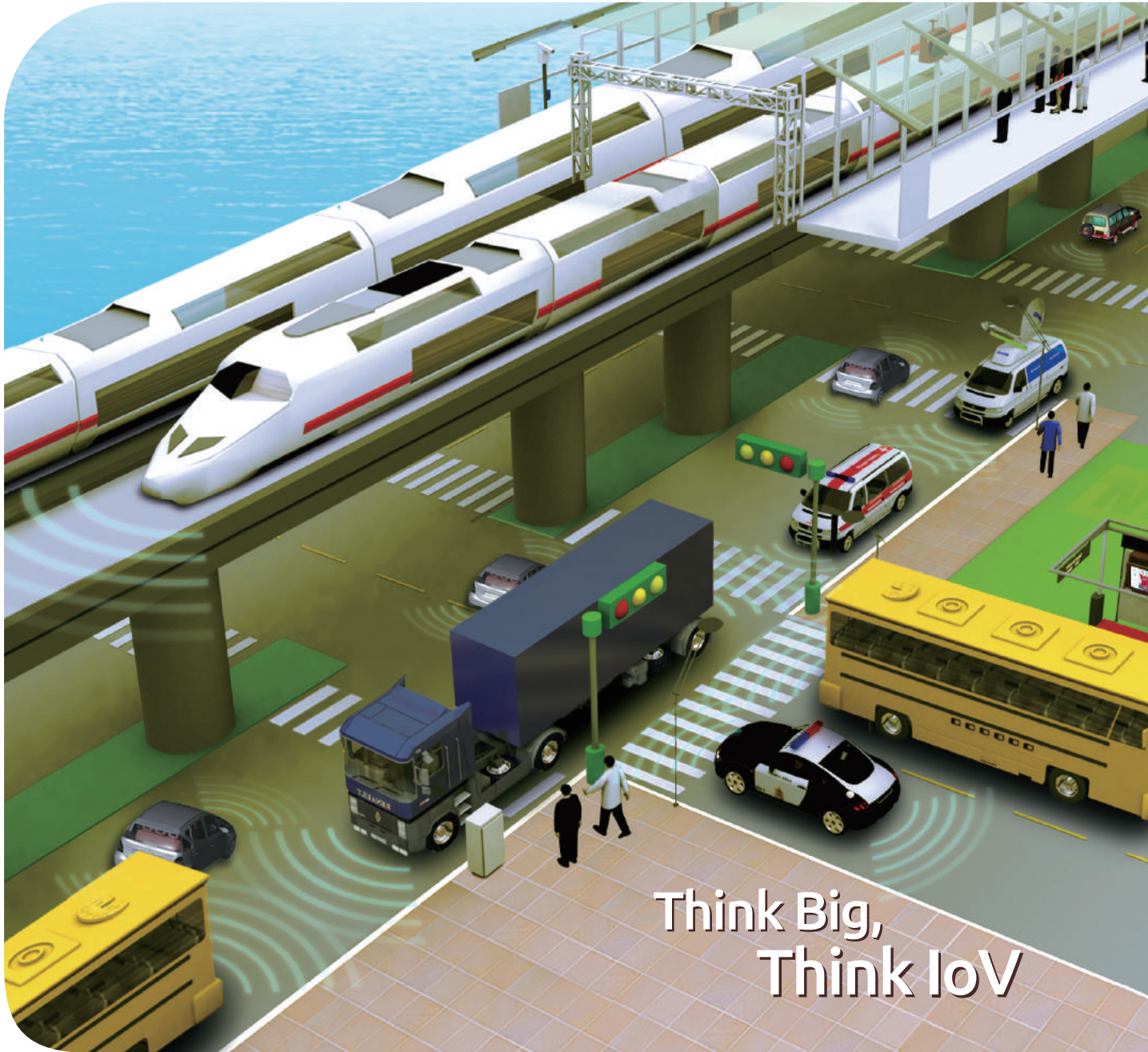




COMMITTED TO CUSTOMER SUCCESS



Think Big,
Think IoT

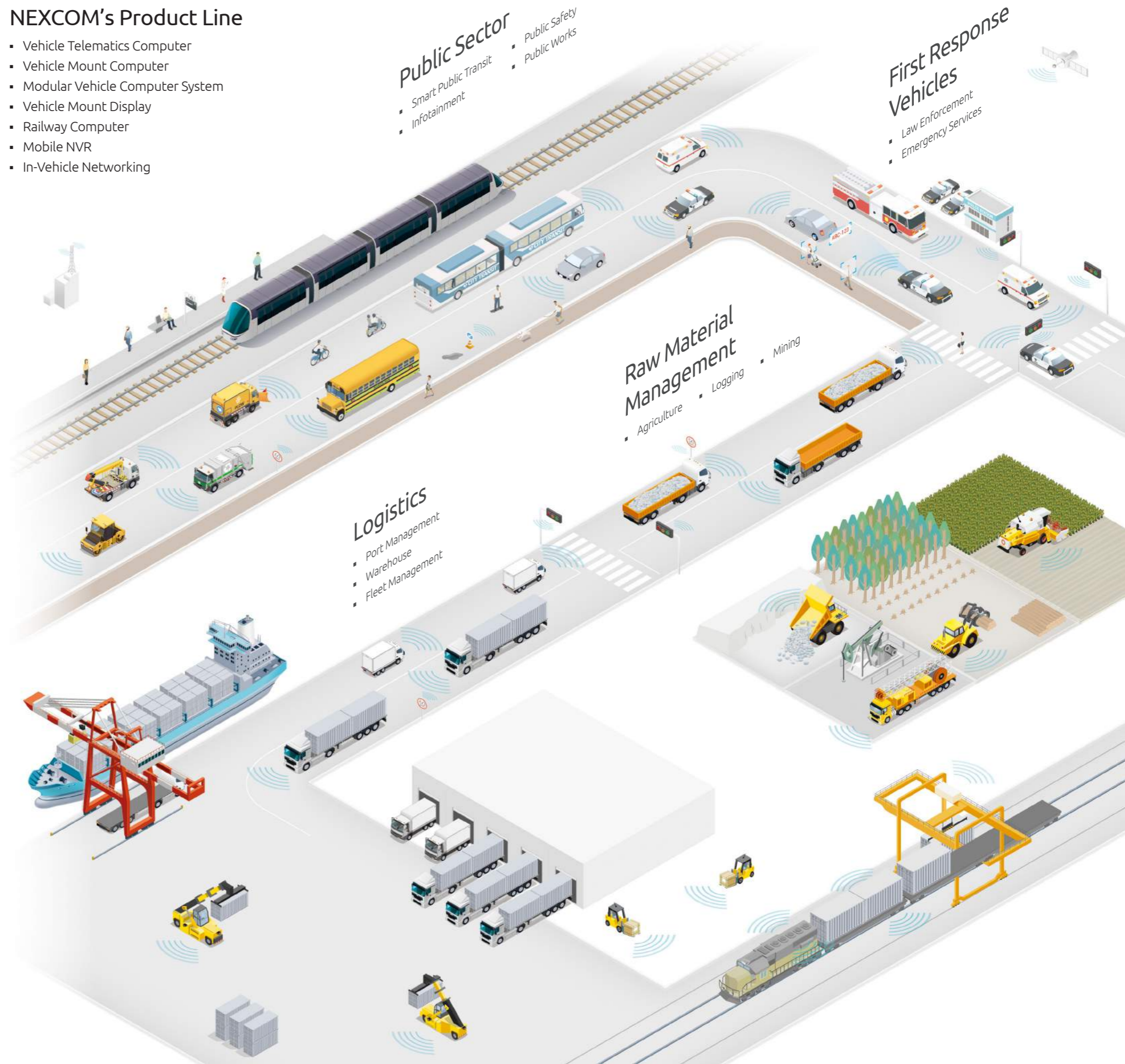
2018 Mobile Computing Solutions Product Selection Guide

Internet of Vehicles (IoV) - Creating a Fully- Encompassing Car Ecosystem Through IoV Innovation



NEXCOM's Product Line

- Vehicle Telematics Computer
- Vehicle Mount Computer
- Modular Vehicle Computer System
- Vehicle Mount Display
- Railway Computer
- Mobile NVR
- In-Vehicle Networking



Autonomous Driving - Deep Learning Makes the Autonomous Car Perceptive and Practical

Recommended Products

- ATC 8010
- MVS 5600
- VTC 7240
- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002

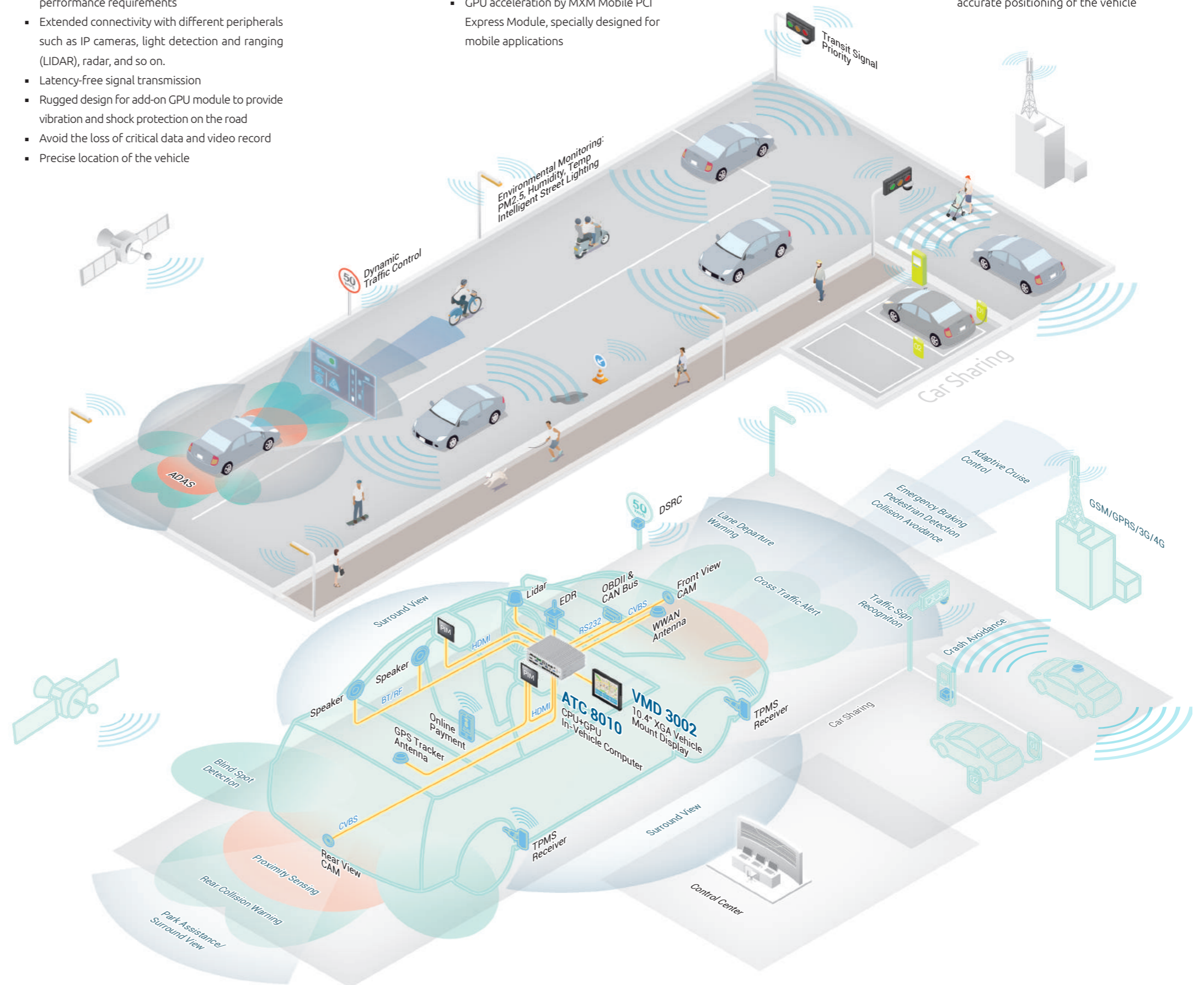


Key Requirements

- Keen calculations of complicated algorithms to determine the proximity of pedestrians and vehicles
- Flexible design to fulfill different graphic performance requirements
- Extended connectivity with different peripherals such as IP cameras, light detection and ranging (LIDAR), radar, and so on.
- Latency-free signal transmission
- Rugged design for add-on GPU module to provide vibration and shock protection on the road
- Avoid the loss of critical data and video record
- Precise location of the vehicle

NEXCOM's Solutions

- Next generation of Intel® Core™ processor with high calculation performance
- Built-in NVIDIA GeForce® GTX 10 Series (1050, 1060, 1070, and 1080)
- GPU acceleration by MXM Mobile PCI Express Module, specially designed for mobile applications
- Multiple connectivity: PoE, DIO, USB and RS232/422/485 for external peripherals
- 10G LAN port for demanding data transmission
- RAID 0, 1, 5, and 10 to increase data availability
- Global navigation satellite system (GNSS) and WWAN connections for accurate positioning of the vehicle



Smart Public Transit -

Smart Bus Ride to a Safe, Green, Fun & Comfortable Tomorrow

Recommended Products

- NANO 1190
- MVS 2623
- MVS 5603
- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002
- VTC 1010
- VTC 1011
- VTC 1020-PA
- VTC 1021
- VTC 6210
- VTC 6220

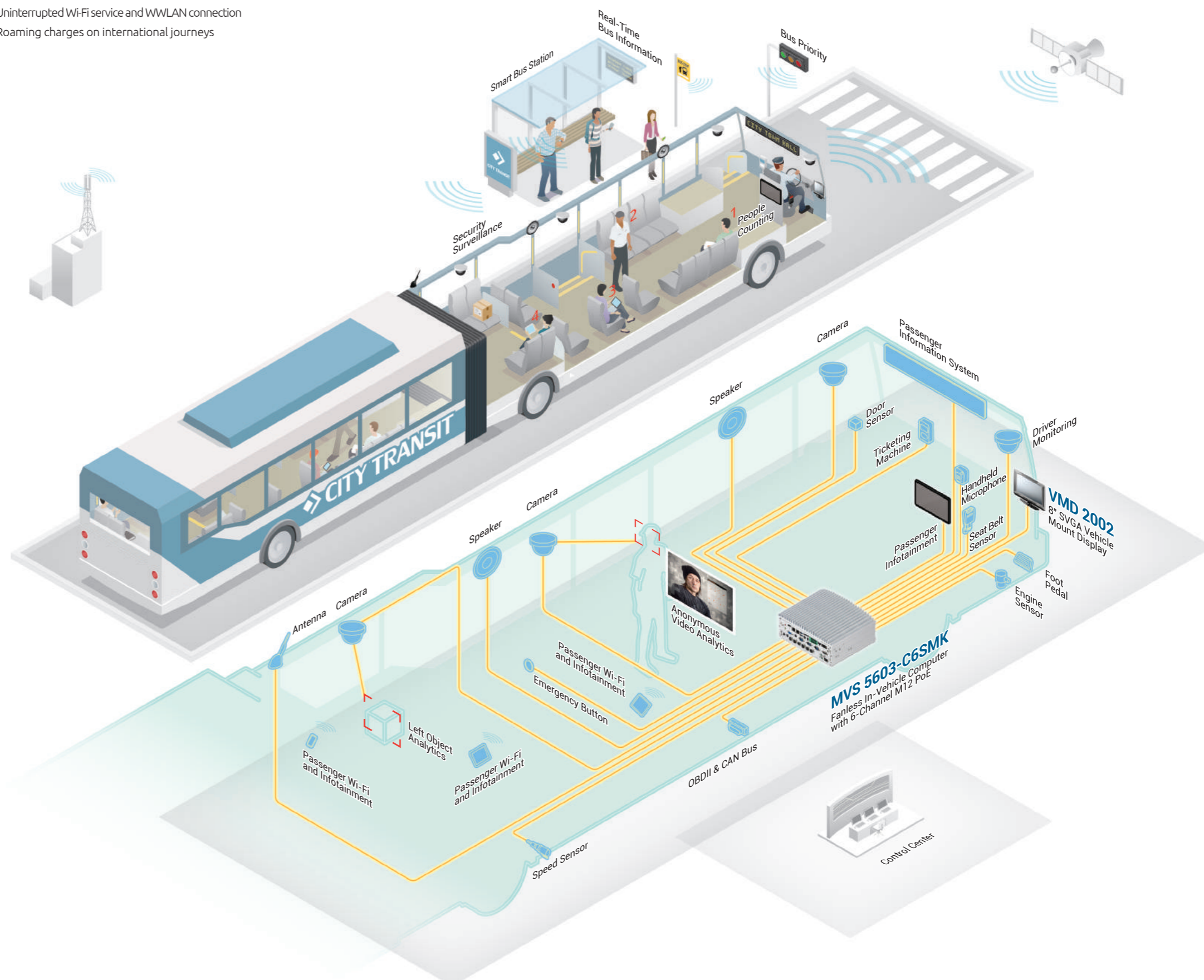


Key Requirements

- Safety of passengers and vehicles with active alerts and continuous surveillance
- Lane departure detection
- Public address system and multi-way intercom between driver and in and out passengers
- Automatic passenger counting to improve scheduling, routes, and revenue
- Passenger information displays
- Uninterrupted Wi-Fi service and WWLAN connection
- Roaming charges on international journeys

NEXCOM's Solutions

- ARM-based or PC-based in-vehicle NVRs for real-time surveillance with live-view, recording, and playback features
- Built-in global navigation satellite system (GNSS) with dead reckoning (DR) function for continuous route tracking from a remote location
- Intercom for drivers to alert or attend in and out passengers, as well as directly connect with remote operators
- Powerful computing enables passenger counting using face detection to adjust the departure frequency, evaluate better bus routes, and compute a revenue forecast for enhanced management
- Built-in communication ports to connect



Smart Public Transit on Railways -

Railway Telematics for Transport Security, Efficiency & Passenger Satisfaction

Recommended Products

- NANO 1190-RA
- VTC 6210-R
- VTC 7220-R
- MVS 5210-R
- VES 30
- iNAS 330
- nROK 1020
- nROK 3000
- nROK 5300
- nROK 5500
- VMC 3011
- VMD 1001
- VMD 2002
- VMD 3002



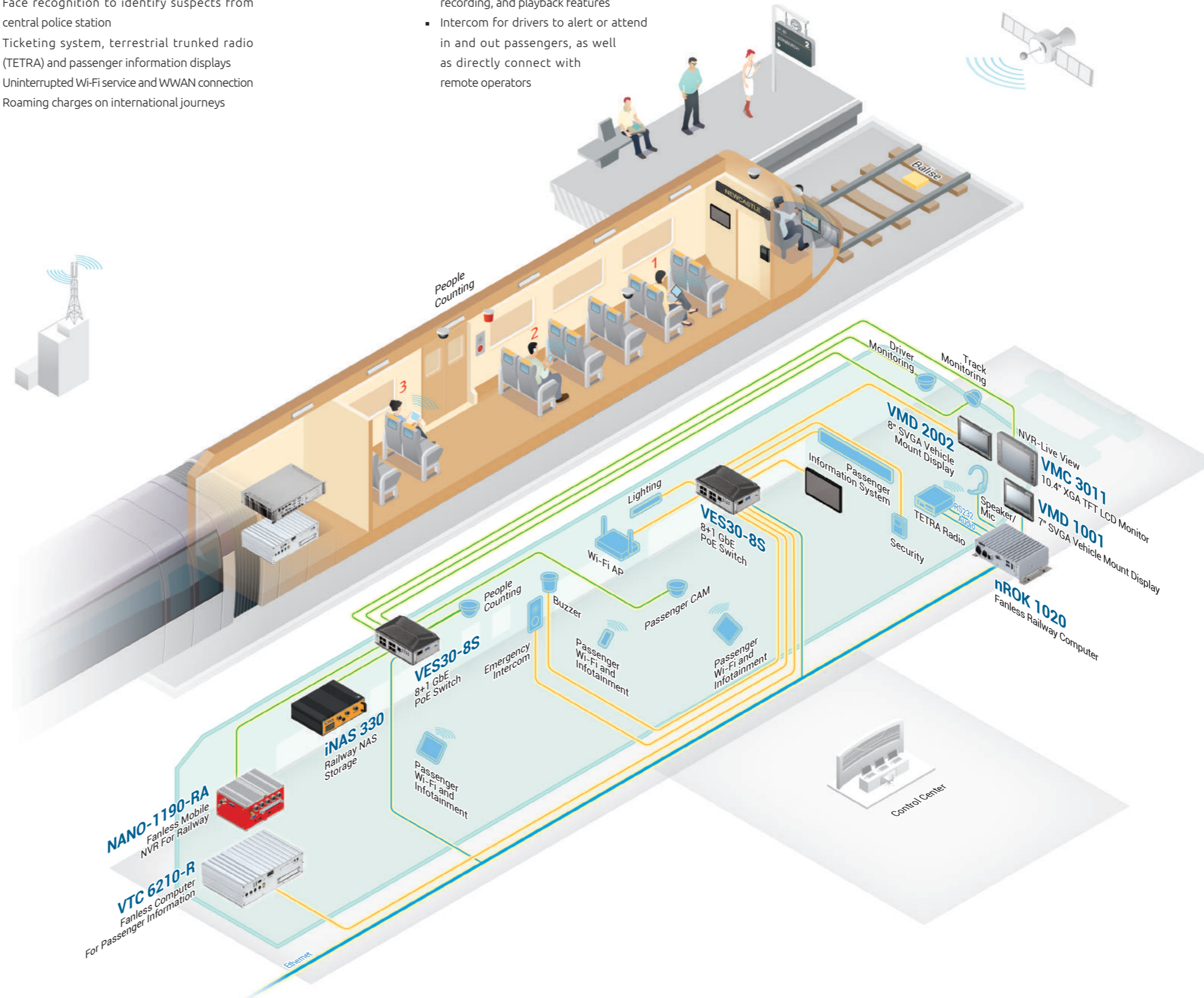
Key Requirements

- Compliance with mandatory rolling stock regulations
- Safety of passengers and vehicles with active alerts and continuous surveillance
- Public address system and multi-way intercom between driver and in and out passengers
- Face recognition to identify suspects from central police station
- Ticketing system, terrestrial trunked radio (TETRA) and passenger information displays
- Uninterrupted Wi-Fi service and WWAN connection
- Roaming charges on international journeys

NEXCOM's Solutions

- EN50155 certification for railway applications
- Models with DC-DC power isolation to fully fit each system requirement
- ARM-based or PC-based in-vehicle NVRs for real-time surveillance with live-view, recording, and playback features
- Intercom for drivers to alert or attend in and out passengers, as well as directly connect with remote operators

- Powerful computing enables real-time face recognition on every carriage from a remote location
- Built-in communication ports to connect devices such as ticketing system, terrestrial trunked radio (TETRA), train signage, card readers, safety sensors and IP cameras
- Mobile router supporting different internet service providers (ISP) with multiple Wi-Fi and cellular networks to provide uninterrupted internet onboard
- Better signal in remote areas and no roaming charges on international journeys with multi-SIM design and carrier switch



Public Works - Playing the Key Role of Enriching the Community and Enhancing the Quality of Life

Recommended Products

- VMC110
- VMC 1100
- MVS 2620
- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002
- VTC 1910
- VTC 1911
- VTC 1010
- VTC 1011
- VTC 1020
- VTC 1021
- VTC 6210
- VTC 6220



Key Requirements

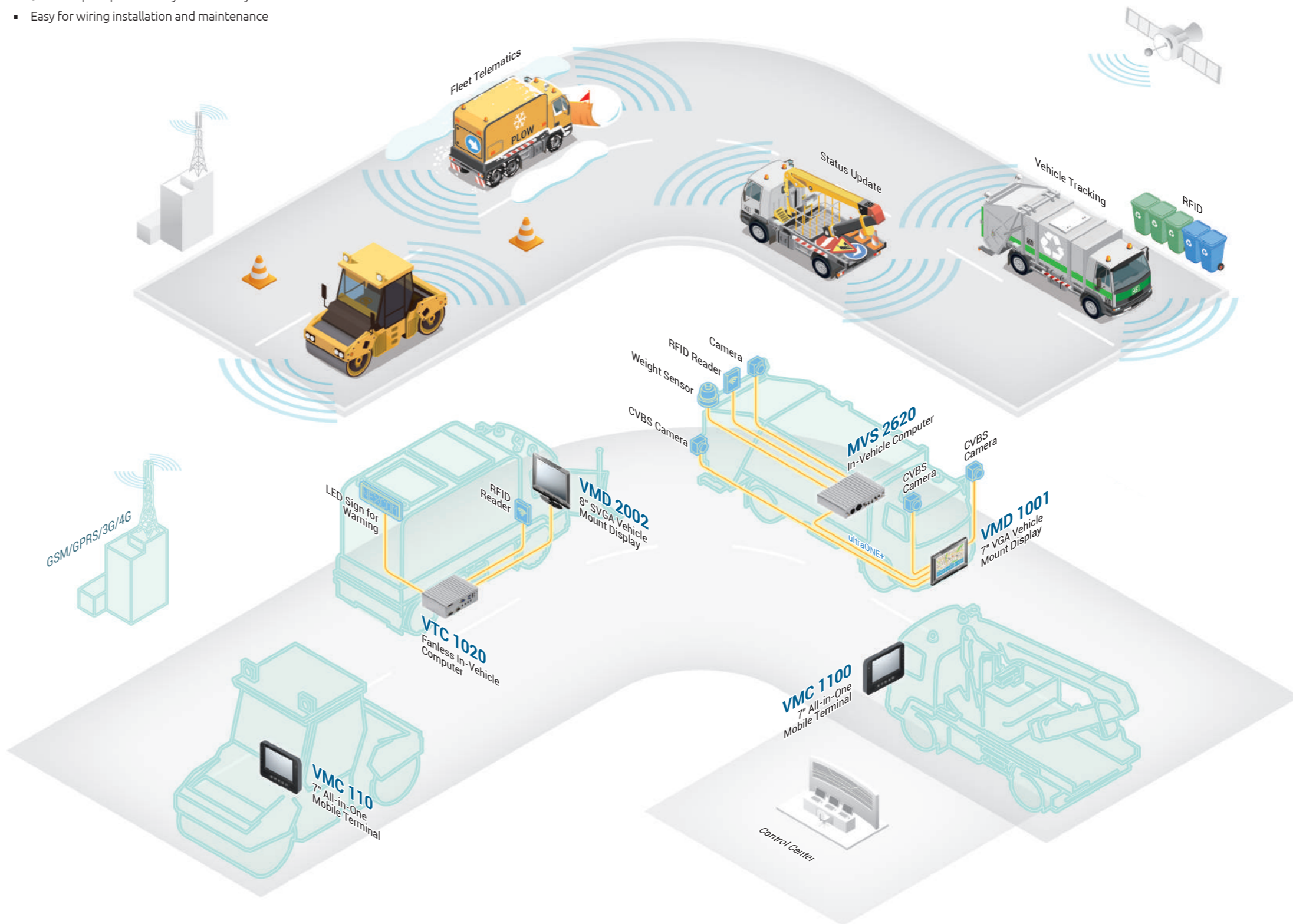
- Power and cost efficiency
- Wireless communication to bring IoT into reality
- Rich I/O interface to connect with a variety of sensors
- Robust design for outdoor in-vehicle computing applications
- Compact size to fit in cabins with limited space
- Precise and real-time location of the vehicle
- High endurance in harsh weather conditions
- Uninterrupted power for system stability
- Easy for wiring installation and maintenance

NEXCOM's Solutions

- The most diverse line of vehicle computers powered by Intel® processors for fast and strenuous work
- GPS tracking and WLAN/WWAN communication capabilities
- Built-in communication ports such as USB/

- COM/GPIO/CAN bus/mini-PCIe to connect peripherals and acquire relevant data
- Rugged design and IP65 protection for reliable operation in extreme and outdoor environments
- Different size offerings with the smallest one of only 130mm (W) x 120mm (D) x 32mm (H)

- Extended operating temperature range from -40°C to 70°C
- Optional backup battery ensures consistent operation regardless of unstable power supply to support continuous operational and management improvements
- ultraONE+ technology supports 10-meter video transmission over a single cable



First Response Vehicles - Leak-Free Crime Recognition and Trusted Emergency Service All Day Long

Recommended Products

- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002
- ATC 8010
- MVS 2620-IP
- MVS 2623
- MVS 5600-IP
- MVS 5603
- VTC 1010
- VTC 1011
- VTC 1021
- VTC 6210
- VTC 6220
- VTC 7230
- VTC 7240



Key Requirements

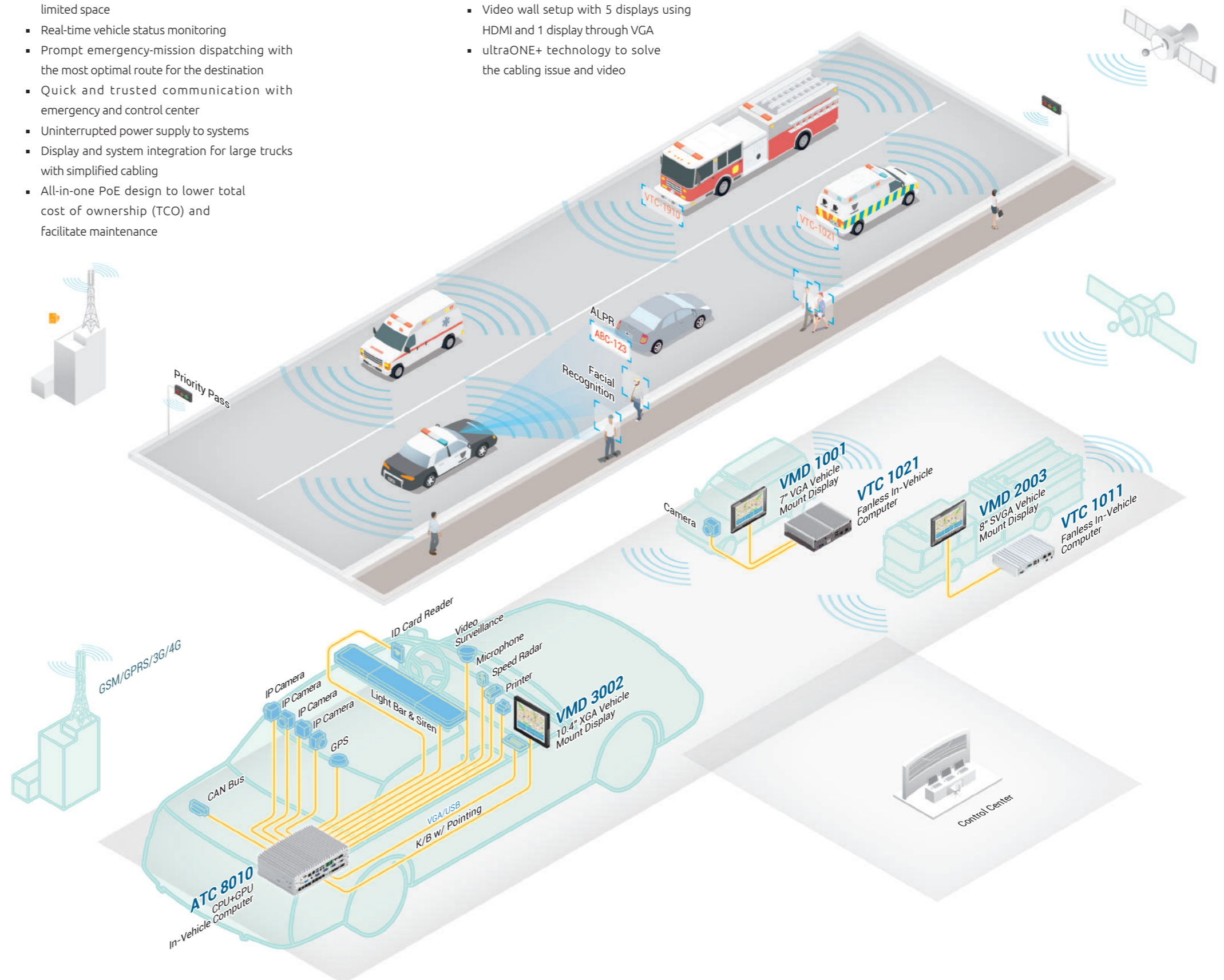
- Ability to aggregate video feeds from multiple IP cameras
- High graphic performance for sophisticated image processing
- Real-time surveillance on multiple video displays
- Easy system installation to fit in vehicles with limited space
- Real-time vehicle status monitoring
- Prompt emergency-mission dispatching with the most optimal route for the destination
- Quick and trusted communication with emergency and control center
- Uninterrupted power supply to systems
- Display and system integration for large trucks with simplified cabling
- All-in-one PoE design to lower total cost of ownership (TCO) and facilitate maintenance

NEXCOM's Solutions

- 360-degree view from 8 IP cameras over PoE ports
- Fast automatic license plate recognition (ALPR) and face detection powered by Intel® Core™ i7 processor and NVIDIA GeForce® GTX 1050 graphics card
- Video wall setup with 5 displays using HDMI and 1 display through VGA
- ultraONE+ technology to solve the cabling issue and video

- signal degradation in harsh vehicle operating environments
- CAN bus 2.0B to check the vehicle status accurately and quickly
- Vehicle mount computer to show the job assignments and route map
- Support multiple telecom carriers (3G and

- LTE) to guarantee the communication and data transmission between the vehicle and control center
- Backup battery ensures uninterrupted system operation
- Supporting PoE 802.3 af/at for IP cameras and other devices



Port Management & Warehouse - Around-The-Clock Reliable Delivery, Your Trust is Our Commitment

Recommended Products

- VMC 110
- VMC 1000
- VMC 1100
- VMC 3020
- VMC 3021
- VMC 3500
- VMC 3501
- VMC 4020
- VMC 4511

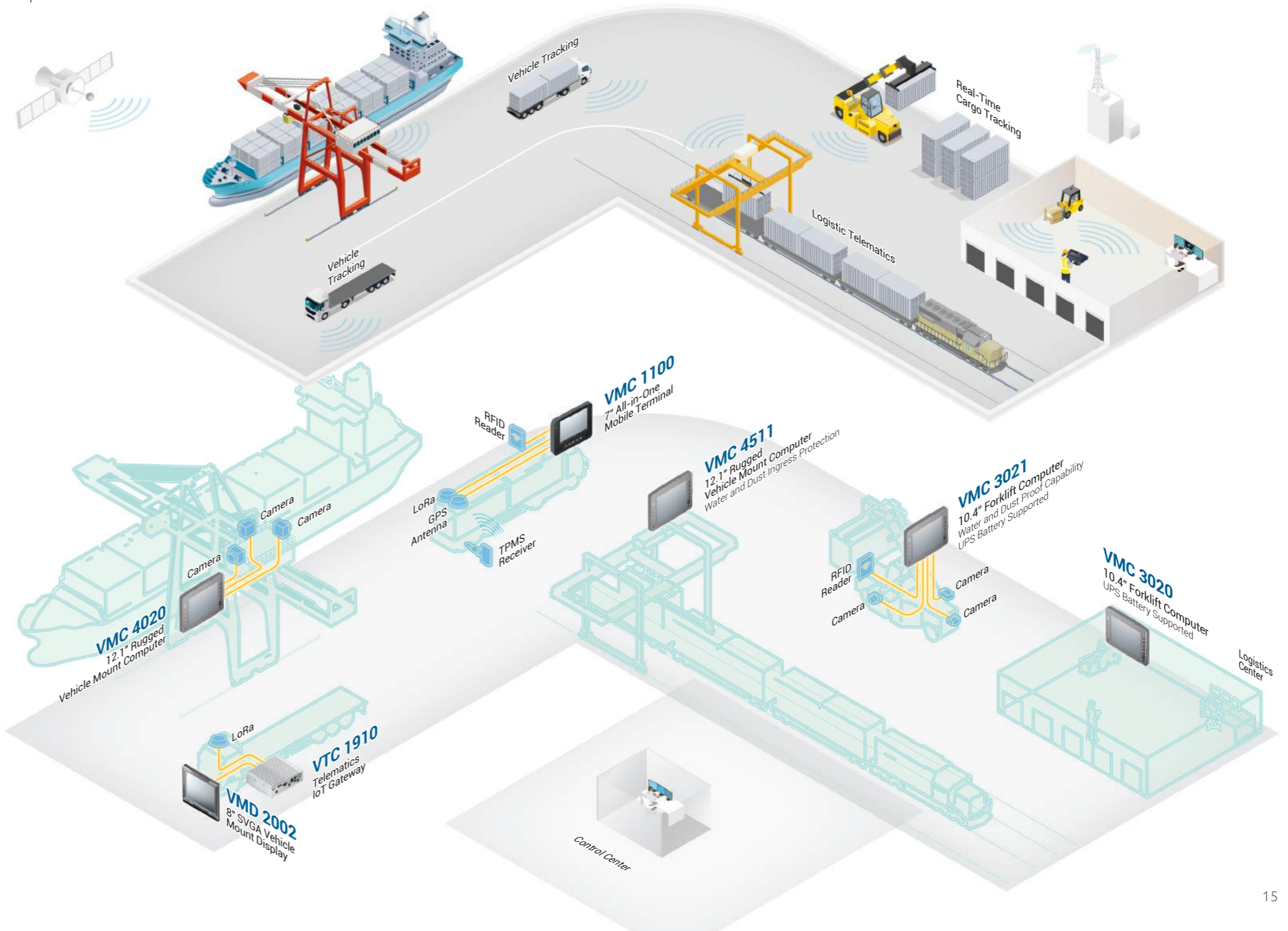


Key Requirements

- Sunlight readable display
- Precise and real-time location of the vehicle
- Real-time vehicle status monitoring
- Reliable operation in extreme weather conditions
- Diverse OS support
- Easy connection to peripherals in warehouse
- Compact size to fit in space-limited cabins in gantry-cranes and forklifts of all sizes
- Non-stop working operation regardless vehicle's battery level
- Proximity sensing to ensure safe operation
- Uninterrupted power supply for stable system performance

NEXCOM's Solutions

- High-brightness LCD touchscreen panel with low reflection
- Support Android/Linux/Windows
- Global navigation satellite system (GPS/Glonass/Galileo/BeiDou) and WWAN connections for accurate positioning of the vehicle
- Check the vehicle status accurately and interface with vehicles subsystems with CAN bus 2.0B (ISO 11898-2), OBD II (ISO 15765-4), and SAE J1708/J1939
- Built-in communication ports such as USB/COM/DIO to connect analog or IP cameras and other peripherals
- Power supply on USB and COM for connected peripherals
- Unique power design with low/high voltage protection, ISO 7637-2, SAE J1113, and SAE J1455 compliance
- Wide-range power input (9V~60V) to fit different vehicles' UPS batteries
- Built-in backup battery
- Aluminum die casting housing and touch-heater to alleviate the huge fluctuation of temperature and humidity
- Optional backup battery ensures that data critical to operational and management improvements is stored and streamed to the cloud despite unstable power supply



Fleet Management - Improving Driver Safety, Save Energy, and Increase Overall Fleet Efficiency

Recommended Products

- VTC 1011
- VTC 1910
- VTC 1020
- MRC 1000
- VMC 110
- VMC 1000
- VMC 1100
- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002



Key Requirements

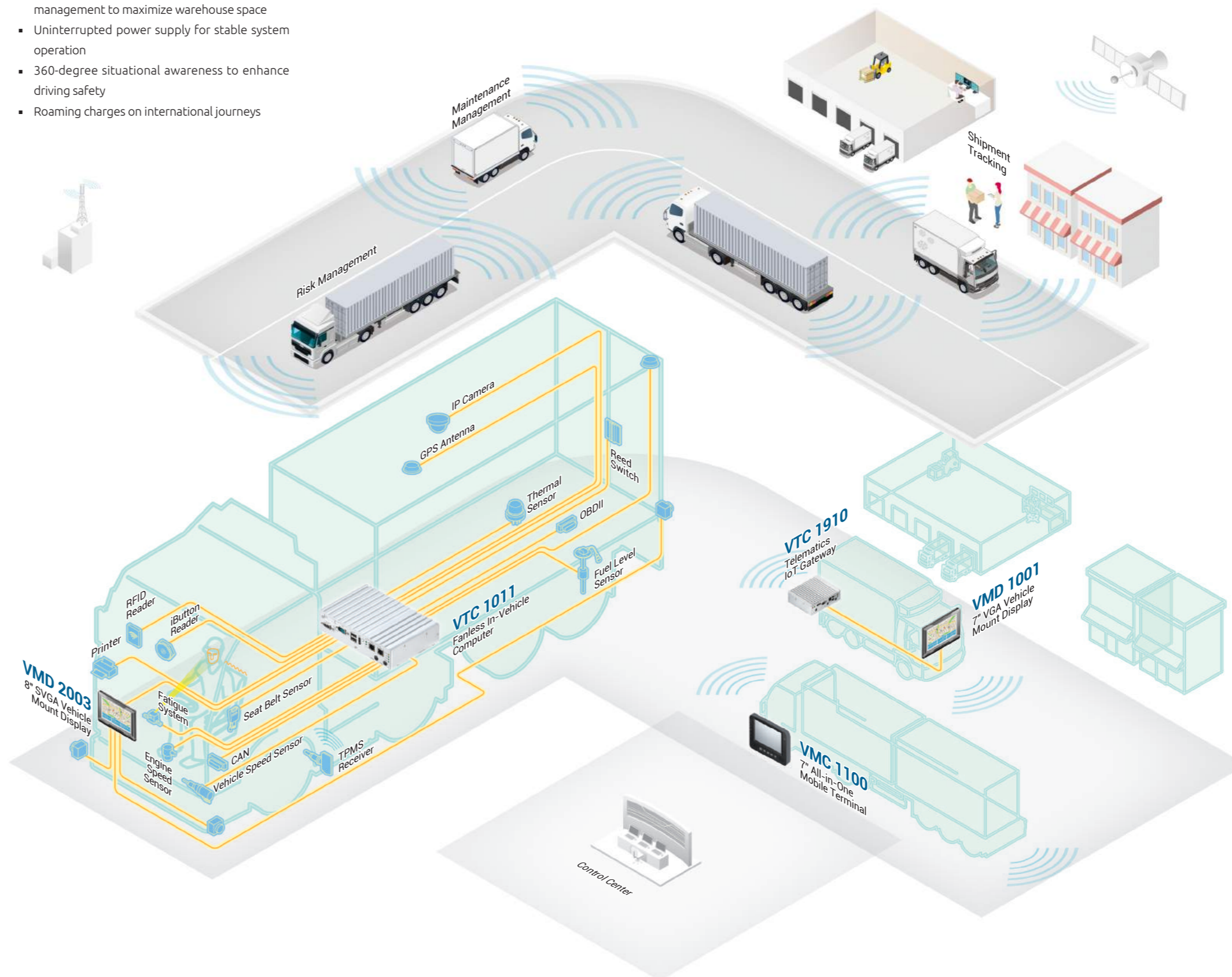
- Power and cost effective
- Real-time vehicle status monitoring
- Plan routes more correctly and in time
- Precise and real-time location of the vehicle
- Rich I/O interface to connect with a variety of sensors
- Suitable for harsh environments
- Provide more accurate and effective inventory management to maximize warehouse space
- Uninterrupted power supply for stable system operation
- 360-degree situational awareness to enhance driving safety
- Roaming charges on international journeys

NEXCOM's Solutions

- Powered by Intel® processors for fast and strenuous work
- VGA and HDMI dual display support
- GPS and WLAN/WWAN module support for tracking and communication
- Built-in communication ports such as USB/

- COM/GPIO/CAN bus/mini-PCIe to connect peripherals and acquire vehicle data
- Rugged design and IP65 protection for reliable operation in extreme and outdoor environments
- Window or Linux support for proprietary software applications
- Alternative power source with optional

- backup battery to ensure uninterrupted data storage and transmission regardless of unstable vehicle power
- Powerful CVBS design for blind spot monitoring and collision avoidance
- Better signal and no roaming charges on international journeys with multi-SIM and carrier switch



Raw Material Management -

Born Tough to Increase Efficiency and Productivity

Recommended Products

- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002
- VTC 1911
- MVS 2620-IPK
- MVS 5600-IPK
- VMC 110
- VMC 1100
- VMC 3020
- VMC 3021
- VMC 4020

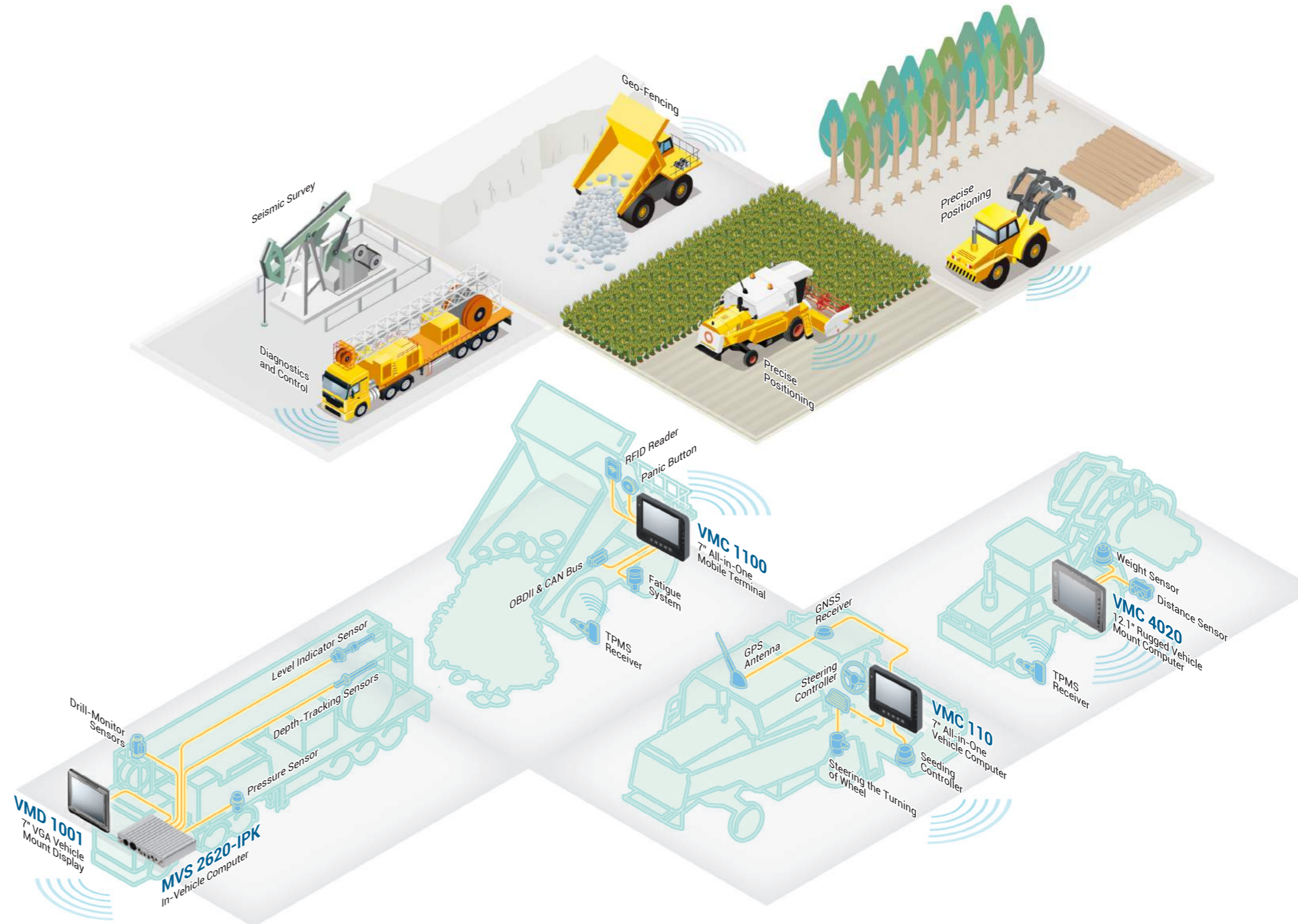


Key Requirements

- Sunlight readable display
- Precise and real-time location of the vehicle
- Reliable operation in extreme weather conditions
- Water and dust protection for harsh environments
- Easy connection to peripherals

NEXCOM's Solutions

- Powered by Intel® processors for fast and strenuous work
- High-brightness LCD touchscreen panel with low reflection
- Global navigation satellite system (GPS/ Glonass/Galileo/BeiDou) for accurate positioning of the vehicle
- Rugged design and IP65 protection for reliable operation in extreme and outdoor environments
- Built-in communication ports such as USB/ COM/GPIO/CAN bus/mini-PCIe to connect peripherals and acquire vehicle data



Video Surveillance -

To See, to Analyze, to Real-Time React for Mobile Security

Recommended Products

- VTC 1011
- VTC 1021
- VTC 6210-VR4
- VTC 7110-C4SK
- MVS 2623
- MVS 5200
- MVS 5210
- MVS 5603
- NANO 1190
- iNAS 330
- VMD 1001
- VMD 2002
- VMD 2003
- VMD 3002

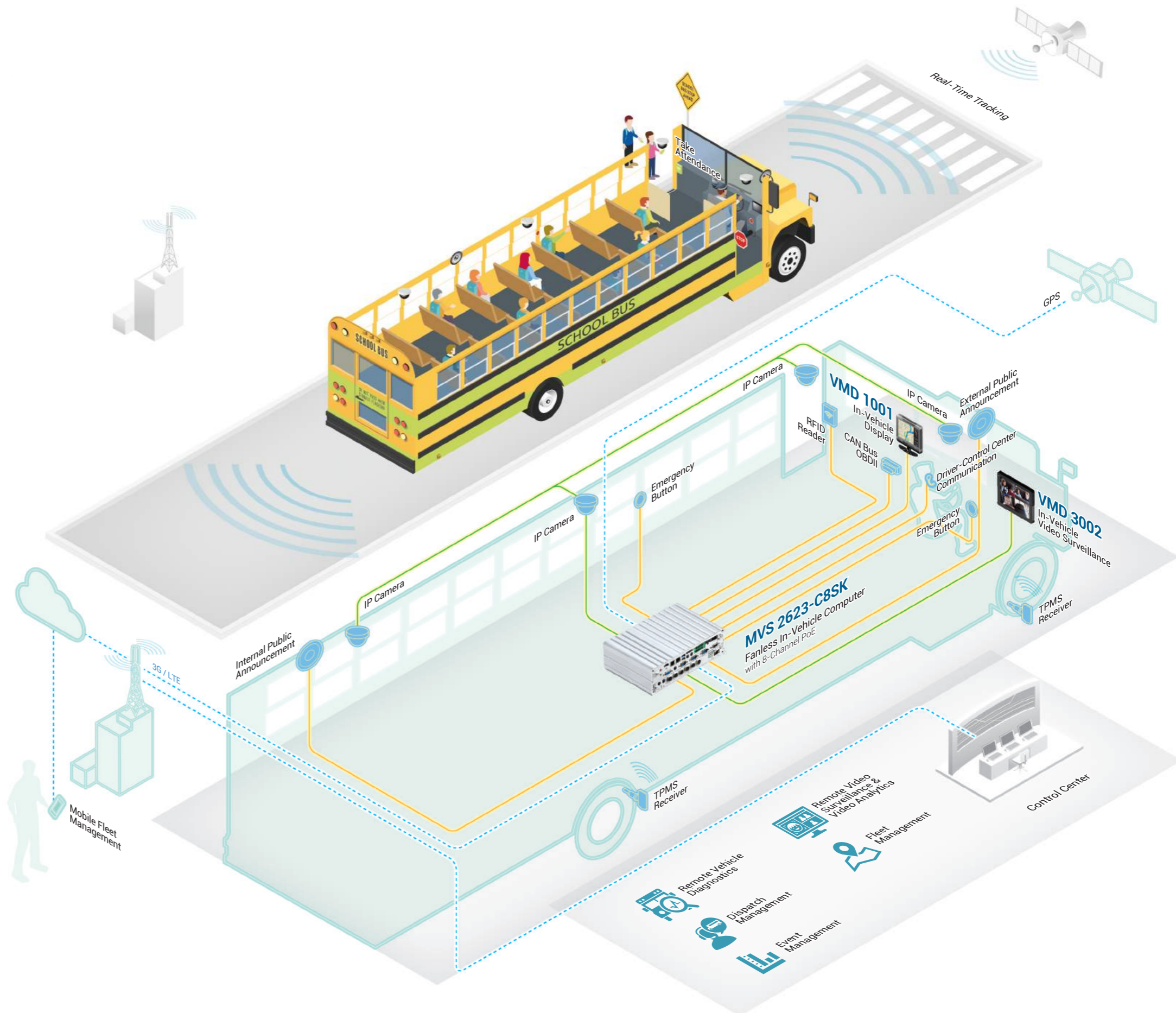


Key Requirements

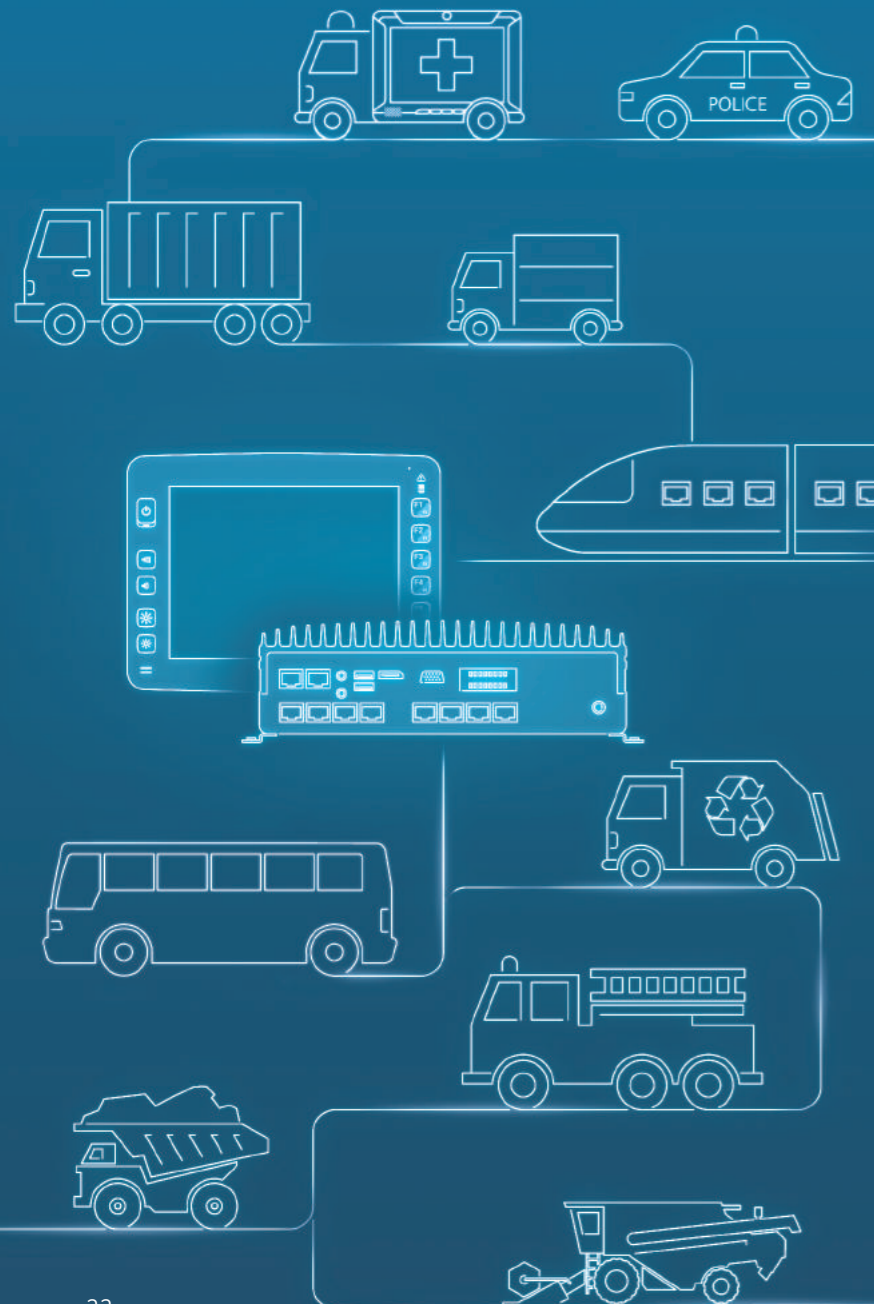
- Clear images, detail information and solid quality
- High capability for compute-intensive analysis

NEXCOM's Solutions

- Connections to high resolution IP cameras to capture clear images
- In-vehicle computer with GPU
- Industrial-grade vehicle display for seamless video output
- Support multiple WWAN networks
- Reliable storage with RAID support and mobile network attached storage (NAS)

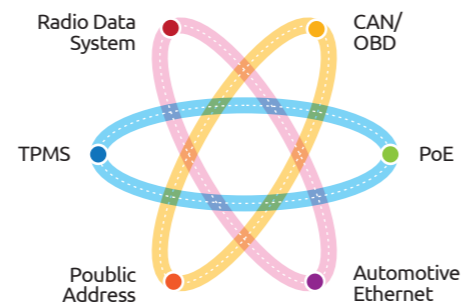


Our Core Competency - Building Foundation for Interconnected IoV and Value-Added Innovation



Strong Vertical Market Knowhow and Modular Approach

- Strong knowledge to provide suitable products attending the demands of each vertical market
- Modular designs to get exactly what you need
- Ready to integrate with high compatibility
- Full array of flexible add-ons modules
- Exempt the need for 3rd party devices to lower total cost of ownership
- One stop solution for easy maintenance and high interoperability
- TPMS/automotive Ethernet/public addressing solutions provider



Solid Technical Capability to Bring Benefits to Customers

- Over 20 years of experience in designing rugged devices and over 10 years in designing vehicle computers
- Long distance high-quality video content delivery
- Low cost and easy maintenance with single cable (video/USB/audio/power) design
- Fanless design and IP67 protection for extreme environmental conditions
- IK08 impact resistance on external mechanics
- Profound expertise and extensive hand-on experience in CAN/SAEJ1939/SAE J1708
- Familiar with CISPR25 standard
- Backup battery design for uninterrupted operation



Quick OEM/ODM Customized Service

- MVS Express Service with fast customized modular design
- Validation including reliability, functionality, and environment test
- Certification application
- Dedicated team for system configuration and integration

Keep Up with the Trends and Introduce New Technologies

- Close relationship with key silicon players
- Secure vehicle gateway to connect to the cloud
- Artificial Intelligence, deep learning, and autonomous driving
- DSRC, 5G, and LoRa wireless communication technologies
- Automotive Ethernet, a new vehicle internal network

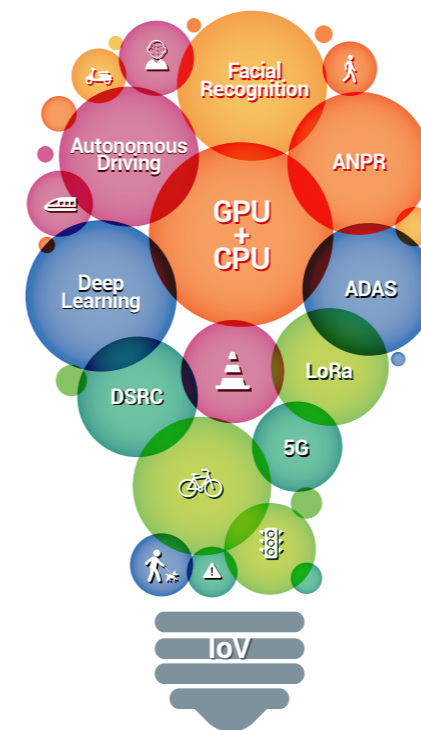


Figure 1. News technologies spring up to build a concrete foundation for Interconnected IoV and value-added innovation

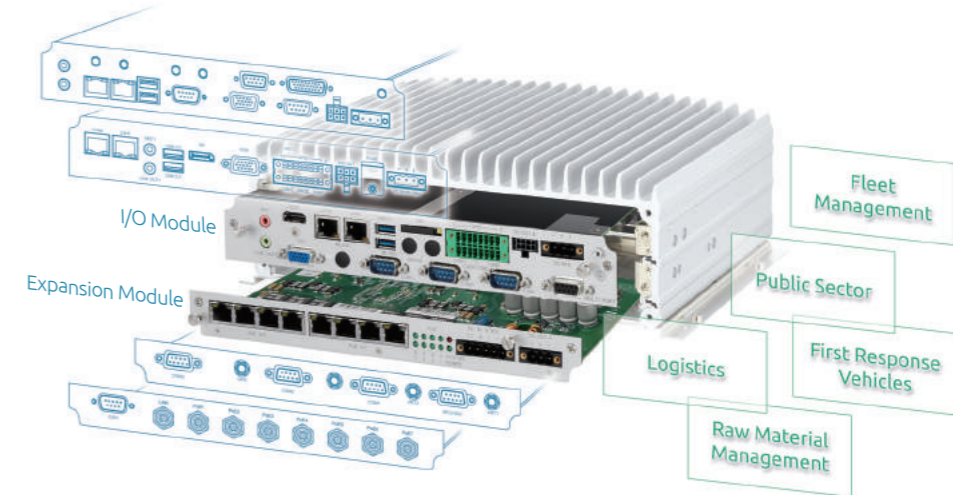
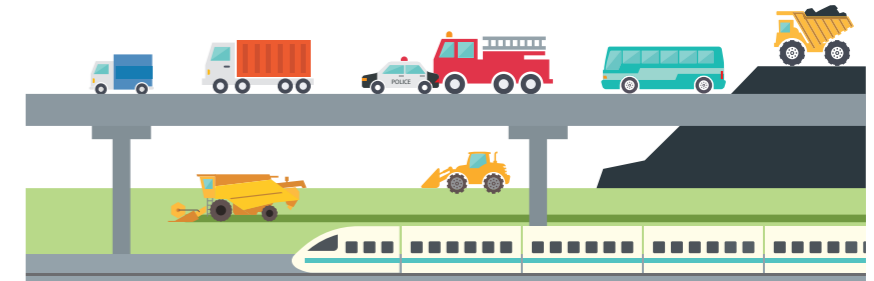


Figure 2. The removable plug-in design provides a convenient way to install I/O and expansion modules without extra effort

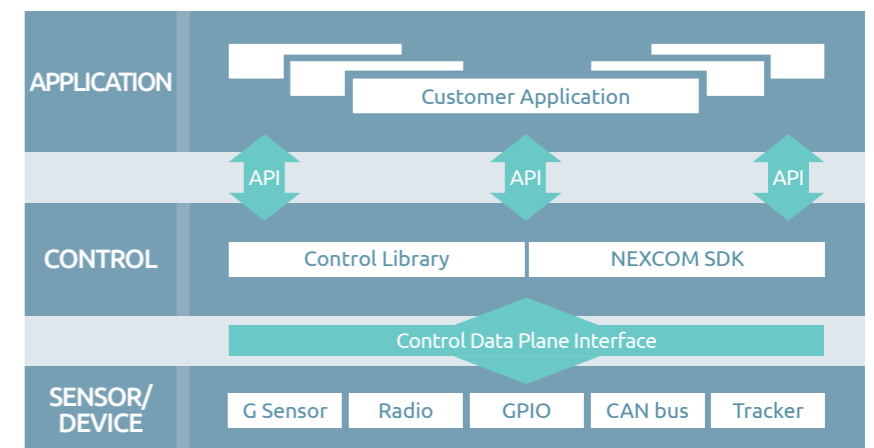
Products Cover a Wide Range of Usage Scenarios

- PoE for video surveillance applications
- Protection against the ingress of dust or moisture
- EN50155 certificate for railway applications
- Industrial-grade display with wide ruggedized design
- All-in-one rugged vehicle mount computer for saving space and easy maintenance
- ADAS, ALPR, facial recognition with GPU performance



Software Development Support

- Rich experience in supporting Linux, Android, and Windows OS
- SDK supports for Linux, Android, and Windows OS
- Provide demo code and sample code for API usage and programming guide for user to customize their software



Product Selection Guide

Vehicle Telematics Computer/Modular Vehicle Computer System

CPU	COM						CAN Bus		Video Output					M.2	mini-PCIe	IP65	Model
	RS232	RS485	RS232/422/485	RS422/485	RS232/485	RS232/422	CAN 2.0B	OBDII	DP	VGA	ultraONE+	LVDS	HDMI				
Arm®																	NANO 1190
Intel Atom®	2 x Tx/Rx	1					1	*	V						2		VTC 1910-S
	2 x Tx/Rx	1					1	*	V				O	O	2	IP67	VTC 1911-IPK
	1 x Full, S				S	S	1		V						2		VTC 1000-R2
	1 x Full, S				S	S	1					V			2		VTC 1000-R2LV
	2 x Full			1			1	*	V	V					4		VTC 1010
	2 x Full, 1 x Tx/Rx						1	*	V			O	V		2		VTC 1011-C2K
	2 x Full, 1 x Tx/Rx						1	*	V	V			V		2		VTC 1011-C2VK
	5 x Tx/Rx	2					1	*	V				V		2		VTC 1020
	5 x Tx/Rx	2					1	*	V			V	V		2		VTC 1020-PA
	1 x Full, 1 x Tx/Rx			1			1	*	V				V		3		VTC 1021
	4 x Full	1							V			V			2		VTC 6200
	2 x Full	1							V			V			2		VTC 6200-NI
	2 x Full	1							V			V			2		VTC 6201
	2 x Full			1			1	*	V	V					4		VTC 6210-BK
2 x Full			1			1	*	V	V					4		VTC 6210-VR4	
2 x Full			1			1	*	V	O	O	V		1+1xO	2+1xO		VTC 6220-C2K	
2 x Full			1			1	*	V			V			3		MVS 2623-C8SK	
2 x Full			1			1	*	V			V		1	4		MVS 2623-C6SMK	
2 x Full, 1 x Tx/Rx	2					1 (Isolation)	*	V						4	V	MVS 2620-IPK	
Intel Celeron®	1 x Full			1			*	*	V			V			2		VTC 7120-BK
1 x Full			1			*	*	V			V			2		VTC 7120-C4SK	
Intel Core™	1 x Full			1			*	*	V			V			2		VTC 7110-BK
	1 x Full			1			*	*	V			V			2		VTC 7110-C4SK
	2 x Full			1			1	*	V	V		V			4		VTC 7200
	2 x Full			1			1	*	V	V		V			4		VTC 7210
	2 x Full			1			1	*	V	V		V			4		VTC 7220
	2 x Full			1			1	*	V	V		V			4		VTC 7230
	2 x Full			1			1	*	V	V		V			4		VTC 7240
	N/A			2			1	*	V			V			3		MVS 5200-BK
	N/A			2			1	*	V			V			3		MVS 5210-BK
	2 x Full			1			1	*	V			V			3		MVS 5603-xC8SK
	2 x Full			1			1	*	V			V		1	4		MVS 5603-xC6SMK
	2 x Full			1			1	*	V			V			3		MVS 5600-xBK
	2 x Full, 1 x Tx/Rx	2					1 (Isolation)	*	V						4	V	MVS 5600-xIPK

*: Optional module available O: Optional S: Selectable

Train Computer

Power Input (M12)	# of PoE	Ethernet		CPU			Audio (M12)	USB (M12)	Model	
		10/100 (M12)	10/100/1000 (M12)	Arm®	Intel Atom®	Intel Core™				
24V	With Isolation		3		V		V	V	nROK 3000	
		8		2		V		V	nROK 5300	
		8		2		V		V	nROK 5500	
	None			1	V				VTC 7220-RA	
				1	V		V		NANO 1190-RA	
				2	V			V	nROK 1020-A	
36V	With Isolation			2		V		V	VTC 6210-RA	
		8		2		V		V	MVS 5210-RA	
		8		2		V		V	nROK 5300	
	None			2		V		V	nROK 5500	
				2		V		V	VTC 7220-RB	
				2	V			V	VTC 6210-RA (Compliant)	
48V	With Isolation			2		V		V	VTC 7220-RC (Compliant)	
72V	With Isolation			2		V		V	nROK 5300	
		8		2		V		V	nROK 5500	
110V	With Isolation		3		V		V	V	nROK 3000	
		8		2		V		V	nROK 5300	
		8		2		V		V	nROK 5500	
				2	V			V	VTC 6210-RF	
				2		V			V	VTC 7220-RF
		8		2		V		V		MVS 5210-RF

Vehicle Mount Computer

LCD Size	CPU			Touch Screen	COM					IP Protection			Model	
	Arm®	Intel Atom®	Intel Core™		RS232	RS422	RS485	RS232/422/485	RS422/485	RS232/485	Front Panel IP54	Front Panel IP65		IP65 (Enclosure)
7"	V			V	1 x Full					1	V			VMC 110
	V			V	2 x Full				1		V			VMC 1000
	V			V	1 x Full, S		S				V			VMC 1100
10.4"	V			V	2 x Full							V		VMC 3000
	V			V	1 x Full							V		VMC 3001
	V			V	1 x Full							V		VMC 3011
	V			V	2 x Full, 1 x Tx/Rx							V		VMC 3020
	V			V				2				V		VMC3021-4A1
			V	V	2 x Full							V		VMC 3500
			V	V	1 x Full							V		VMC 3501
12.1"			V	V	1 x Full							V		VMC 3511
			V	V	1 x Full, 1 x Tx/Rx			1				V		VMC 4011-K
			V	V				2				V		VMC 4020-4A1
			V	V				2				V		VMC 4020-4A0
		V	V	1 x Full, 1 x Tx/Rx			1				V		V	VMC 4511-K

S: Selectable

Vehicle Mount Display

LCD Size	Video Input				Touch Screen		Brightness			Touch Interface	Model
	VGA	LVDS	CVBS	ultraONE+	Resistive Touch	PCAP	500 cd/m ² (Typ.)	1000 cd/m ² (Typ.)	1200 cd/m ² (Typ.)		
7"		V			V		V			V	VMD 1000
	V				V		V			V	VMD 1001
8"		V			V			V		V	VMD 2000
	V				V			V		V	VMD 2002
			4	V	V			V		V	VMD 2003
10.4"	V		4			V			V	V	VMD 3002
			4	V	V			V		V	VMD 3110





PoE

PoE No.	Power Output			Ethernet		CPU				Storage				Model
	30W	60W	120W	1	2	Arm®	Intel Atom®	Intel® Core™	Intel Celeron®	1	2	3	4	
1	O			V			V				V			VMC 3021-4A1
	O			V			V				V			VMC 4020-4A1
	O			V			V				V			VMC 4020-4A0
2	V						V				V			VTC 1011
		V			V		V				V			VTC 1021-C2K
	V			V			V				V			VTC 6220-C2K
4		V			V			V				V		VTC 7110-C4SK
		V			V				V			V		VTC 7120-C4SK
		V		V										VES 30-4S
		V		V		V				V				NANO 1190
		V		V		V				V				NANO 1190-RA
6		V			V		V					V		MVS 5603-xC6SMK
		V			V		V				V			MVS 2623-C6SMK
8		V			V		V						V	nROK 5300
		V			V		V						V	nROK 5500
		V			V		V						V	MVS 5210-R
			V	V										VES 30-8S
		V			V		V						V	MVS 5200
		V			V		V						V	MVS 5210
		V			V		V					V		MVS 5603-xC8SK





O: Optional



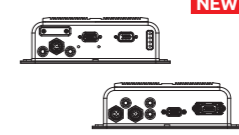

Product Selection Tables

Vehicle Telematics Computer





Model				
	VTC 1000-R2	VTC 1000-R2LV	VTC 1011-C2K	VTC 1011-C2VK
CPU	Intel Atom® E640	Intel Atom® E640	Intel Atom® E3825	Intel Atom® E3825
Chipset	Intel® PCH EG20T	Intel® PCH EG20T	N/A	N/A
Memory	1GB DDR2 memory on board Optional: 2GB	1GB DDR2 memory on board Optional: 2GB	2GB DDR3L SO-DIMM (default) up to 8GB	2GB DDR3L SO-DIMM (default) up to 8GB
Storage	1 x 2.5" SATA 2.0 SSD (9.5mm)	1 x 2.5" SATA 2.0 SSD (9.5mm)	1 x 2.5" SATA 3.0 SSD (9.5mm)	1 x 2.5" SATA 3.0 SSD (9.5mm)
Second Storage	N/A	N/A	1 x mSATA	1 x mSATA
Dimensions (mm)	185 x 120 x 40	185 x 120 x 40	185 x 150.9 x 45	185 x 150.9 x 45
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	1	1	1	1
USB	2 x USB 2.0	2 x USB 2.0	2 x USB 2.0	2 x USB 2.0
COM	1 x RS232 1 x RS232 or RS422/485	1 x RS232 1 x RS232 or RS422/485	2 x RS232, 1 x RS232 (Tx/Rx) or RS422/485	2 x RS232, 1 x RS232 (Tx/Rx) or RS422/485
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board.
Video Out	VGA	LVDS	HDMI, VGA	VGA, HDMI or ultraONE+
PCI-104	N/A	N/A	N/A	N/A
Ethernet	1 x RTL8211CL-GR 10/100/1000	1 x RTL8211CL-GR 10/100/1000	2 x Intel® 10/100/1000 (exclusion with PoE)	2 x Intel® 10/100/1000 (exclusion with PoE)
PoE	N/A	N/A	2 x (802.3af/at). Total 30W	2 x (802.3af/at). Total 30W
Audio	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out
mini-PCIe Socket	1 x (PCIe+USB), 1 x USB	1 x (PCIe+USB), 1 x USB	1 x (PCIe+USB+mSATA), 1 x USB 2.0	1 x (PCIe+USB+mSATA), 1 x USB 2.0
SMBus	1	1	1	1
DC Output	5V (1A), 12V (1A)	5V (1A), 12V (1A)	12V (2A)	12V (2A)
GPIO	4 x In, 4 x Out	4 x In, 4 x Out	4 x In, 4 x Out	4 x In, 4 x Out
Ingress Protection	N/A	N/A	N/A	N/A
Back Up Battery	N/A	N/A	N/A	N/A
Certification	CE, FCC Class B, e13	CE, FCC Class B, e13	CE, FCC Class A, E13	CE, FCC Class A, E13
OS	Win XP, Win 7, Linux	Win XP, Win 7, Linux	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)
Operating Temperature	-20°C to 70°C	-20°C to 70°C	-40°C to 70°C (LAN mode) -40°C to 60°C (PoE mode)	-40°C to 70°C (LAN mode) -40°C to 60°C (PoE mode)

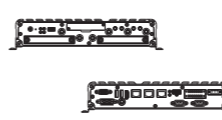



Vehicle Telematics Computer

Model				
	VTC 1020	VTC 1020-PA	VTC 1010	VTC1021-BK
CPU	Intel Atom® x5-E3930	Intel Atom® x5-E3930	Intel Atom® E3827	Intel Atom® x5-E3940
Chipset	N/A	N/A	N/A	N/A
Memory	2GB DDR3L SO-DIMM (default) up to 8GB	2GB DDR3L SO-DIMM (default) up to 8GB	2GB DDR3L 1066/1333 SO-DIMM (default) up to 8GB	2GB DDR3L SO-DIMM (default) up to 8GB
Storage	1 x 2.5" SATA 3.0 SSD (9.5mm)	1 x 2.5" SATA 3.0 SSD (15mm)	1 x 2.5" SATA 2.0 SSD (9.5mm)	1 x 2.5" SATA 3.0 SSD (9.5mm)
Second Storage	1 x mSATA	1 x mSATA	1 x SD (external accessible)	1 x mSATA
Dimensions (mm)	185 x 120 x 45	185 x 120 x 50	180 x 180 x 50	180 x 180 x 50
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	On board u-blox NEO-M8N
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	1	1	2	2
USB	2 x USB 3.0	2 x USB 3.0	1 x USB 3.0 2 x USB 2.0	1 x USB 3.0, 2 x USB 2.0
COM	5 x RS232 (Tx/Rx) 2 x RS485	5 x RS232 (Tx/Rx) 2 x RS485	2 x RS232 1 x RS422/485	1 x RS232 (Full), 1 x RS232 (Tx/Rx), 1 x RS422/485
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	HDMI, VGA	VGA, HDMI or LVDS	DP, VGA	HDMI, VGA
PCI-104	N/A	N/A	N/A	N/A
Ethernet	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	N/A	N/A	N/A	N/A
Audio	1 x Mic-in, 1 x Line-out	1 x Mic-in, 3 x Line-out (selectable)	2 x Mic-in, 2 x Line-out	1 x Mic-in, 1 x Line-out
mini-PCIe Socket	1 x (PCIe+USB+mSATA), 1 x USB	1 x (PCIe+USB+mSATA), 1 x USB	2 x (PCIe+USB), 1 x (PCIe or mSATA), 1 x USB	1 x (PCIe+USB+mSATA), 1 x (PCIe+USB), 1 x USB 2.0
SMBus	1	1	N/A	1
DC Output	12V (2A)	12V (2A)	12V (1A)	12V (2A)
GPIO	5 x Programmable GPIO	5 x Programmable GPIO	6 x Programmable GPIO	3 x In, 3 x Out
Ingress Protection	N/A	N/A	N/A	N/A
Back Up Battery	N/A	N/A	N/A	Internal (option)
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class B, E13	CE, FCC Class A, E13
OS	Win 10 64-bit, Linux YOCTO (by request)	Win 10 64-bit, Linux YOCTO (by request)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10 64-bit, Linux YOCTO (by request)
Operating Temperature	-40°C to 70°C	-40°C to 70°C	-30°C to 70°C	-40°C to 70°C





Model				
	VTC1021-C2K	VTC 1910-S	VTC 1911-IPK	VTC 6200
CPU	Intel Atom® x5-E3940	Intel Atom® E3815	Intel Atom® E3815	Intel Atom® D510
Chipset	N/A	N/A	N/A	Intel® ICH8M
Memory	2GB DDR3L SO-DIMM (default) up to 8GB	2GB DDR3L SO-DIMM (default) up to 8GB	2GB DDR3L SO-DIMM (default) up to 8GB	1GB DDR2 667/800 SO-DIMM (default) up to 2GB
Storage	1 x 2.5" SATA 3.0 SSD (9.5mm)	1 x SATA 2.0 mSATA	1 x SATA 2.0 mSATA	1 x 2.5" SATA 2.0 SSD/HDD (9.5mm)
Second Storage	1 x mSATA	1 x SATA DOM	1 x 2.5" SSD (9.5mm) or 1 x SATA DOM	1 x SATA DOM
Dimensions (mm)	180 x 180 x 50	130 x 120 x 35	182 x 167 x 56.5	260 x 176 x 70
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 60V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Battery deep discharge protection
GPS	On board u-blox NEO-M8N	On board u-blox NEO-M8N	On board u-blox NEO-M8N	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes, (w/ VIOB-DA-01)	Yes	Yes
SIM Socket	2	2	2	1
USB	1 x USB 3.0, 2 x USB 2.0	1 x USB 3.0, 1 x USB 2.0	1 x USB 2.0	4 x USB 2.0
COM	1 x RS232 (Full), 1 x RS232 (Tx/Rx), 1 x RS422/485	2 x RS232 1 x RS485	2 x RS232 1 x RS485	2 x RS232 (w/ isolation), 1 x RS485 (w/ isolation), 2 x RS232
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. BOM option OBD SAE J1939	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	N/A
Video Out	HDMI, VGA	VGA	VGA. Optional HDMI	LVDS, 2 x VGA (clone mode)
PCI-104	N/A	N/A	N/A	1
Ethernet	2 x Intel® 10/100/1000	1 x Intel® 10/100/1000	2 x Intel® 10/100/1000	1 x RTL8111C-VC-GR 10/100/1000
PoE	2 x (802.3af/at). Total 60W	N/A	N/A	N/A
Audio	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	2 x Mic-in, 2 x Line-out
mini-PCIe Socket	1 x (PCIe+USB+mSATA), 1 x (PCIe+USB), 1 x USB 2.0	1 x (PCIe+mSATA), 1 x USB	1 x (PCIe+USB+mSATA), 1 x USB	1 x (PCIe+USB), 1 x USB
SMBus	1	N/A	N/A	1
DC Output	12V (2A)	N/A	N/A	5V (1A), 12V (1A)
GPIO	3 x In, 3 x Out	3 x In, 3 x Out	3 x In, 3 x Out	4 x In, 4 x Out (w/ isolation)
Ingress Protection	N/A	N/A	IP67	N/A
Back Up Battery	N/A	N/A	N/A	N/A
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class B, e13
OS	Win 10 64-bit, Linux YOCTO (by request)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win XP, Win 7, Linux (kernel 2.6)
Operating Temperature	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C	-30°C to 50°C

Vehicle Telematics Computer



Model				
	VTC 6200-NI	VTC 6201	VTC 6210-BK	VTC 6210-VR4
CPU	Intel Atom® D510	Intel Atom® D510	Intel Atom® E3845	Intel Atom® E3845
Chipset	Intel® ICH8M	Intel® ICH8M	N/A	N/A
Memory	1GB DDR2 667/800 SO-DIMM (default) up to 2GB	1GB DDR2 667/800 SO-DIMM (default) up to 2GB	2GB DDR3L 1066/1333 SO-DIMM (default) up to 8GB	2GB DDR3L 1066/1333 SO-DIMM (default) up to 8GB
Storage	1 x 2.5" SATA 2.0 SSD/HDD (9.5mm)	1 x 2.5" SATA 2.0 SSD (9.5mm)	1 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)
Second Storage	1 x SATA DOM	1 x SATA DOM	1 x CFast (external accessible)	1 x CFast (external accessible)
Dimensions (mm)	260 x 176 x 50	260 x 176 x 50	260 x 176 x 50	260 x 176 x 50
Power Input	DC 9V to 60V	DC 9V to 60V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Battery deep discharge protection	Battery deep discharge protection	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	1	1	3	3
USB	4 x USB 2.0	4 x USB 2.0	1 x USB 3.0, 2 x USB 2.0	1 x USB 3.0, 2 x USB 2.0
COM	2 x RS232 1 x RS485	2 x RS232 1 x RS485	2 x RS232 1 x RS422/485	2 x RS232 1 x RS422/485
CAN/OBDII	N/A	N/A	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	LVDS, 2 x VGA (clone mode)	LVDS, 2 x VGA (clone mode)	DP, VGA	DP, VGA, 4 x (Video-in + Audio-in)
PCI-104	1	1	N/A	N/A
Ethernet	1 x RTL8111C-VC-GR 10/100/1000	3 x RTL8111C-VC-GR 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	N/A	N/A	N/A	N/A
Audio	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out
mini-PCIe Socket	1 x (PCIe+USB), 1 x USB	1 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB
SMBus	1	1	1	1
DC Output	5V (1A), 12V (1A)	5V (1A), 12V (1A)	12V (2A)	12V (2A)
GPIO	4 x In, 4 x Out (w/ isolation)	4 x In, 4 x Out	8 x Programmable PC GPIO 2 x MCU-DI, 2 x MCU-DO	8 x Programmable PC GPIO 2 x MCU-DI, 2 x MCU-DO
Ingress Protection	N/A	N/A	N/A	N/A
Back Up Battery	N/A	N/A	N/A	N/A
Certification	CE, FCC Class B, e13	CE, FCC Class B, e13	CE, FCC Class B, E13	CE, FCC Class B, E13
OS	Win XP, Win 7, Linux (kernel 2.6)	Win XP, Win 7, Linux (kernel 2.6)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)
Operating Temperature	-30°C to 50°C	-30°C to 50°C	-30°C to 70°C	-30°C to 70°C

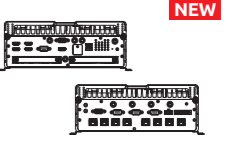
Model				
	VTC 6220-C2K	VTC 7110-BK	VTC 7110-C4SK	VTC 7120-BK
CPU	Intel Atom® x7-E3950	Intel® Core™ i7 2610UE	Intel® Core™ i7 2610UE	Intel® Celeron® 847E
Chipset	N/A	Intel® QM67	Intel® QM67	Intel® QM67
Memory	2GB DDR3L SO-DIMM (default) up to 8GB	2GB DDR3 1333 SO-DIMM (default) up to 8GB	2GB DDR3 1333 SO-DIMM (default) up to 8GB	2GB DDR3 1333 SO-DIMM (default) up to 8GB
Storage	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)	1 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)
Second Storage	N/A	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)
Dimensions (mm)	260 x 196 x 50	260 x 176 x 66.5	260 x 176 x 90.1	260 x 176 x 66.5
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	On board u-blox NEO-6Q	On board u-blox NEO-6Q	On board u-blox NEO-6Q
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	4	2	2	2
USB	2 x USB 3.0, 1 x USB 2.0	3 x USB 2.0	3 x USB 2.0	3 x USB 2.0
COM	2 x RS232 1 x RS422/485	1 x RS232 1 x RS422/485	1 x RS232 1 x RS422/485	1 x RS232 1 x RS422/485
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	Optional OBD SAE J1939/J1708 module	Optional OBD SAE J1939/J1708 module	Optional OBD SAE J1939/J1708 module
Video Out	HDMI, VGA, LVDS (option), ultraONE+ (option)	LVDS, VGA	LVDS, VGA	LVDS, VGA
PCI-104	N/A	1	1	1
Ethernet	1 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	2 x (802.3af/at). Total 30W	N/A	4 x (802.3af). Total 60W	N/A
Audio	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out
mini-PCIe Socket	2 x (PCIe+USB), 2 x USB 2.0	1 x (PCIe+USB), 1 x USB	1 x (PCIe+USB), 1 x USB	1 x (PCIe+USB), 1 x USB
SMBus	1	1	1	1
DC Output	12V (2A)	12V (4A)	12V (4A)	12V (4A)
GPIO	4 x In, 4 x Out	4 x In, 4 x Out	4 x In, 4 x Out	4 x In, 4 x Out
Ingress Protection	N/A	N/A	N/A	N/A
Back Up Battery	Internal (option)	N/A	N/A	N/A
Certification	CE, FCC Class A, E13	CE, FCC Class A, e13	CE, FCC Class A, e13	CE, FCC Class A, e13
OS	Win 10 64-bit, Linux YOCTO (by request)	WES 7, Win 7, Win 8, WES 8, Win XP, Linux	WES 7, Win 7, Win 8, WES 8, Win XP, Linux	WES 7, Win 7, Win 8, WES 8, Win XP, Linux
Operating Temperature	-40°C to 70°C	-30°C to 50°C	-30°C to 50°C	-30°C to 50°C

Vehicle Telematics Computer





Model				
	VTC 7120-C4SK	VTC 7200	VTC 7210	VTC 7220
CPU	Intel® Celeron® 847E	Intel® Core™ i3-4010U	Intel® Core™ i5-4300U	Intel® Core™ i7-4650U
Chipset	Intel® QM67	N/A	N/A	N/A
Memory	2GB DDR3 1333 SO-DIMM (default) up to 8GB"	2 x DDR3L 1333/1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1333/1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1333/1600 SO-DIMM, 2GB (default) up to 16GB
Storage	2 x 2.5" SATA 2.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)"	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)
Second Storage	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)
Dimensions (mm)	260 x 176 x 90.1	260 x 206 x 79.5	260 x 206 x 79.5	260 x 206 x 79.5
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	On board u-blox NEO-6Q	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	2	3	3	3
USB	3 x USB 2.0	2 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0
COM	1 x RS232 1 x RS422/485	2 x RS232 1 x RS232/422/485	2 x RS232 1 x RS232/422/485	2 x RS232 1 x RS232/422/485
CAN/OBDII	Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	LVDS, VGA	DP, VGA, LVDS (internal)	DP, VGA, LVDS (internal)	DP, VGA, LVDS (internal)
PCI-104	1	N/A	N/A	N/A
Ethernet	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	4 x (802.3af). Total 60W	N/A	N/A	N/A
Audio	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out
mini-PCIe Socket	1 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB
SMBus	1	1	1	1
DC Output	12V (4A)	12V (2A)	12V (2A)	12V (2A)
GPIO	4 x In, 4 x Out	MCU: 2 x DI, 2 x DO 4 x In, 4 x Out	4 x In, 4 x Out	4 x In, 4 x Out
Ingress Protection	N/A	N/A	N/A	N/A
Back Up Battery	N/A	N/A	N/A	N/A
Certification	CE, FCC Class A, e13	CE, FCC Class B, E13	CE, FCC Class B, E13	CE, FCC Class B, E13
OS	WES 7, Win 7, Win 8, WES 8, Win XP, Linux	Win 10, Win 8, WES 8, Win 7, WES 7, Win XP, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Win XP, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Win XP, Linux (kernel 3.x)
Operating Temperature	-30°C to 50°C	-30°C to 55°C	-30°C to 55°C	-30°C to 55°C





ATC

Model		
	VTC 7230	VTC 7240
CPU	Intel® Core™ i3-5010U	Intel® Core™ i7-5650U
Chipset	N/A	N/A
Memory	2 x DDR3L 1333/1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1333/1600 SO-DIMM, 2GB (default) up to 16GB
Storage	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 9.5mm)
Second Storage	1 x CFast (external accessible)	1 x CFast (external accessible)
Dimensions (mm)	260 x 206 x 79.5	260 x 206 x 79.5
Power Input	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes
SIM Socket	3	3
USB	2 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0
COM	2 x RS232 1 x RS232/422/485	2 x RS232 1 x RS232/422/485
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	DP, VGA, LVDS (internal)	DP, VGA, LVDS (internal)
PCI-104	N/A	N/A
Ethernet	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	N/A	N/A
Audio	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out
mini-PCIe Socket	3 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB
SMBus	1	1
DC Output	12V (2A)	12V (2A)
GPIO	4 x In, 4 x Out,	4 x In, 4 x Out
Ingress Protection	N/A	N/A
Back Up Battery	N/A	N/A
Certification	CE, FCC Class B, E13	CE, FCC Class B, E13
OS	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)
Operating Temperature	-30°C to 55°C	-30°C to 55°C





Model	
	ATC 8010
CPU	8th Gen. Intel® Core™ i7 Processor
Chipset	Intel® chipset
Memory	2 x DDR4 2400 SO-DIMM, 4GB (default), up to 16GB/SO-DIMM
Storage	2 x 2.5" SATA 3.0 SSD/HDD (removable)
Second Storage	2 x mSATA
Graphic	NVIDIA GTX 1050 (default), MXM
Dimensions (mm) (WxLxH)	260 x 256 x 99
Power Input	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN
Voice	Yes
SIM Socket	4
USB	2 x USB 3.0
COM	2 x RS232 1 x RS232/422/485
CAN/OBDII	1 x Isolated CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	1 x VGA, 5 x HDMI, 1 x ultraONE+
PoE	7 x Intel® 10/100/1000 + 1 x Intel® 10G (w/ 802.3at/af). Total 60W
Audio	1 x Mic-in, 1 x Line-out
mini-PCIe Socket	1 x (PCIe+USB+SATA), 1 x (PCIe+USB+SATA) or optional M.2 Key B, 1 x (PCIe+USB)
M.2	1 x M.2 Key B
DC Output	12V (2A)
GPIO	4 x In, 4 x Out
Certification	CE, FCC Class A, E13
OS	Win 10, Linux
Operating Temperature	-20°C to 60°C

Modular Vehicle Computer System



Model	 NEW	 NEW	 NEW	
	MVS 2620-IPK	MVS 2623-C6SMK	MVS 2623-C8SK	MVS 5200 (w/ VMS SW)
CPU	Intel Atom® x7-E3950, 4C 2.0GHz	Intel Atom® x7-E3950, 4C 2.0GHz	Intel Atom® x7-E3950, 4C 2.0GHz	Intel® Core™ i3-5010U
Chipset	N/A	N/A	N/A	N/A
Memory	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	1 x DDR3L 1600 SO-DIMM, 2GB (default) up to 8GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB
Storage	1 x 2.5" SATA 3.0 SSD/HDD	2 x 2.5" SATA 3.0 SSD/HDD (removable)	2 x 2.5" SATA 3.0 SSD/HDD (removable)	2 x 2.5" SATA 3.0 SSD/HDD (removable, 15mm), 1 x mSATA
Second Storage	1 x CFast (external accessible)	N/A	N/A	1 x CFast (external accessible)
Dimensions (mm)	260 x 198 x 50	260 x 196 x 79.6	260 x 196 x 79.6	260 x 206 x 137
Power Input	DC 9V to 36V	DC 9V to 36V (w/ optional internal back up battery)	DC 9V to 36V (w/ optional internal back up battery)	DC 9V to 36V (w/ optional internal back up battery)
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	3	5	3	3
USB	3 x USB 2.0	2 x USB 3.0, 1 x USB 2.0	2 x USB 3.0, 1 x USB 2.0	2 x USB 3.0, 2 x USB 2.0
COM	3 x RS232, 2 x RS485	2 x RS232, 1 x RS232/422/485	2 x RS232, 1 x RS232/422/485	2 x RS232/422/485
CAN/OBDII	Isolated CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	VGA	VGA, HDMI	VGA, HDMI	1 x PC VGA, 1 x NVR VGA, 1 x LVDS
Ethernet	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	N/A	6 x M12 (802.3af/at). Total 60W	8 x (802.3af). Total 60W	8 x (802.3af). Total 60W
Audio	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out
mini-PCIe Socket	2 x (PCIe+USB 2.0), 1 x USB 3.0/2.0, 1 x USB 2.0	2 x (PCIe+USB), 2 x USB	2 x (PCIe+USB), 1 x USB	1 x (PCIe+USB), 1 x USB, 1 x mSATA
M.2	N/A	1 x M.2 (3042)	N/A	N/A
SMBus	N/A	1	1	1
DC Output	12V (2A)	12V (2A)	12V (2A)	12V (2A)
GPIO	3 x DO, 3 x DI(w/ isolation)	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	PC: 4 x DI, 4 x DO MCU: 2 x DI, 2 x DO, 1 x Analog-In, 1 x Speed frequency
Ingress Protection	IP65	N/A	N/A	N/A
Back Up Battery	N/A	Internal (option)	Internal (option)	N/A
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class B, E13
OS	Win 10 64-bit, Linux YOCTO (by request)	Win 10 64-bit, Linux YOCTO (by request)	Win 10 64-bit, Linux YOCTO (by request)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)
Operating Temperature	-40°C to 70°C	-40°C to 70°C (w/o internal back up battery)	-40°C to 70°C (w/o internal back up battery)	-30°C to 50°C (w/o internal back up battery)



	 NEW	 NEW	 NEW
MVS 5210 (w/ VMS SW)	MVS 5600-3BK	MVS 5600-7BK	MVS 5600-3IPK
Intel® Core™ i7-5650U	Intel® Core™ i3-6100U	Intel® Core™ i7-6600U	Intel® Core™ i3-6100U
N/A	N/A	N/A	N/A
2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB*	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB
2 x 2.5" SATA 3.0 SSD/HDD (removable, 15mm), 1 x mSATA	1 x 2.5" SATA 3.0 SSD/HDD (removable)	2 x 2.5" SATA 3.0 SSD/HDD (removable)	1 x 2.5" SATA 3.0 SSD/HDD
1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)
260 x 206 x 137	260 x 196 x 66.5	260 x 196 x 66.5	260 x 198 x 66.5
DC 9V to 36V (w/ optional internal back up battery)	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Yes	Yes	Yes	Yes
3	3	3	3
2 x USB 3.0, 2 x USB 2.0	4 x USB 3.0	4 x USB 3.0	1 x USB 3.0, 2 x USB 2.0
2 x RS232/422/485	2 x RS232, 1 x RS232/422/485	2 x RS232, 1 x RS232/422/485	3 x RS232, 2 x RS485
CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	Isolated CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
1 x PC VGA, 1 x NVR VGA, 1 x LVDS	VGA, HDMI	VGA, HDMI	VGA
2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
8 x (802.3af). Total 60W	N/A	N/A	N/A
1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out
1 x (PCIe+USB), 1 x USB, 1 x mSATA	2 x (PCIe+USB), 1 x USB	2 x (PCIe+USB), 1 x USB	2 x (PCIe+USB 2.0), 1 x USB 3.0/2.0, 1 x USB 2.0
N/A	N/A	N/A	N/A
1	1	1	N/A
12V (2A)	12V (2A)	12V (2A)	12V (2A)
PC: 4 x DI, 4 x DO MCU: 2 x DI, 2 x DO, 1 x Analog-In, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	3 x DO, 3 x DI (w/ isolation)
N/A	N/A	N/A	IP65
N/A	Internal (option)	Internal (option)	N/A
CE, FCC Class B, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13
Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)
-30°C to 50°C (w/o internal back up battery)	-30°C to 60°C (w/o internal back up battery)	-30°C to 60°C (w/o internal back up battery)	-30°C to 60°C

Modular Vehicle Computer System





Model	 NEW	 NEW	 NEW	
	MVS 5600-71PK	MVS 5603-3C6SMK	MVS 5603-7C6SMK	MVS 5603-3C8SK
CPU	Intel® Core™ i7-6600U	Intel® Core™ i3-6100U	Intel® Core™ i7-6600U	Intel® Core™ i3-6100U
Chipset	N/A	N/A	N/A	N/A
Memory	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB
Storage	1 x 2.5" SATA 3.0 SSD/HDD	2 x 2.5" SATA 3.0 SSD/HDD (removable)	2 x 2.5" SATA 3.0 SSD/HDD (removable)	1 x 2.5" SATA 3.0 SSD/HDD (removable)
Second Storage	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x CFast (external accessible)
Dimensions (mm)	260 x 198 x 66.5	260 x 196 x 91	260 x 196 x 91	260 x 196 x 91
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
Voice	Yes	Yes	Yes	Yes
SIM Socket	3	5	5	3
USB	1 x USB 3.0, 2 x USB 2.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0
COM	3 x RS232, 2 x RS485	2 x RS232, 1 x RS232/422/485	2 x RS232, 1 x RS232/422/485	2 x RS232, 1 x RS232/422/485
CAN/OBDII	Isolated CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module
Video Out	VGA	VGA, HDMI	VGA, HDMI	VGA, HDMI
Ethernet	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
PoE	N/A	6 x M12 (802.3af/at). Total 60W	6 x M12 (802.3af/at). Total 60W	8 x (802.3af). Total 60W
Audio	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out	1 x Mic-in, 2 x Line-out
mini-PCIe Socket	2 x (PCIe+USB 2.0), 1 x USB 3.0/2.0, 1 x USB 2.0	2 x (PCIe+USB), 2 x USB	2 x (PCIe+USB), 2 x USB	2 x (PCIe+USB), 1 x USB
M.2	N/A	1 x M.2 (3042)	1 x M.2 (3042)	N/A
SMBus	N/A	1	1	1
DC Output	12V (2A)	12V (2A)	12V (2A)	12V (2A)
GPIO	3 x DO, 3 x DI (w/ isolation)	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency
Ingress Protection	IP65	N/A	N/A	N/A
Back Up Battery	N/A	Internal (option)	Internal (option)	Internal (option)
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13	CE, FCC Class A, E13
OS	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)
Operating Temperature	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C



Vehicle Network Switch

Model		
	MVS 5603-7C8SK	NANO 1190 (w/ VMS SW)
CPU	Intel® Core™ i7-6600U	Arm® Cortex®-A9
Chipset	N/A	N/A
Memory	2 x DDR3L 1600 SO-DIMM, 2GB (default) up to 16GB	1GB DDR3L
Storage	2 x 2.5" SATA 3.0 SSD/HDD (removable)	1 x 2.5" SATA 2.0 SSD (removable, 9.5mm)
Second Storage	1 x CFast (external accessible)	N/A
Dimensions (mm)	260 x 196 x 91	165 x 137.6 x 82.5
Power Input	DC 9V to 36V	DC 9V to 36V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	Optional VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	N/A
Voice	Yes	N/A
SIM Socket	3	N/A
USB	4 x USB 3.0	2 x USB 2.0
COM	2 x RS232, 1 x RS232/422/485	N/A
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	N/A
Video Out	VGA, HDMI	VGA
Ethernet	2 x Intel® 10/100/1000	1 x Intel® 10/100/1000
PoE	8 x (802.3af). Total 60W	4 x (802.3af/at). Total 60W
Audio	1 x Mic-in, 2 x Line-out	1 x Line-out
mini-PCIe Socket	2 x (PCIe+USB), 1 x USB	N/A
M.2	N/A	N/A
SMBus	1	N/A
DC Output	12V (2A)	N/A
GPIO	8 x Programmable DIO MCU: 2 x DI, 2 x DO, 1 x Speed frequency	N/A
Ingress Protection	N/A	N/A
Back Up Battery	Internal (option)	N/A
Certification	CE, FCC Class A, E13	CE, FCC Class A, E13
OS	Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Linux (cannot install extra SW)
Operating Temperature	-30°C to 60°C	-40°C to 70°C




Model		
	VES30-4S	VES30-8S
Architecture	Unmanaged GbE switch	Unmanaged GbE switch
PoE	4 x 10/100/1000 base-T	8 x 10/100/1000 base-T
Ethernet	1 x Intel® 10/100/1000 base-T	1 x Intel® 10/100/1000 base-T
Standard Compliance	IEEE 802.3af PSE, Total 60W	IEEE 802.3af PSE, Total 120W
LED	4 x PoE indicator 1 x Low voltage protection indicator	8 x PoE indicator 1 x Low voltage protection indicator
Dimensions (mm)	167 x 58.8 x 139.6	167 x 58.8 x 139.6
Ignition Control	Yes	Yes
Power Management	Low voltage protection & power on/off delay time	Low voltage protection & power on/off delay time
Power Input	DC 9V to 36V	DC 9V to 36V
Certification	CE, FCC Class B, E13	CE, FCC Class B, E13
Operating Temperature	-30°C to 70°C	-30°C to 70°C





Vehicle Mount Computer

Model				
	VMC 110/111	VMC 1000	VMC 1100	VMC 3020
LCD Size	7" TFT LCD	7" TFT LCD	7" TFT LCD	10.4" TFT LCD
Resolution	1024 x 600	800 x 480	800 x 480	1024 x 768
Brightness (Typ.)	500cd/m ²	500cd/m ²	400cd/m ²	1200cd/m ²
Contrast Ratio	800:1	600:1	600:1	500:1
View Angle	V: 70/75 H: 75/75	V: 60/60 H: 70/70	V: 50/70 H: 70/70	V: 60/60 H: 70/70
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
Speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
Touch Screen	4-wire resistive, anti-glare	4-wire resistive, anti-glare	4-wire resistive, anti-glare	5-wire resistive, anti-glare
Video Input	N/A	N/A	N/A	N/A
PoE	N/A	N/A	N/A	N/A
Control Button	F1~ F5 function key 1 x Power button 2 x Brightness/volume control 3 x System reset button	1 x Display button 2 x Brightness/volume control 2 x System reset button	F1~ F5 function key 1 x Power button 2 x Brightness/volume control 2 x System reset button	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key
Mounting	VESA 75	VESA 75	VESA 75	VESA 75
Ingress Protection	Front panel IP54	Front panel IP54	Front panel IP54	Front Panel IP65
Dimensions (mm)	213 x 145 x 40	185.4 x 141.1 x 50.42	213 x 145 x 50	290 x 230 x 68
CPU	Freescale i.MX6 Dual Lite	Intel Atom® E640	Intel Atom® E3825	Intel Atom® E3930
Chipset	N/A	N/A	N/A	N/A
Memory	2GB DDR3L on board	1GB DDR2 on board	1 x DDR3L 1600 SO-DIMM 2GB (default) up to 4GB	DDR3L 1600 SO-DIMM slot 2GB (default) up to 8GB
Storage Interface	1 x EMMC 1 x Micro SD	1 x mSATA	1 x SATA DOM	1 x CFast 1 x 2.5" SSD bay, (9.5mm)
Power Input	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 60V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	On board u-blox NEO-M8N	On board u-blox NEO-6Q	On board u-blox NEO-M8N	Optional
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
USB	3 x USB 2.0	3 x USB 2.0	1 x USB 3.0	2 x USB 2.0 (5V/1.0A) 1 x Power USB (5V/1.5A, 12V/1.5A)
COM	1 x RS23 1 x RS232/RS485	2 x RS232 1 x RS422/485	1 x RS232, 1 x RS232 (Tx/Rx) or 1 x RS485	1 x Powered RS232 (5V/1.5A, 12V/1.5A)
CAN/OBDII	2 x CAN Bus 2.0B	1 x CAN Bus 2.0B	1 x CAN Bus 2.0B Optional OBDII	1 x Isolated CAN Bus 2.0B
Ethernet	2 x Intel® 10/100/1000	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000	1 x Intel® 10/100/1000
Audio	1 x Line-in, 1 x Line-out	1 x Line-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out
mini-PCIe Socket	1 x (PCIe+ USB), 1 x (USB+ UART)	1 x (PCIe+ USB+ SATA), 1 x USB	1 x (PCIe+ USB), 1 x (USB+ UART)	1 x (PCIe+ USB), 1 x (USB+ UART)
M.2	N/A	N/A	N/A	1 x M.2 Key E
GPIO	3 x GPO, 3 x GPI	3 x In, 3 x Out	2 x PWM, 2 x Analog input, 3 x In, 3 x Out	2 x In, 2 x Out
Back Up Battery	N/A	N/A	N/A	Internal (option)
Certification	CE, FCC Class B, E13, SAE J1113, SAE J1455, ISO7637-2	CE, FCC Class B, e13	CE, FCC Class B, E13, SAE J1113, SAE J1455, ISO7637-2	CE, FCC Class B, E13
OS	Android 5.1 & YOCTO	Win XP, Win 7, Linux (kernel 2.6)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10 64-bit, Linux YOCTO (by request)
Operating Temperature	-20°C to 70°C	-20°C to 50°C	-20°C to 60°C	-30°C to 60°C





Model					
	VMC 3021	VMC 3500	VMC 3501	VMC 4511-K	VMC 4020-4A0/4A1
LCD Size	10.4" TFT LCD	10.4" TFT LCD	10.4" TFT LCD	12.1" TFT LCD	12.1" TFT LCD
Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768
Brightness (Typ.)	1200cd/m ²	400cd/m ²	400cd/m ²	1300cd/m ²	1200cd/m ²
Contrast Ratio	500:1	600:1	600:1	600:1	750:1
View Angle	V: 60/60 H: 70/70	V: 60/60 H: 70/70	V: 60/60 H: 70/70	V: 60/60 H: 70/70	V: 85/85 H: 85/85
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
Speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
Touch Screen	5-wire resistive, anti-glare	5-wire resistive, anti-glare	5-wire resistive, anti-glare	5-wire resistive, anti-glare	5-wire resistive, anti-glare
Video Input	4 x CVBS	N/A	N/A	N/A	4 x CVBS
PoE	1 x (802.3af/at). Total 30W (option)	N/A	N/A	N/A	1 x (802.3af/at). Total 30W (option)
Control Button	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key	1 x Power button 2 x Brightness control 2 x Volume control 5 x Function key 1 x Shift key
Mounting	VESA 75	VESA 75/100	VESA 75/100	VESA 75/100	VESA 75
Ingress Protection	IP65	Front IP65	IP65	IP65	4A0: Front IP65/4A1: IP65
Dimensions (mm)	290 x 230 x 68	290 x 230 x 68	290 x 230 x 68	340 x 262 x 75.1	340 x 262 x 87
CPU	Intel Atom® E3950	Intel® Core™ i7 2610UE	Intel® Core™ i7 2610UE	Intel® Core™ i7 2610UE	Intel Atom® E3950
Chipset	N/A	Intel® QM67	Intel® QM67	Intel® ICH10R	N/A
Memory	DDR3L 1600 SO-DIMM slot 2GB (default) up to 8GB	DDR3 1333 SO-DIMM slot 2GB (default) up to 4GB	DDR3 1333 SO-DIMM slot 2GB (default) up to 4GB	1 x DDR3 1333 SO-DIMM 2GB (default) up to 4GB	1 x DDR3L 1600 SO-DIMM slot 2GB (default) up to 8GB
Storage Interface	1 x CFast 1 x 2.5" SSD bay, (9.5mm)	1 x CFast 1 x 2.5" SATA 2.0 SSD, (9.5mm)	1 x CFast 1 x 2.5" SATA 2.0 SSD, (9.5mm)	1 x CFast 1 x 2.5" SATA 2.0 SSD, (9.5mm)	1 x CFast 1 x 2.5" SSD bay, (9.5mm)
Power Input	DC 9V to 60V	DC 9V to 36V	DC 9V to 36V	DC 9V to 36V	DC 9V to 60V
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	On board u-blox NEO-6Q	On board u-blox NEO-6Q	On board u-blox NEO-M8N	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
USB	2 x USB 2.0	2 x USB 2.0	1 x USB 2.0	2 x USB 2.0	2 x USB 2.0
COM	1 x RS232/422/485 1 x RS232(Tx/Rx)/422/485	2 x RS232	1 x RS232	1 x RS232 (5/12V), 1 x RS232 (Tx/Rx), 1 x RS232/422/485	1 x RS232/422/485 + 4A0: 1 x RS232/422/485, 4A1: 1 x RS232(Tx/Rx)/422/485
CAN/OBDII	2 x Isolated CAN Bus 2.0B	1 x CAN bus 2.0B Optional OBDII	1 x CAN bus 2.0B Optional OBDII	1 x CAN Bus 2.0B Optional OBDII	2 x Isolated CAN Bus 2.0B
Ethernet	2 x Intel® 10/100/1000	1 x 10/100/1000	1 x 10/100/1000	2 x Intel® 10/100/1000	2 x Intel® 10/100/1000
Audio	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out	1 x Mic-in, 1 x Line-out
mini-PCIe Socket	3 x (PCIe+ USB), 1 x (USB)	1 x (PCIe+ USB+ SATA), 1 x USB	1 x (PCIe+ USB+ SATA), 1 x USB	1 x (PCIe+ USB+ SATA), 1 x USB	3 x (PCIe+ USB), 1 x (USB)
M.2	N/A	N/A	N/A	N/A	N/A
GPIO	2 x In, 2 x Out	3 x In, 3 x Out	3 x In, 3 x Out	2 x In, 2 x Out	4A0: 1 x In, 2 x Out 4A1: 2 x In, 2 x Out
Back Up Battery	Internal (option)	N/A	N/A	N/A	Internal (option)
Certification	CE, FCC Class B, E13	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B, E13
OS	Win 10 64-bit, Linux YOCTO (by request)	WES 7, Win 7, Win 8, WES 8, Win XP, Linux (kernel 3.x)	WES 7, Win 7, Win 8, WES 8, Win XP, Linux (kernel 3.x)	WES 7, Win 7, Win 8, WES 8, Win XP, Linux (kernel 3.x)	Win 10 64-bit, Linux YOCTO (by request)
Operating Temperature	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C	-30°C to 60°C





Vehicle Mount Display

Model			
	VMD 1000	VMD 1001	VMD 2000
LCD Size	7" TFT LCD	7" TFT LCD	8" TFT LCD
Resolution	800 x 480	800 x 480	800 x 600
Brightness (Typ.)	500cd/m ²	500cd/m ²	400cd/m ²
Contrast Ratio	600:1	600:1	500:1
View Angle	V: 60/60 H: 70/70	V: 60/60 H: 70/70	V: 50/70 H: 70/70
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor
Speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
Touch Screen	4-wire resistive, anti-glare	4-wire resistive, anti-glare	4-wire resistive, anti-glare
Camera	N/A	N/A	N/A
Control Button	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control
Mounting	VESA 75	VESA 75	VESA 75
Ingress Protection	Front panel IP54	Front panel IP54	Front panel IP54
Dimensions (mm)	182 x 138 x 36.3	182 x 138 x 36.3	207 x 173 x 36.7
Power Input	DC 12V (via LVDS)	DC 6V to 36V	DC 12V (via LVDS)
Video Input	Integrated DVI CONN (LVDS, USB, 2V, 5V)	VGA	Integrated DVI CONN (LVDS, USB, 2V, 5V)
Audio	1 x Line-in (lateral side) 1 x Mic-out (lateral side) 1 x Line-in (bottom side) 1 x Mic-out (bottom side)	1 x Line-in (lateral side) 1 x Mic-out (lateral side)	1 x Line-in (lateral side) 1 x Mic-out (lateral side) 1 x Line-in (bottom side) 1 x Mic-out (bottom side)
USB	1 x USB 2.0	2 x USB 2.0	1 x USB 2.0
Storage	N/A	N/A	N/A
Remote Button	Remotely power on/off VTC	N/A	Remotely power on/off VTC
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Operating Temperature	-20°C to 70°C	-20°C to 70°C	-20°C to 60°C




				
	VMD 2002	VMD 2003	VMD 3002	VMD 3110
LCD Size	8" TFT LCD	8" TFT LCD	10.4" TFT LCD	10.4" TFT LCD
Resolution	800 x 600	800 x 600	1024 x 768	1024 x 768
Brightness (Typ.)	400cd/m ²	1000cd/m ²	1200cd/m ²	1200cd/m ²
Contrast Ratio	500:1	500:1	500:1	500:1
View Angle	V: 50/70 H: 70/70	V: 60/60 H: 70/70	V: 60/60 H: 70/70	V: 60/60 H: 70/70
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
Speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker	2 x Built-in speaker
Touch Screen	4-wire resistive, anti-glare	4-wire resistive, anti-glare	Projected capacitive	Projected capacitive
Camera	N/A	N/A	N/A	N/A
Control Button	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control	1 x Monitor power button 2 x Brightness control 2 x Volume control 1 x Auto Config	1 x Monitor power button 2 x Brightness control 2 x Volume control 1 x Auto Config
Mounting	VESA 75	VESA 75	VESA 75/100	VESA 75/100
Ingress Protection	Front panel IP54	Front panel IP54	IP65	IP65
Dimensions (mm)	207 x 173 x 36.7	207 x 173 x 36.7	256.5 x 202.1 x 31.5	256.5 x 202.1 x 31.5
Power Input	DC 6V to 36V	DC 24V (via ultraONE+)	DC 6V to 36V	DC 24V (via ultraONE+)
Video Input	VGA	ultraONE+, 4 x CVBS	VGA, 4 x CVBS	ultraONE+, 4 x CVBS
Audio	1 x Line-in (lateral side) 1 x Mic-out (lateral side)	1 x Line-in (lateral side) 1 x Mic-out (lateral side)	1 x Line-in	1 x Line-in
USB	2 x USB 2.0	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
Storage	N/A	N/A	N/A	N/A
Remote Button	N/A	Remotely power on/off VTC	N/A	N/A
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Operating Temperature	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C





Train Computer




Model				
	nROK 1020-A	nROK 3000	nROK 5300	nROK 5500
CPU	Intel Atom® x5-E3930	Intel Atom® D525	Intel® Core™ i5 3610ME	Intel® Core™ i7 3517UE
Chipset	N/A	Intel® ICH8M	Intel® QM77	Intel® QM77
Memory	4GB DDR3L SO-DIMM (default) up to 16GB	1GB DDR3 1333 SO-DIMM (default) up to 4GB	2GB DDR3 1333 SO-DIMM (default) up to 16GB	2GB DDR3 1333 SO-DIMM (default) up to 16GB
Storage	1 x 2.5" SATA 3.0 SSD (9.5mm)	1 x 2.5" SATA 2.0 SSD (removable, 9.5mm)	4 x 2.5" SATA 2.0 SSD (removable) (3 x removable, 9.5mm +1 x fixed HDD tray, 15mm for option)	4 x 2.5" SATA 2.0 SSD (removable) (3 x removable, 9.5mm +1 x fixed HDD tray, 15mm for option)
Second Storage	1 x CFast (external accessible)	1 x CFast (external accessible)	1 x mini-PCIe SSD	1 x mini-PCIe SSD
Dimensions (mm)	185 x 120 x 45	260 x 178 x 70	482 x 400 x 88	482 x 400 x 88
Power Input	DC 24V (w/o isolation)	DC 24/110V (w/ isolation)	DC 24/36/72/110V (w/ isolation)	DC 24/36/72/110V (w/ isolation)
Ignition Control	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Power Management	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
GPS	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
SIM Socket	1	1 (external)	2	2
USB	2 x USB 3.0	1 x USB 2.0 1 x USB 2.0 (M12)	1 x M12 with 2 x USB 2.0 signal 2 x USB 3.0	1 x M12 with 2 x USB 2.0 signal 2 x USB 3.0
COM	5 x RS232 (Tx/Rx) 2 x RS485	1 x RS232 (w/ isolation) 1 x RS422 (w/ isolation) 2 x RS485 (w/ isolation)	2 x RS232 1 x RS422/485	2 x RS232 1 x RS422/485
CAN/OBDII	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	N/A	N/A	N/A
Video Out	HDMI, VGA	VGA, DVI-D	VGA, HDMI	VGA, HDMI
PCI-104	N/A	1	1	1
Ethernet	1 x Intel® 10/100/1000 (M12)	3 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)
PoE	N/A	N/A	8 x M12 (802.3af). Total 60W	8 x M12 (802.3af). Total 60W
Audio	1 x Mic-in, 1 x Line-out (M12)	1 x Mic-in, 1 x Line-out (M12)	1 x Mic-in, 1 x Line-out, 1 x Line-in	1 x Mic-in, 1 x Line-out, 1 x Line-in
mini-PCIe Socket	1 x (PCIe+USB+mSATA), 1 x USB	1 x (PCIe+USB), 1 x USB	2 x (PCIe+USB), 1 x USB	2 x (PCIe+USB), 1 x USB
SMBus	1	N/A	N/A	N/A
DC Output	12V (2A)	N/A	N/A	N/A
GPIO	5 x Programmable GPIO	4 x In, 4 x Out	4 x DI, 4 x DO	4 x DI, 4 x DO
Certification	CE, FCC Class B, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155, EN45545-2	CE, FCC Class A, EN50155, EN45545-2
OS	Win 10 64-bit, Linux YOCTO (by request)	Win XP, Win 7, Linux (kernel 2.6)	WES 7, Win 7, Win 8, WES 8, Win10, Win XP, Linux (kernel 3.x)	WES 7, Win 7, Win 8, WES 8, Win10, Win XP, Linux (kernel 3.x)
Operating Temperature	-40°C to 70°C (TX)	-40°C to 70°C (TX)	-40°C to 70°C (TX)	-40°C to 70°C (TX)





			
MVS 5210-R	VTC 6210-R	VTC 7220-R	NANO1190-RA (w/VMS SW)
Intel® Core™ i7-5650U	Intel Atom® E3845	Intel® Core™ i7-4650U	Arm® Cortex®-A9
N/A	N/A	N/A	N/A
2GB DDR3 1333 SO-DIMM (default) up to 16GB	2GB DDR3 1333 SO-DIMM (default) up to 8GB	2GB DDR3 1333 SO-DIMM (default) up to 16GB	1GB DDR3L
2 x 2.5" SATA 3.0 SSD (removable, 15mm)	1 x 2.5" SATA 2.0 SSD (removable, 9.5mm)	2 x 2.5" SATA 2.0 SSD (removable, 9.5mm)	1 x 2.5" SATA 2.0 SSD
1 x CFast (external accessible) 1 x mSATA	1 x CFast (external accessible)	1 x CFast (external accessible)	N/A
260 x 206 x 130	260 x 176 x 70	260 x 206 x 137.5	165 x 137.6 x 82.5
DC 24V (w/o isolation)/ 110V (w/ isolation) (w/ optional internal back up battery)	DC 24/36V (w/o isolation) 110V (w/ isolation)	DC 24/36/110V (w/ isolation)	DC 24V (w/ isolation)
Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting	Yes, w/ 8 level delay time setting
Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software	Low voltage protection & configuration via software
VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	VIOB-GPS-02 module (u-blox NEO-M8N)	Optional VIOB-GPS-02 module (u-blox NEO-M8N)
Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	N/A
3	3	3	N/A
2 x USB 3.0, 2 x USB 2.0	2 x USB 2.0 (M12), 1 x USB 3.0	2 x USB 3.0 Type A 2 x USB 2.0 Type A	2 x USB 2.0
2 x RS232/422/485	2 x RS232 (w/ isolation) 1 x RS422/485 (w/ isolation)	2 x RS232 1 x RS422/485	N/A
CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	CAN Bus 2.0B on board. Optional OBD SAE J1939/J1708 module	N/A
VGA, LVDS	VGA, DP	VGA, DP	VGA
N/A	N/A	N/A	N/A
2 x Intel® 10/100/1000	2 x Intel® 10/100/1000 (M12)	2 x Intel® 10/100/1000 (M12)	1 x Intel® 10/100/1000 (M12)
N/A	N/A	N/A	4 x (802.3af/at). Total 60W
1 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Mic-in, 2 x Line-out	2 x Audio-out
1 x (PCIe+USB), 1 x USB, 1 x mSATA	2 x (PCIe+USB), 1 x USB	3 x (PCIe+USB), 1 x USB	N/A
1	N/A	N/A	N/A
N/A	N/A	N/A	N/A
PC: 4 x DI, 4 x DO MCU: 3 x DI, 2 x DO, 2 x Analog-In, 1 x Speed frequency	4 x DI (w/ isolation) 4 x DO (w/ isolation)	8 x Programmable DI/DO	N/A
CE, FCC Class B, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155	CE, FCC Class A, EN50155
Win 10, Win 8, WES 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, Win 7, WES 7, Linux (kernel 3.x)	Win 10, Win 8, WES 8, Win 7, WES 7, Win XP, Linux (kernel 3.x)	Linux (cannot install extra SW)
-40°C to 70°C (TX)	-40°C to 70°C (TX)	-40°C to 70°C (TX)	-40°C to 70°C (TX)

Add-On Modules

Model			
	VIOX-CAN01	VIOB-CAN-03	VIOB-CAN-04
Description	OBD SAE J1708 or SAE J1939 module	CAN Bus 2.0B or OBD SAE J1939 module	Dual CAN Bus 2.0B module
Input I/F	UART	UART	USB 2.0
Input Connector	2 x 5 Pin wafer	2 x 5 Pin wafer	mini-PCIe Socket
Output I/F	OBD SAE J1708 or SAE J1939	CAN Bus 2.0B or OBD SAE J1939	CAN Bus 2.0B
Output Connector	2 x 5 Pin wafer	2 x 5 Pin wafer	6 Pin wafer to DB9
Form Factor	Proprietary	Proprietary	Full-Size mini-PCIe
Dimensions (mm)	50 x 28	50 x 28	51 x 30
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Remark	-	* CAN Bus 2.0B & SAE J1939 Selection by Switch	-

Model			 NEW	 NEW
	VIOB-CAN-05	VIOB-CAN-06	VIOB-CAN-07	VIOB-TPMS-01
Description	OBD SAE J1708 module	OBD SAE J1939 module	High Speed Dual CAN Bus 2.0B module	Tire Pressure Monitoring System (TPMS) module
Input I/F	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Input Connector	mini-PCIe Socket or USB wafer	mini-PCIe Socket or USB wafer	mini-PCIe socket or USB wafer	mini-PCIe Socket or USB wafer
Output I/F	OBD SAE J1708/J1578/J1922	OBD SAE J939	CAN Bus 2.0B	None
Output Connector	3 Pin wafer to DB9	3 Pin wafer to DB9	6 Pin wafer to DB9	None
Form Factor	Full-Size mini-PCIe	Full-Size mini-PCIe	Full-Size mini-PCIe	Full-Size mini-PCIe
Dimensions (mm)	51 x 30	51 x 30	51 x 30	51 x 30
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Remark	-	-	* CAN baud rate: 10K ~ 1M bit/s	* Tire Pressure, Temperature and Voltage Information Available. * RF 433MHz

Model			
	VIOB-GPS-02	VIOB-GPS-DR02	VIOB-GPS-DR03
Description	u-blox M8N module	u-blox M8L module	u-blox M8U module
Input I/F	UART	UART	UART
Input Connector	6 Pin wafer	6 Pin wafer	6 Pin wafer
Output I/F	UART	UART	UART
Output Connector	6 Pin wafer	6 Pin wafer	6 Pin wafer
Form Factor	Proprietary	Proprietary	Proprietary
Dimensions (mm)	25.4 x 25.4	25.4 x 25.4	25.4 x 25.4
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Remark	* GNSS Support with GPS, GLONASS, Galileo, BeiDou and QZSS	* GNSS Support with GPS, GLONASS, Galileo, BeiDou and QZSS * Automotive Dead Reckoning (ADR) * With Battery	* GNSS Support with GPS, GLONASS, Galileo, and BeiDou * Untethered Dead Reckoning (UDR) * With Battery

Model	 NEW	 NEW	 NEW	 NEW
	VIOB-LTE-AD	VIOB-AE1M-01	VIOB-PA22-01	VTK-62B
Description	M.2 to mini-PCIe converter module	1-Port 100Mbps Automotive Ethernet module	2 x Mic-in & 2 x Line-out module	Smart backup battery kit
Input I/F	mini-PCIe	USB 2.0	USB 2.0	9~36VDC
Input Connector	mini-PCIe socket	mini-PCIe or USB wafer	mini-PCIe or USB wafer	3 Pin terminal block
Output I/F	M.2	1-Pair UTP	Audio	Power: 12VDC (from backup battery) 24VDC (from vehicle battery) Communication: RS232/SMBus/GPO
Output Connector	M.2	4 Pin wafer to DB9	2 x 6 Pin wafer to DB9	Power: 3 Pin terminal block Communication: 2 x 5 Pin
Form Factor	Full-Size mini-PCIe	Full-Size mini-PCIe	Full-Size mini-PCIe	Proprietary
Dimensions (mm)	51 x 30	51 x 30	51 x 30	1) 278 (W) x 150 (D) x 42.2 (H) 2) 297.3 (W) x 175 (D) x 39 (H)
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	Charging: 0°C to 45°C Discharging: -20°C to 60°C
Remark	* Only for Sierra EM7430/EM7455	* BroadR-Reach Technology	-	Capacity: 8360mAh (Li-Ion)

About NEXCOM

Reliable Partner for the Intelligent Solutions

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the intelligent solutions. To surpass customers' expectations, NEXCOM makes the difference by utilizing its decades of industrial computing experience, a highly talented R&D team, and by providing exceptional levels of customer service. With these core strengths, NEXCOM has enabled its customers to win key projects in a diverse range of industries.

With its focus on delivering these core values to better serve customers, NEXCOM integrates its capabilities and operates six global businesses, which are IoT Automation Solutions (IAS), Intelligent Digital Security (IDS), Medical & Healthcare Informatics (MHI), Intelligent Platform & Services (IPS), Mobile Computing Solutions (MCS), and Network and Communication Solutions (NCS).

This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and service without compromising cost.

In addition, the service-to-market business model gives NEXCOM core competence to build a strong world-class service network by providing customized service, global logistics, local access, and real-time support. Operating six subsidiaries, from China, Italy, Japan, Taiwan, the United States, to the United Kingdom, NEXCOM is able to better facilitate customers' requirements as well as closely work with global partners in different regions.

Partners should also be assured that NEXCOM's Taiwan based Headquarters and subsidiary offices in China, UK and USA have obtained ISO 9001:2008 Certification.



IAS	IoT Automation Solutions: Industry 4.0 Solution, industrial robot & motion, industrial network, DMS 4.0
IDS	Intelligent Digital Security: IP Cam, NVR, mobile server platform
MHI	Medical & Healthcare Informatics: total solutions with a variety of medical IT systems
IPS	Intelligent Platform & Services: smart retails, digital signage, interactive kiosk, customization services
MCS	Mobile Computing Solutions: rugged computer devices, rugged mobile computer Vehicle Telematics Computer: Car PC, heavy duty vehicle, train PC
NCS	Network and Communication Solutions: network security, HPC, telecommunication, storage, SDN/NFV, industrial security

Corporate Vision

To become the industrial leader in providing intelligent solutions, NEXCOM utilizes its industry leading technology, localized customer support and worldwide logistics services. This will be achieved by:

- Great team work
- Cooperation with trusted partners
- Growth through innovation

Corporate Mission

- An innovative supplier in vertical application markets
- A quality partner in engineering, manufacturing and services

Business Strategy

Aim to better support the activities of all its partners, NEXCOM divides its sales force into six dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business units have been set up to serve the requirements of key project accounts, where product ODM and project support are frequently required.

NEXCOM is working with embedded computing solution providers to envision new opportunities for growth. We'll help you deliver reliable vertical solutions, optimized for the next wave of IoT and Industry 4.0 solutions.

Headquarters

NEXCOM International Co., Ltd.

9F, No.920, Chung-Cheng Rd., ZhongHe District, New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
www.nexcom.com

America

USA

NEXCOM USA

2883 Bayview Drive,
Fremont CA 94538, USA
Tel: +1-510-656-2248
Fax: +1-510-656-2158
Email: sales@nexcom.com
www.nexcom.com

Asia

Taiwan

NEXCOM Intelligent Systems Taipei Office

13F, No.920, Chung-Cheng Rd.,
ZhongHe District,
New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7796
Fax: +886-2-8226-7792
Email: sales@nexcom.com.tw
www.nexcom.com.tw

NEXCOM Intelligent Systems

Taichung Office

16F, No.250, Sec. 2, Chongde Rd.,
Beitun Dist.,
Taichung City 406, R.O.C.
Tel: +886-4-2249-1179
Fax: +886-4-2249-1172
Email: sales@nexcom.com.tw
www.nexcom.com.tw

Japan

NEXCOM Japan

9F, Tamachi Hara Bldg.,
4-11-5, Shiba Minato-ku,
Tokyo, 108-0014, Japan
Tel: +81-3-5419-7830
Fax: +81-3-5419-7832
Email: sales@nexcom-jp.com
www.nexcom-jp.com

China

NEXCOM China

Floor 5, No.4, No.7 Fengxian middle Rd.,
(Beike Industrial Park), Haidian District,
Beijing, 100094, China
Tel: +86-10-5704-2680
Fax: +86-10-5704-2681
Email: sales@nexcom.cn
www.nexcom.cn

NEXCOM Shanghai

Room 603/604, Huiyinmingzun Plaza Bldg. 1,
No.609 Yunlin East Rd.,
Shanghai, 200333, China
Tel: +86-21-5278-5868
Fax: +86-21-3251-6358
Email: sales@nexcom.cn
www.nexcom.cn

NEXCOM Surveillance Technology Corp.

Room202, Building B,
the GuangMing Industrial Zone Zhonghua Rd.,
Minzhi Street, Longhua District,
Shenzhen 518131, China
Tel: +86-755-8364-7768
Fax: +86-755-8364-7738
Email: steveyang@nexcom.com.tw
www.nexcom.cn

NEXCOM United System Service

Hui Yin Ming Zun Building Room 1108, Bldg.
No.11, 599 Yunling Rd., Putuo District,
Shanghai, 200062, China
Tel: +86-21-6125-8282
Fax: +86-21-6125-8281
Email: frankyang@nexcom.cn
www.nexcom.cn

Europe

United Kingdom

NEXCOM EUROPE

10 Vincent Avenue,
Crownhill Business Centre,
Milton Keynes, Buckinghamshire
MK8 0AB, United Kingdom
Tel: +44-1908-267121
Fax: +44-1908-262042
Email: sales.uk@nexcom.eu
www.nexcom.eu

Italy

NEXCOM ITALIA S.r.l

Via Lanino 42,
21047 Saronno (VA), Italia
Tel: +39-02-9628 0333
Fax: +39-02-9625 570
Email: nexcomitalia@nexcom.eu
www.nexcomitalia.it



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