: 550g 6-pin DC power socket MSTB 2,5/ 6-GF-5,08 with screw lock Input voltage range: 9-50VDC 4 Cellular antenna connectors (SMA) Option: 2 WiFi antenna connectors (SMA) 2 SIM interfaces 1 USB2 port 2 Ethernet ports (RJ45) Mounting options: DIN rail, flat surface Operating temperature: -40°C to +85°C</p>
<b>REGULATORY AND APPROVALS</b>	<p>RoHS mandates compliant, WEEE compliant GCF, RED/CE</p>

