InHand Networks

Products & Services
Mobility

About Us

InHand Networks is a leading IoT solutions provider founded in 2001, dedicated to driving digital transformation across industries and empowering customers to unlock their full potential and achieve accelerated growth.

We specialize in delivering industrial-grade connectivity solutions for diverse sectors, such as enterprise networks, industrial and building IoT, digital energy, smart commerce, and mobility. Our comprehensive product portfolio and services cater to various applications worldwide, including smart manufacturing, smart grid, intelligent transportation, smart retail, etc. With a global footprint spanning over 60 countries, we serve customers in China, the United States, France, Germany, the United Kingdom, Italy, and beyond.

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Contents

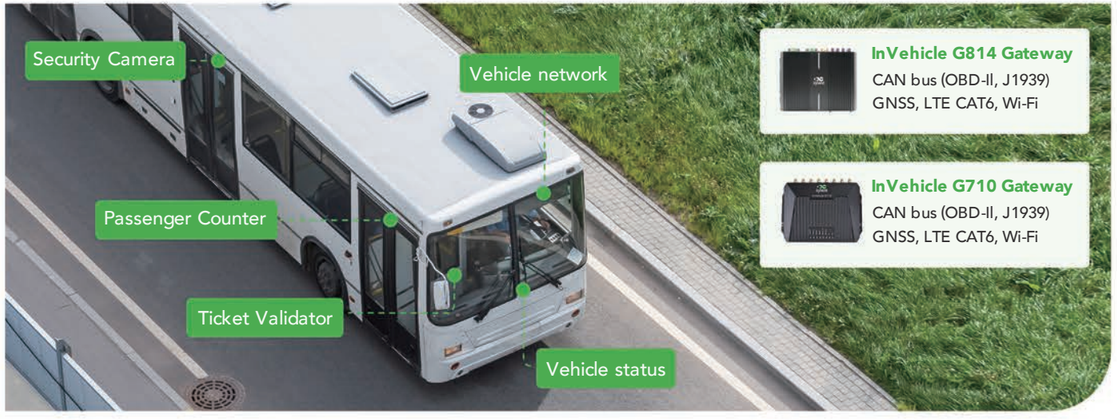
Public Transport

Shape a future of integrated services, low-carbon operations, and digitalization through the utilization of emerging digital technologies.

New market entrants are transforming travel patterns with enhanced services. Accustomed to the convenience of ride-hailing and other new business models, people now expect more from public transport. How can authorities create a future that prioritizes customer experience, integrated services, low-carbon operations, and digitalization?

Digital technologies hold the key. Harness the power of 5G, IoT, AI, and more to transform the public transportation ecosystem. InHand provides intelligent digital solutions, enhancing agility, operational efficiency, safety, reliability, and passenger experience for transportation authorities.

Intelligent Solution for Public Transport



Why InHand Networks?

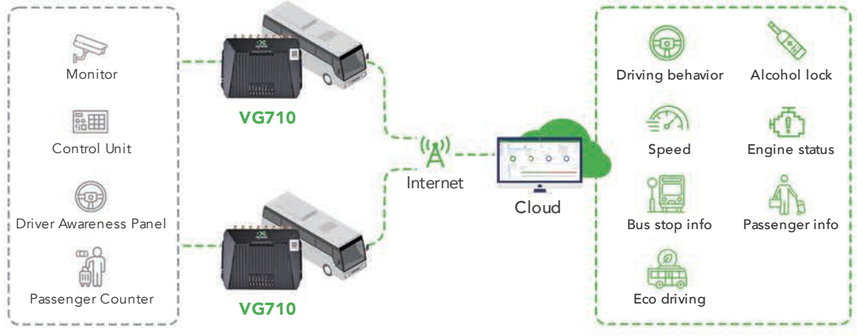
- Enhanced Operation Efficiency
- Reduced Costs
- Enhanced Reliability
- Better Security
- Optimized Management
- Higher-quality Services

Success Story: Multi-channel on-board Communications & Remote Management

Challenges

- Fast, reliable and uninterrupted networking of vehicles;
- Plenty of interfaces for connection to a variety of devices and applications;
- Sophisticated data security mechanism and encrypted data transmission;
- Connected to cloud for easier management and deployment;
- Industrial design, stable operation for long time in harsh environments.

Solution



The VG710 connects a wide range of applications on board, including the monitor, control unit, driver awareness panel, passenger counter, etc. Integrating OBD-II and J1939, the VG710 keeps updating the operation status of each bus. With high-precision GNSS and inertial navigation system, the VG710 continuously tracks the bus's location whether GNSS signal is available or not.

Data from different interfaces are constantly transmitted over high- speed LTE CAT6 network via secure VPN tunnels. From the Remote Maintenance Center, each bus can be monitored in real time, and when a fault occurs, the problem equipment can be immediately identified, which facilitates troubleshooting and reduces downtime.

Benefits

Fast, reliable and uninterrupted 4G connectivity
The VG710 delivers continuous access to high speed LTE CAT6 networks. Multi-layer auto link detection and recovery ensure that all the buses are online 24/7.

Multiple interfaces for a wide range of peripherals
Featuring extensive interfaces, the VG710 is able to host a variety of devices on board, providing users with all-around understanding of the buses.

Real-time monitoring of vehicle status
Integrating OBD-II and J1939, the VG710 keeps monitoring location, oil consumption, temperature, etc. on the bus, enabling customers to better manage energy use and ensuring driving safety.

Uninterrupted high-accuracy vehicle location
Embedded with 72-channel high-accuracy GNSS positioning system, the VG710 delivers real-time location information of the vehicles. Inertial navigation system enables buses to be constantly tracked even when GNSS signal is unavailable.

Engineering Machinery

Take a solid step towards efficiency and sustainability.

Digitalizing engineering vehicles enables real-time monitoring, data analysis, operational optimization, and decision support, leading to improved efficiency, cost reduction, safety, and compliance. It is driven by the adoption of information technology, the need for operational efficiency, safety and compliance, data-driven decision-making, as well as customer demand and industry trends.

As a provider of digitalization solutions of engineering vehicles, InHand Networks is committed to offering comprehensive solutions to our customers, which combine advanced information technology with expertise in engineering vehicles, including vehicle communication devices, vehicle monitoring systems, operation planning and scheduling systems, data analysis and predictive platforms, and more.

Integrated Management, Operation & Maintenance of Engineering Vehicles

Why InHand Networks?

- Improved Productivity
- Reduced Costs
- Enhanced Reliability
- Better Security
- Optimized Management
- Higher-quality Services

Success Story: Remote Monitoring of Heavy Equipment

Challenges

- Real-time monitoring and management: Monitor the location, status, and operations of construction vehicles in real-time, enabling remotely supervision and prevent unauthorized route deviations
- Enhance driver safety: Assess driver behavior, analyze driving data, identify and address unsafe driving habits, provide targeted training and recommendations, and avoid non-compliant operations.
- Preventive maintenance and fault diagnosis: Real-time monitoring of the health condition of construction vehicles and providing predictive maintenance.

Solution

The intelligent solution for heavy-duty vehicle connectivity includes components such as lower-end devices, VT310 vehicle telematics gateway, and remote management platform. The VT310 connects to devices such as pressure sensors and vehicle controllers.

Equipped with dual CAN bus interfaces, the VT310 allows simultaneous collection of diagnostic information from both the heavy-duty vehicle and its installed equipment. By monitoring construction processes comprehensively from various angles such as vehicle location, fuel consumption, drilling positions, and total working time, it enables an information-rich and intelligent construction process.

Benefits

Stable 4G cellular network
Equipped with an industrial-grade 4G communication module, supporting 4G CAT1/CAT4 communication, ensuring real-time network stability.

Cost-effective with rich network interfaces
Providing two CAN bus interfaces, one J1708, one 1-Wire, multiple I/O ports, and Bluetooth 5.0, meeting various application scenarios.

Low power consumption and power backup
Designed with low power consumption and a 1200mAh lithium battery, enabling long-term monitoring even when the vehicle is turned off.

FlexAPI functionality
Adhering to the MQTT protocol-based third-party platform access specification, offering high flexibility for customers to customize data collection and frequency according to their needs.

Specially designed for vehicle environments
With an IP67 protection rating and industrial-grade specifications, it can withstand environmental pressures such as impact, vibration, humidity, and extreme temperatures, ensuring reliable operation even in harsh conditions.

Smart Logistics

Finely-tuned, dynamic, and visualized management for each process.

Continuous technical advances, especially the development of information technology, are bringing a digital revolution to the logistics industry. This transformation aims to improve the efficiency, visibility and sustainability of logistics transportation through the adoption of advanced digital technologies.

Challenges abound in traditional logistics transportation, such as information opacity, inefficiency and high costs. With the rise of digital technologies, cloud computing, Internet of Things (IoT), artificial intelligence (AI) and big data analytics are being applied to addressing those problems.

Innovative Solution for Smart Logistics

Why InHand Networks?

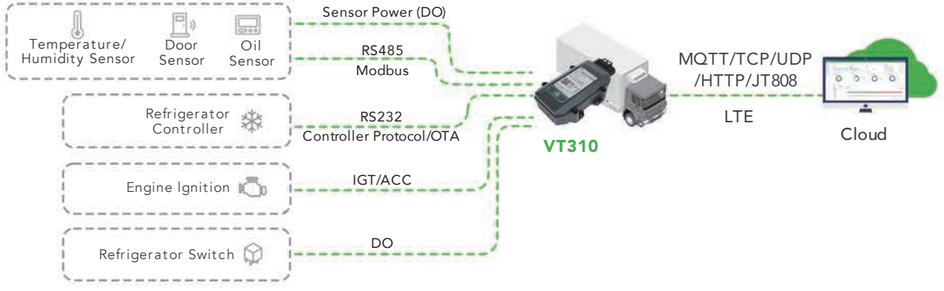
- Real-time Tracking & Visibility
- Smart Route Planning
- Data Analytics & Forecasts
- Sustainable Logistics

Success Story: Telematics Solution of Cold Chain Logistics

Challenges

- Uninterrupted and stable 4G/5G connectivity for constant acquisition and uploading of multiple variables from the on-board refrigeration system through different interfaces;
- Support for Modbus protocol, capable of connection to multiple clouds;
- Available with GNSS (Beidou and GPS) location tracking capabilities;
- Remote control of the refrigeration system
- Power saving, capable of working long hours in harsh environments and enduring extreme temperatures and vibration during transportation.

Solution



The solution includes cooler equipment, the VT310, a generator set, and the cloud platform, etc. The gateway is connected through RS485 to the sensors of temperature, humidity, oil and doors, and through RS232 to the refrigeration system controller. Coolers for train and road transportation are thus monitored. Operation data of the cooler are collected in real time, and control commands of the coolers are sent out from the cloud. The I/O ports help identify the status of the engine, and location information of the vehicle is also constantly uploaded. When the vehicle is not moving and the cooler is not working, the VT310 enables automatic sleep and supports wake-up.

Benefits

Extended machinery lifetime
With all devices connected and enable remote monitoring to help deliver real-time alerts to the right person, take proper actions, provide feedback, and even predict equipment failure to avoid damage of the quality of goods.

Reduced load loss
With the remote monitoring the thresholds of temp and any other indicators on board to have a efficient and fast response to keep the safety and high quality of temperature-sensitive products and overall in your revenue growth.

Improved efficiency with data
Improve the efficiency of the supply chain with data analytics. With many operational data that collected and forwarded to the control center. It is easy to find insights, predict, get feedback, and share across the entire business. In addition, analytics can improve asset utilization efficiency with predictive maintenance.

Municipal & Public Safety

Embark on an era of greater intelligence and efficiency.

Traditional management methods are no longer sufficient to meet the growing number of vehicles and increasingly complex operations. Digitalization becomes must-have as it can optimize resource allocation, enhance operational efficiency, and improve services through real-time data collection, intelligent decision support, and automated process management.

With urbanization and environmental concerns on the rise, traditional management is insufficient to handle increasingly severe challenges. Digital transformation is the only way to survive and lead the market as it enables intelligent traffic management, safe operations and sustainability.

Innovative Solution for Municipal & Public Safety

Why InHand Networks?

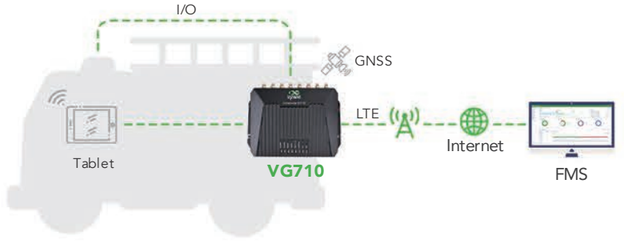
- Improved Operation Efficiency & Services
- Reduced Operation & Maintenance Costs
- Greater Security of Transportation
- Strengthened Security and Privacy Protection
- Optimized Decision-making
- Driving Sustainability

Success Story: Firetruck Management: In-vehicle Connectivity & Fleet Management

Challenges

- Reliable and uninterrupted in-vehicle Wi-Fi
- Fast and reliable 4G cellular connectivity to communicate with the fleet management center
- High-precision and reliable GNSS location tracking function
- Extensive interfaces such as I/Os to connect to vehicles' status inputs and upload data
- Easy integration to the customer's fleet management cloud

Solution



Emergency lights and siren of each firetruck is connected to the VG710 via I/O. The VG710 also offers fast and reliable on-board Wi-Fi to the navigation tablet which helps the driver receive dispatch routes from the management center. Built with 72-channel GNSS, the VG710 keeps locating each firetruck and sends the data back to the fleet management system.

Data collected by the VG710 include time, location, speed, vehicle battery voltage, etc. While parked in the fire hall, firetrucks need to report their location to the FMS once per hours, and every few seconds in motion. Everything can be seen from the management center, so that staff can locate each vehicle and dispatch them when emergencies occur. Technicians also monitor the vehicle status for troubleshooting purposes and adjust configuration settings if needed.

Benefits

Strong in-vehicle Wi-Fi, uninterrupted communications on board
The VG710 delivers high-speed and reliable Wi-Fi for on-board devices, which enables the driver to receive dispatch routes from the fleet managers at the earliest possible time and hence better carry out their fire protection duties.

Fast, reliable and uninterrupted 4G connectivity for continuous communication with the management center
The VG710 delivers continuous access to high speed LTE CAT6 networks. With multi-layer auto link detection and recovery, the VG710 ensures that all the firetrucks remain online 24/7.

Constant status tracking gives customer peace of mind
Built with extensive interfaces like I/O, the VG710 keeps collecting the status of the firetruck; high-precision 72-channel GNSS keeps tracking the position of each truck so that fleet managers can always locate their vehicles and dispatch them with ease and efficiency.

Easy integration to clouds, "cloud + edge" smart management
With simple configuration, the VG710 can be connected to the customer's own platform through MQTT and HTTP standard protocol, so that users can custom their applications for enhanced performance.

Vehicle Gateways

VG814 / VG710 / VG710-M

The VG series is a 5G/4G cellular vehicle gateway specially for the Internet of Vehicles (IoV). It provides high-speed and secure connectivity for a wide range of scenarios in the mobility industry, such as public transport, heavy equipment, logistics, municipal and public safety. With extensive interfaces, cloud integration and developer features, it enables connectivity to various on-board devices and remote monitoring of vehicle status, improving operation and management efficiency.

VG814

5G Vehicle Gateway

High Performance Vehicle Network

Brand new network experience with 5G, high bandwidth, low latency and massive connectivity

All-in-one Design

More devices accessible with M12 GbE, Wi-Fi 5, serial port and I/O

Highly Accurate Vehicle Positioning

72-channel high precision and high sensitivity Global Navigation Satellite System(GNSS) inertial navigation with ADR or UDR support

ITxPT Standards

Guarantee reliable operation in harsh environments with ITxTP and E-mark certification

The InVehicle G810 is a high-performance vehicle gateway that integrates 5G/4G WAN, Wi-Fi 5, Gigabit Ethernet and CAN bus. It provides fast, reliable and secure network access for the vehicle area.

Hardware

CPU	4-Core ARM Cortex-A7
RAM	1GB DDR3L
Cellular	5G or 4G
GNSS	GPS, GLONASS, Galileo, Beidou
Wi-Fi	IEEE802.11 a/b/g/n/ac
Ethernet	4*Gigabit Ethernet M12 X-coded
Other Interfaces	1*RS485, 1*RS232, 1*CAN 2.0B dual wire, 11*DI, 4*DO, Audio, Voice
SIM Card	2*Mini SIM 2FF
Indicator	System, Cellular, Signal, GNSS, Wi-Fi 2.4G, Wi-Fi 5G
Operating Temperature	-30℃ ~ +70℃
IP Rating	IP53
Ingress Protection	EN61373, ISO16750, EN50155, EN45545
Vehicle Standard Dimension	223*148.8*60 mm

Software

Network Access	APN, VPDN
IP Application	Ping, Traceroute, DHCP server/relay/client, DNS relay, DDNS, Telnet, SSH, HTTP, HTTPS, MQTT
IP Routing	Static routing, RIP, OSPF, BGP
VPN	IPsec VPN, OpenVPN, L2TP, GRE
Cyber Security	Firewall, SPI, Attack, AAA
Reliability	VRRP Link Backup, Watchdog, Link Detection
Configuration	HTPP, HTTPS, Telnet, SSH, Device Manager
Cloud Platforms	Azure, AWS, third-party platform
Edge Computing	Programmable environment Python3.0, C/C++, Docker environment
IoT Transmit Protocol	Supports MQTT, DDS, AMQP, XMPP, JMS, REST, CoAP
Certification	CE, E-Mark, ITxPT, RoHS, ECE-R118, EN50155, EN45545-2

VG710

Wireless Vehicle Gateway

High Preformance Vehicle Network

Brand new network experience with 5G, high bandwidth, low latency and massive connectivity

Powerful Data Processing

4-Core ARM Cortex-A7 CPU and 8GB ROM

Flexible Application Development

Support secondary development C/C, , and Python

Vehicle Design

IP64 IP rating, compliant with vehicle standard EN50155, EN50121, EMC, EN61373

The InVehicle G710 is a new generation of 5G vehicle gateway launched for the field of vehicle networking, which provides high-speed and secure network for cars and transportation service vehicles, meeting the mobile high-speed network needs of police vehicles, emergency command vehicles, engineering vehicles, medical vehicles, logistics vehicles and etc.

Hardware

CPU	4-Core ARM Cortex-A7
RAM	5G: 1GB DDR3L, 4G: 1GB/512M DDR3
Cellular	5G, downlink 2.1Gbps, Sub6, LTE-A
GNSS	GPS, GLONASS, Galileo, Beidou
Wi-Fi	IEEE802.11 a/b/g/n/ac
Ethernet	4*10/100/1000Mbps RJ45
MicroSD/ Bluetooth	Micro SD Card
Other Interfaces	RS232, RS485, Micro USB, I/O, Audio, Voice
SIM Card	2FF

Antenna	4*Cellular, GNSS, 2*Wi-Fi, Bluetooth
Indicators	System, Cellular, Signal, GNSS, Wi-Fi 2.4G, Wi-Fi 5G, U1, U2
Operating Temperature	-30℃ ~ 70℃, -22F~158F
IP Rating	IP64
Vehicle Standard	ECE-R118, IEC60068-2-31, EN50155, EN50121, EN61373, EN45554, EMC Level3
Dimensions	186*128.5*48 mm

Software

Network Access	APN, VPDN
IP Application	Support IPv6, Ping, Traceroute, DHCP server / relay / client, DNS relay, dynamic domain DDNS, Telnet, SSH, HTTP.HTTPS, TFTP, FTP, SFTP
IP Routing	Support static route, RIP, OSPF, BGP, IGMP Proxy
VPN	IPsec VPN, L2TP, GRE, OpenVPN
Cyber Security	Firewall, SPI, anti-DoS attack, AAA
Link Backup	Send heartbeat packet detection, disconnection auto-connect
Configuration	Support local or remote HTTP, HTTPS, Telnet, SSH
Cloud Platforms	Azure, AWS, AliCloud, and other third-party cloud platforms
Edge Computing	Programmable environment Python 3.0, C/C, , , Docker runtime environment
IoT Transmit Protocol	Support MQTT, DDS, AMOP, XMPP, JMS, REST, CoAP
Certification	CE, FCC, IC, PTCRB, AT&T, E-Mark, ITxPT, RoHS, ECE-R118

VG710-M

Vehicle Gateway

High Preformance Vehicle Network

Brand new network experience
with 5G, high bandwidth,
low latency and massive connectivity

Powerful Data Processing

4-Core ARM Cortex-A7
CPU and 8GB ROM

Flexible Application Development

Support secondary
development C/C, ,
and Python

ITxPT standard Design

M12 Ethernet connector
FAKRA antenna connector
IP65 protection grade

The InVehicle G710 is a new generation of 5G vehicle gateway launched for the field of vehicle networking, which provides high-speed and secure network for cars and transportation service vehicles, meeting the mobile high-speed network needs of police vehicles, emergency command vehicles, engineering vehicles, medical vehicles, logistics vehicles and etc.

Hardware

CPU	4*Core ARM Cortex-A7
RAM	1GB DDR3L
Cellular	5G, downlink 2.1Gbps, Sub6, LTE-A
GNSS	GPS L1+L5 , BSD, GLONASS, Galileo
Wi-Fi	IEEE802.11 a/b/g/n/ac
Ethernet	3*M12 D-coded 10/100 Mbps 1*M12 X-coded 10/100/1000 Mbps
Other Interfaces	CAN Bus、IGT、1*AI/DI
SIM Card	2FF
Antenna	4 /2*Cellular, GNSS, 2*Wi-Fi, Bluetooth
Indicators	System, Cellular, Signal, GNSS, Wi-Fi 2.4G, Wi-Fi 5G, U1, U2
Operating Temperature	-30℃ ~ 70℃, -22F~158F
IP Rating	IP65
Vehicle Standard	ECE-R118, IEC60068-2-31, EN50155, EN50121, EN61373, EN45554, EMC Level3
Dimensions	186*128.5*48 mm

Software

Network Access	APN, VPDN
IP Application	Support IPv6, Ping, Traceroute, DHCP server / relay / client, DNS relay, dynamic domain DDNS, Telnet, SSH, HTTP, HTTPS, TFTP, FTP, SFTP
IP Routing	Support static route, RIP, OSPF, BGP, IGMP Proxy
VPN	IPsec VPN, L2TP, GRE, OpenVPN
Cyber Security	Firewall, SPI, anti-DoS attack, AAA
Link Backup	Send heartbeat packet detection, disconnection auto-connect
Configuration	Support local or remote HTTP, HTTPS, Telnet, SSH
Cloud Platforms	Azure, AWS, AliCloud, and other third-party cloud platforms
Edge Computing	Programmable environment Python 3.0, C/C, , , Docker runtime environment
IoT Transmit Protocol	Support MQTT, DDS, AMOP, XMPP, JMS, REST, CoAP
Certification	CE, FCC, IC, PTCRB, AT&T, E-Mark, ITxPT, RoHS, ECE-R118

Vehicle Telematics Gateways

VT320 / VT310 / VT200

The VT series is a rugged and functionally capable vehicle telematics gateway. Integrating extensive interfaces, multiple diagnostic protocols and major IoT clouds, it delivers reliable vehicle data in some of the most challenging environments that involve severe cold or scorching heat, and/or water immersion, while remaining budget friendly.

VT320

Vehicle Telematics Gateway

Multiple Carrier Options

Access to multiple cellular networks and carriers, available with LTE CAT1, CAT M1, CAT4

Accurate Positioning

Accurate positioning of vehicle location with GNSS and LBS dual positioning

Major IoT Cloud Platforms

AWS, Azure, Wialon ThingsBoard

Designed for Vehicles

Compliant with ISO 16750-3 random vibration, IP66 design, EMC level 3

The InVehicle T320 is a cost-effective, interface-rich, and powerful asset tracking product for logistics, engineering vehicles and other applications. With high-accuracy GNSS positioning, it helps track vehicles, monitor vehicle and driver status, and performs functions of historical track, electronic fence, abnormal alarms, etc.

Hardware

Cellular	LTE, CATM
Antennas	LTE FPC built-in antenna, GNSS ceramic built-in antenna
GNSS	GPS, GLONASS, Galileo, Beidou
Inertial Sensors	Built-in six-axis 3D gyroscope
Bluetooth	Bluetooth 4.1
Vehicle Features	2*CAN Bus, 1*J1708
I/O	1*RS485, 4*DI, 3*DO, 1*AI
Operating Voltage	9~48VDC
Power Consumption	0.55W
Battery	Ni-MH battery 1200mA
Operating Environment	-40°C~85°C
Dimensions	158*100*40mm
IP Rating	IP66

Software

Network Access	APN, VPDN
Cloud Platforms	AWS IoT, Azure IoT, Wialon, Traccar, GPSWox, WhiteLable Tracking, Thingsboard, Customer Private Cloud
Transport protocol	TCP, UDP, HTTP, MQTT, JT/T 808
Encrypted Communications	SSL/TLS
Vehicle Diagnostic Protocol	OBD-II, J1939, J1708, CAN bus and ELD data transparent transmission
Serial Port Protocol	Transparent, Modbus RTU
Event Alarm	Collision detection, Motion detection, Overspeed, IO change, ignition signal detection, etc.
Configuration	RS232 or Bluetooth
Certification	FCC, IC, PTCRB, AT&T, Verizon

VT310

Vehicle Telematics Gateway

Multiple Carrier Options

Access to multiple cellular networks and carriers, available with LTE CAT1 and CAT4

Accurate Positioning

Accurate positioning of vehicle location with GNSS and LBS dual positioning

Major IoT Cloud Platforms

AWS, Azure, Wialon ThingsBoard

Designed for Vehicles

Compliant with ISO 16750-3 random vibration, IP66 design, EMC level 3

The InVehicle T310 is a cost-effective, interface-rich, and powerful asset tracking product for logistics, engineering vehicles and other applications. With high-accuracy GNSS positioning, it helps track vehicles, monitor vehicle and driver status, and performs functions of historical track, electronic fence, abnormal alarms, etc.

Hardware

Cellular	LTE CAT1, CAT4
Antennas	LTE FPC built-in antenna, GNSS ceramic built-in antenna
GNSS	GPS/A-GNSS
Inertial Sensors	Built-in six-axis 3D gyroscope
Bluetooth	Bluetooth 4.1
Vehicle Features	2*CAN Bus, 1*J1708
I/O	1*RS232, 4*DI, 3*DO, 1*AI
Operating Voltage	9~48VDC
Power Consumption	0.55W
Battery	Lithium-ion battery 1200mA
Operating Environment	-40°C~85°C (mains powered), -20°C ~ 60°C (battery powered)
Dimensions	141*82*35mm
IP Rating	IP66

Software

Network Access	APN, VPDN
Cloud Platforms	AWS IoT, Azure IoT, Wialon, Traccar, GPSWox, WhiteLable Tracking, Thingsboard, Customer Private Cloud
Transport Protocol	TCP, UDP, HTTP, MQTT, JT/T 808
Encrypted Communications	SSL/TLS
Vehicle Diagnostic Protocol	OBD-II, J1939, J1708, CAN bus and ELD data transparent transmission
Serial Port Protocol	Transparent, Modbus RTU
Event Alarm	Collision detection, Motion detection, Overspeed, IO change, ignition signal detection, etc.
Configuration	Serial Port or Bluetooth
Certification	CE, FCC, IC, PTCRB, E-Mark

VT200

Vehicle Telematics Gateway

Accurate Positioning

Supports all satellite augmentation systems: GPS, Galileo, GLONASS, BeiDou

Multiple Interfaces

RS232, RS485, CAN, I/O

Major IoT Cloud Platforms

AWS, Azure, Wialon, ThingsBoard

Various Application Scenarios

Fleet management, asset location, and telematics

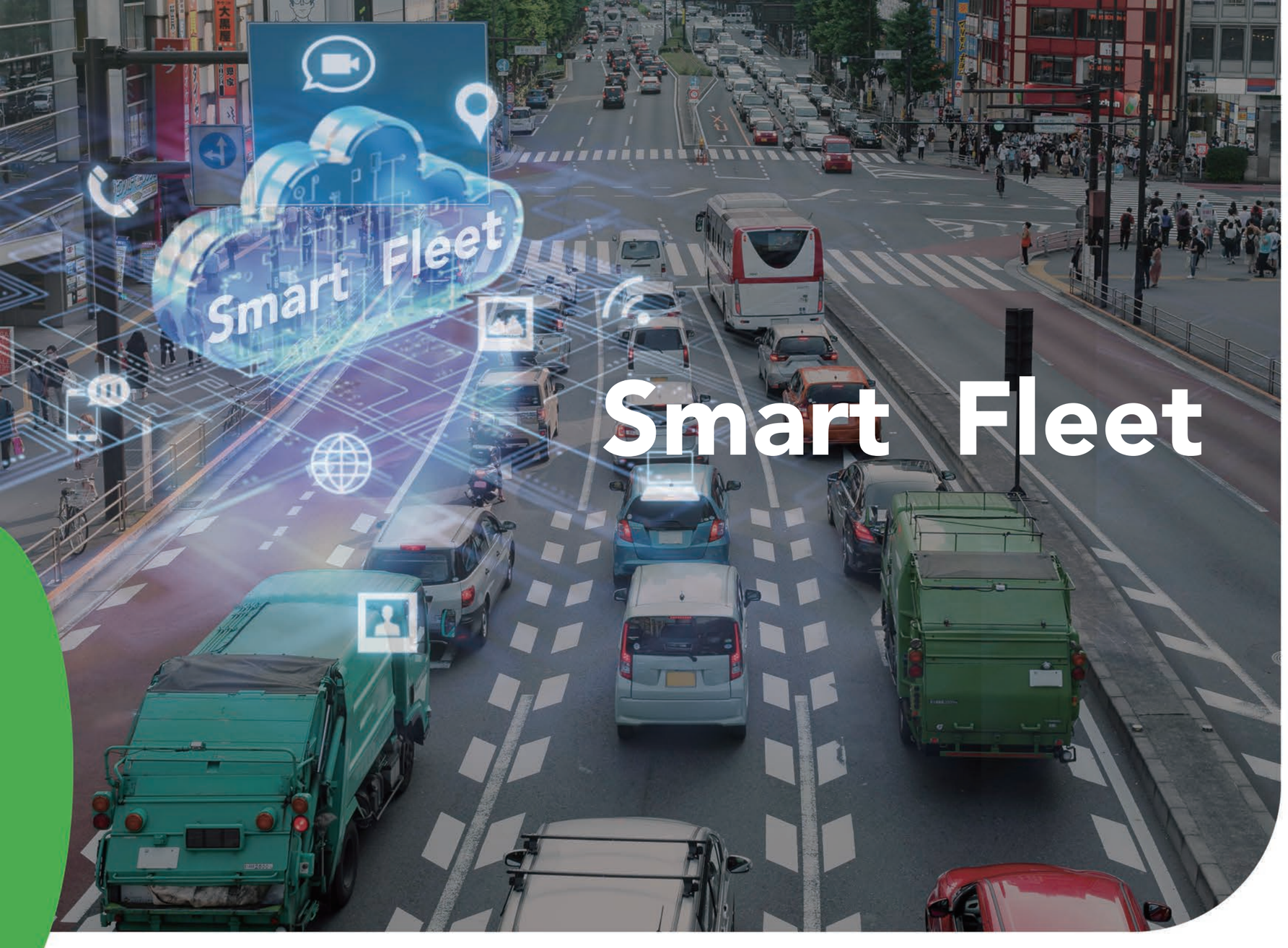
The InVehicle T200 integrates LTE, GNSS, gyroscope and inertial sensors with a multi-tasking system to precisely locate vehicle position in real time, record mileage, monitor accidents such as emergency braking, acceleration and collision, maintain transportation safety, locally record and analyze driving behavior.

Hardware

Cellular	LTE CAT1, CATM, CAT4
Antennas	LTE FPC built-in antenna, GNSS ceramic built-in antenna or external SMA interface antenna
GNSS	GPS, GLONASS, Galileo, Beidou
Inertial Sensors	Built-in six-axis 3D gyroscope
Vehicle Features	1*CAN Bus
I/O	1*RS232, 1*RS485, 4 *DO/AI
Operating Voltage	9~36VDC
Battery	Lithium-ion battery 1000mA
Operating Environment	-40°C~85°C (mains powered), -20°C~ 60°C (battery powered)
Dimensions	98.6*62*23.5mm
IP Rating	IP40

Software

Network Access	APN, VPDN
Cloud Platforms	AWS IoT, Azure IoT, Wialon, Traccar, GPSWox, WhiteLable Tracking, Thingsboard, Customer Private Cloud
Transport protocol	TCP, UDP, HTTP, MQTT, JT/T 808
Encrypted Communications	SSL/TLS
Vehicle Diagnostic Protocol	OBD-II, J1939, CAN bus and ELD data transparent transmission
Serial Port Protocol	Transparent, Modbus RTU
Event Alarm	Collision detection, Motion detection, Overspeed, IO change, ignition signal detection, etc.
Configuration	USB Type-C
Certification	CE, FCC, IC, PTCRB, E-Mark



Smart Fleet

Smart Fleet

The intelligent fleet management system delivers unparalleled value with real-time tracking, historical playback, and timely safety alerts. Geofencing controls regional activities, and vehicle health monitoring supports preventive maintenance. Its open, customizable platform adapts to diverse needs, ensuring long-term scalability. These features enhance efficiency, safety, and user experience, providing a sustainable tech foundation for future growth.

Smart Fleet

Vehicle management

GPS tracking
real-time monitoring
of vehicle location and
information

Alerts

The Smart Fleet provides instant notifications, including support for push notifications, emails, and other methods

Devices

The platform can manage and OTA upgrade the hardware of the in vehicle gateway

Private deployment

The software provides private deployment,install and run systems on their own servers, providing highly customized solutions

The intelligent fleet manange system delivers exceptional value to customers by offering real-time tracking, historical trajectory playback, and proactive safety alerts through alarms and notifications. The system's customizability and scalability cater to diverse needs, ensuring long-term adaptability and a robust technological foundation for future growth, enhancing operational efficiency and user experience.

The Smart Fleet system is a highly integrated system that provides comprehensive services and monitoring through various functional modules.

Real-time Location Tracking

The system can monitor and display the vehicle's location in real-time, supporting various map services

Historical Trajectory Playback

The system records and allows users to replay the vehicle's historical driving trajectory, offering time selection and speed control

Alarms and Notifications

The system supports various types of alarms and can send notifications in real-time through different channels.

Geofencing

Creates virtual geofences to monitor the vehicle's entry and exit of specific areas, providing notifications and reports.

Vehicle Status Monitoring

Monitors the vehicle's engine status, fuel consumption, and other information, supporting protocols such as J1939 and OBD

Vehicle Health Monitoring

Monitors the vehicle's condition in real-time to assist with preventive maintenance.

Device and Protocol Support

Compatible with various devices and protocols, supporting OTA and batch upgrades.

Custom Reports

Provides predefined reports and allows users to customize reports based on specific monitoring needs.

Access Control and Permissions

Supports multi-level user permissions to ensure appropriate access rights and data security and privacy

Openness and Customizability

Provides APIs to allow users to customize and extend system functions.

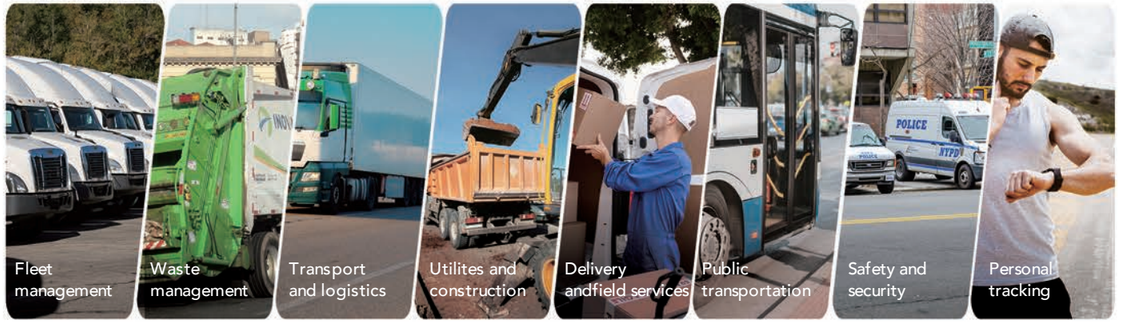
Platform Access Capability

Supports more than 50,000 concurrent connections, compatible with MQTT or TCP protocols.

Application Module Expansion

Supports the integration of new modules, such as the integration and display of sensor and video information

Applied to various sectors



Selection Guide

	Model	VG710	VG710-H	VG814-V (Road)	VG814-R (Rail)	VT310	VT200	VT320
System	CPU	4-Core ARM® Cortex® -A7	4-Core Arm® Cortex® -A7	4-Core ARM® Cortex® -A7	4-Core ARM® Cortex® -A7	ARM® Cortex® -M4	ARM® Cortex® -M4	ARM® Cortex® -M4
	RAM	512MB/1GB DDR3	1GB DDR3	1GB DDR3	1GB DDR3	320KB SRAM	512KB SRAM	320KB SRAM
	ROM	8GB eMMC	8GB eMMC	8GB eMMC	8GB eMMC	4MB/32MB NOR Flash	4MB NOR Flash	4MB/32MB NOR Flash
Interfaces	Ethernet	4*10/100/1000 Mbps RJ45, network status indicator No POE, 1.5KV network isolation translation Protection	4*10/100/1000 Mbps RJ45, network status indicator No POE, 1.5KV network isolation translation Protection	4*10/100/1000 Mbps M12 X-coded female, network status indicator No POE, 1.5KV network isolation translation Protection	4*10/100/1000 Mbps M12 X-coded female, network status indicator No POE, 1.5KV network isolation translation Protection	-	-	-
	Serial	1*DB9 RS232, 1*2PIN RS485	1*3PIN RS232, 1*2PIN RS485	1*3PIN RS232, 1*2PIN RS485	2*3PIN RS232 , 1*2PIN RS485	1*3PIN RS232 , 1*2PIN RS485 multiplexed with J7108	1*3PIN RS232, 1*2PIN RS485	1*3PIN RS232, 1*2PIN RS485
	4G	LTE CAT4/6, CAT4 China, 2*SMA antennas APAC/EMEA/NAMC CAT6	LTE CAT6, 2*SMA antennas, APAC/EMEA/NAMC CAT6	LTE CAT4/6, CAT4 China, 2*FAKRA APAC/EMEA/NAMC CAT6	LTE CAT4/6, CAT4 China, 2*TNC antennas APAC/EMEA/NAMC CAT6	APAC/EMEA/NAMC CAT1/CAT4, built in antenna	CAT1/CANTM, built-in antenna / external	NAMC LTE CATM1, built-in antenna
	5G	-	SA/NSA global, 4*SMA antennas	SA/NSA global, 4*FAKRA antennas	SA/NSA global, 4*TNC antennas	-	-	-
	GNSS	Beidou, GPS, GLONASS, Galileo Inertial navigation 1*SMA antenna	Beidou, GPS, GLONASS, Galileo Inetial navigation 1*SMA antenna	Beidou, GPS, GLONASS, Galileo, Inertial navigation 1*FAKRA antenna	Beidou, GPS, GLONASS, Galileo Inertial navigation 1*TNC antenna	GPS/A-GNSS / Beidou, GPS, GLONASS, Galileo Inertial navigation	Beidou, GPS, GLONASS, Galileo Inertial navigation	Beidou, GPS, GLONASS, Galileo Inertial navigation
	Wi-Fi	Wi-Fi 4/5, SMA antenna 2*2 MIMO, AP/STA	Wi-Fi 4/5, SMA antenna, 2*2 MIMO, AP/STA	Wi-Fi 4/5, FAKRA antenna, 2*2 MIMO antennas, AP/STA	Wi-Fi 4/5, TNC antenna, 2*2 MIMO, AP/STA	Built-in antenna / external 1*SMA	Build-in antenna / external 1*SMA	Build-in antenna / external 1*SMA
	Bluetooth	Bluetooth 4.1, 1*SMA antenna	Bluetooth 4.1, 1*SMA antenna	-	-	Bluetooth 4.1, built-in antenna	-	Bluetooth 4.1
	SIM Card	2*SIM (push-in slot)	2*SIM (push-in slot)	2*SIM (push-in slot)	2*SIM (push-in slot)	1*SIM (push-in slot)	1*SIM 4FF (push-in slot)	1*SIM 2FF (push-in slot)
	IO	4*DO, 6 x AI/DI	2*DO, 4*AI/DI, 2*DO, 2*A/DI, FWD, WHEEL TICK (GNSS ADR version)	4*DO, 11*DI	4*DO, 11*DI	1*AI, 3*DO, 4*DI	2*DO, 4*AI/DI	1*AI, 3 x DO, 4 x DI
	Audio and Mic	-	3PIN left channel, right channel, microphone	3PIN eft channel, right channel, microphone	-	-	-	-
	1-Wire	1*2PIN 1-Wire	1*2PIN 1-Wire	-	-	1*2PIN 1-Wire	1*2PIN 1-Wire	1*2PIN 1-Wire
	CAN/LINE/J1708	1*2PIN CAN 2.0B	2*2PIN CAN 2.0B, 1*2PIN J1708, 1*2PIN LINE CAN Bus	1*M12 CAN 2.0B A-code female, 1*2PIN CAN 2.0B	1*M12 CAN 2.0B A-code female, 1*2PIN CAN 2.0B	2*2PIN CAN 2.0B 1*2PIN J1708	1*2PIN CAN 2.0B	2*2PIN CAN 2.0B, 1*2PIN J1708
	IGT/ACC	1*IGT/ACC	1*IGT/ACC	1*IGT/ACC	1*IGT/ACC	1*IGT/ACC	1*IGT/ACC	1*IGT/ACC
	USB	USB Type Mirco-B	-	USB Type A	USB Type A YES	-	USB Type-C	-
	Reset	YES	YES	YES	YES	YES	YES	YES
	Grounding	YES	YES	YES	YES	YES	YES	YES
Operating Temperature	Operating Humidity	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)
	Storage Temperature	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃
	Operating Temperature	-30℃ ~ 70℃	-30℃ ~ 70℃	-30℃ ~ 70℃	-30℃ ~ 70℃	-20℃ ~ 60℃ (with 1200mAh lithium battery) -30℃ ~ 70℃ (without battery)	-20℃ ~ 60℃ (with 1000mAh lithium battery) -30℃ ~ 70℃ (without battery)	-20℃ ~ 60℃ (with 1000mAh lithium battery) -30℃ ~ 70℃ (without battery)
Power Supply	Power Input	9-36VDC	9-36VDC	9-48VDC	9-36VDC	9-48VDC	9-36VDC	9-48VDC
	Power Connector	4PIN terminal block	4PIN terminal block	M12 A-code male	M12 A-code male	26PIN automative connector	20PIN terminal block	20PIN terminal block
	Reverse Polarity Protection	YES	YES	YES	YES	YES	YES	YES
	Overcurrent protection	YES	YES	YES	YES	YES	YES	YES
Physical Characteristics	Installation	Wall	Wall	Wall	Wall	Wall 1	Tie bundle	Wall
	Dimensions(L*D*H mm)	186*128.5*48 mm	186*128.5*48 mm	223*181.36*66.2mm	223*1178*66.2 mm	41*82*35 mm	108.3*62*23.5 mm	158*100*44 mm
	Enclosure	Die-cast aluminum	Die-cast aluminum	Aluminum profile	Aluminum profile	PC, ABS	PC, ABS	PC, ABS
	IP Rating	IP64	IP64	IP40/IP53	IP40/IP53	IP66	IP40	IP66
	Weight	775g	775g	1340g	1438g	152g	120g	120g
	Vibration	EN61373, IEC61373	EN61373, IEC61373	ISO16750-3, EN61373, IEC61373	EN61373, IEC61373	ISO16750-3	ISO16750-3	ISO16750-3
EMC	EMC Level	Level 3	Level 3	Level 3	Level 3	Level 3	Level 2	Level 2
Vehicle Standard	Road Vehicle Standard Rail	CEC R10	CEC R10	CEC R10, ISO16750, GB/T28046	-	-	-	-
	Vehicle Standard	EN50155, EN50121-3-2	EN50155, EN50121-3-2	-	EN50155, EN50121-3-2, EN61373, EN45545-2	-	-	-
Certification		CE, E-Mark, ITxPT, FCC, IC, PTCRB, AT&T, RoHS, ECE-R118	CE, E-Mark, ITxPT, FCC, IC, PTCRB, AT&T, RoHS, ECE-R118	CE, E-Mark, ITxPT, RoHS, ECE-R118	CE, E-Mark, ITxPT, RoHS, ECE-R118	CE, E-Mark, FCC, IC, PTCRB, RoHS	CE, E-Mark, FCC, IC, PTCRB, RoHS	FCC, IC, PTCRB, AT&T, Verizon

5 R&D Centers

Quick Response to Market Demands

Beijing

Chengdu

Jiaxing

Toronto

Virginia

3 Manufacturing Centers

Supply Chain: Self-owned Factory with Ensured Capacity and Quality

3 Manufacturing centers: Jiaxing (China), Bangkok (Thailand), Toronto (Canada)

Production lines with a high level of flexibility **8**

3,000 Units produced per day

Square meters **17,898**

4 Storage and Technical Support Centers

Toronto
Canada

Virginia
US

Düsseldorf
Germany

Jiaxing
China

Multi-location Inventory & Tech Support

Applied in a Wide Range of Scenarios


Smart Manufacturing


Smart Retail

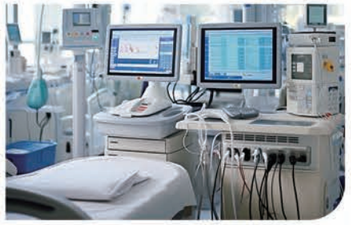

Smart Grid


Smart Cities


Smart Transportation


Renewables


Utilities


Smart Healthcare


Business Internet

Used worldwide. Proven worldwide.

Canada
Management of
Hydropower Station

Germany
Smart
EV Charging Kiosks

China
Predictive Maintenance
of Air Compressors

US
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of Generators

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