NEXCOM

The Intelligent Systems

Empowering the Mobile Workforce

Mobile Computing Solutions
Product Selection Guide

IoT Shapes the Management of Complex Human Activity & Premium Mobile Assets

Focusing on the transportation sector, NEXCOM Mobile Computing Solutions (MCS) Business Unit delivers underpinning technologies for the Internet of Things (IoT), looking to a future where transport is made more intelligent and sustainable. By providing data acquisition and data communication technologies for data-driven decision making (DDDM), NEXCOM MCS can turn smart mobility into reality with connected cars, advance passenger experience for passenger transport services, and increase efficiency and productivity for commercial fleets and field operations, covering multiple segments of intelligent transportation systems (ITS).

Passenger Transportation

Passenger transportation services—including taxi, bus, mass rapid transit, and railway services—can combine mobile video surveillance, wireless communication and global navigation satellite system (GNSS) tracking technologies to provide unsurpassed passenger services. With enabling technologies that improve information accessibility, safety, travel convenience and comfort, public transportation can provide enhanced traveling experiences to give passengers a more delightful journey.

Logistics

As customer requirements expand and fierce competition from service providers continues to grow, the challenge of logistics is to keep increasing requirements in check in a timely and efficient manner. IoT-based solutions provide a remedy to these growing complications as it can help logistics to work more efficiently and intelligently by collecting dynamic and accurate information in time and without boundaries. By extracting, analyzing and organizing these information with IoT intelligence, unanticipated difficulties in logistics can be solved swiftly.

Public Service

Public services—including fire engine, ambulance, police car and municipal services—can combine fleet management, task dispatching, real-time communication and information exchange technologies to help working fleets arrive at a specific location with optimized routes, receive updated traffic conditions and new tasks, voice communicate with operators for assistance. At the same time, data such as driving behavior and job records can be collected for database analysis to improve fleet efficiency and even help predict potential traffic events to improve transport safety.

Raw Material Management

Agriculture, mining and oil exploration are the primary sectors of economy, especially in developing countries. However, volatile outdoor conditions challenge fieldworkers and food productions in many ways. To exploit natural resources and to create a productive and efficient workplace take sophisticated planning and careful execution throughout field operations. Making use of autonomous driving technology—self-steering control systems with precise GPS positioning—along with analysis of sensor-generated data can increase operational efficiency and transparency. This allows fieldworkers and site managers to share the same understanding and to better harvest raw materials with dynamic and precise positioning systems.
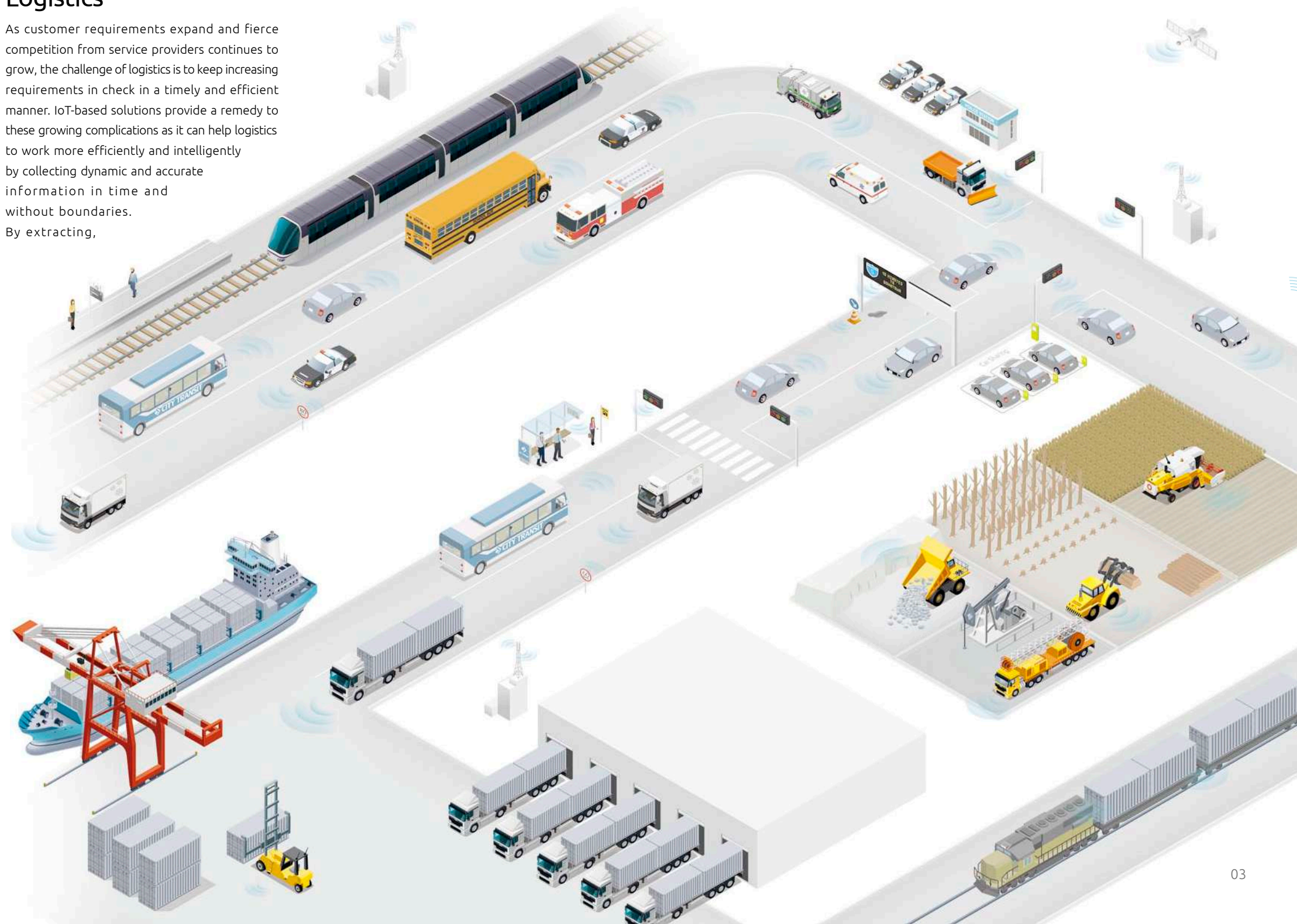
Increasing Production & Profitability from Easy, Productive & Reliable Logistics

Overview & How It Works

Fleet, port and warehouse management are the key activities in logistics. To address these three areas, NEXCOM offers three series of vehicle computing and display solutions—the Vehicle Telematics Computer (VTC) series, the Vehicle Mount Display (VMD) series, and the Vehicle Mount Computer (VMC) series—each with a customer-driven design to ensure needs are met. For example, the VMC series implements GPS, RFID and wireless functions to allow precise tracking and control of forklifts. Operators can take advantage of this accurate location tracking to calculate which route can transport goods in less time, which can also result in less fuel consumption. Additionally, the RFID function can assist operators in the administration of inventory, improving accuracy and accelerating workflow.

Successful Factors

- Monitor and maintain vehicle health
- Plan routes more correctly and in time
- Provide water and dust protection
- Be able to work reliably in harsh environments, such as dust and water prone areas, or on bumpy roads
- Provide more accurate and effective inventory management to maximize warehouse space

NEXCOM's Strengths

NEXCOM's vehicle telematics technology can monitor vehicle conditions, and let drivers know if the vehicle needs to be repaired in advance. This is beneficial for the operators as well, allowing them to maintain vehicle health and dispatch the right vehicles for the job more quickly and efficiently.

NEXCOM's in-vehicle computers and displays support various compact add-on devices for vehicle tracking and management of stocks. This tracking can assist the operators to work more efficiently by mapping the most appropriate route.

Encompass robust housing to withstand extreme heat and cold, rainy and dusty conditions, and feature special durable connectors to provide rigid connections on tough and rugged roads.
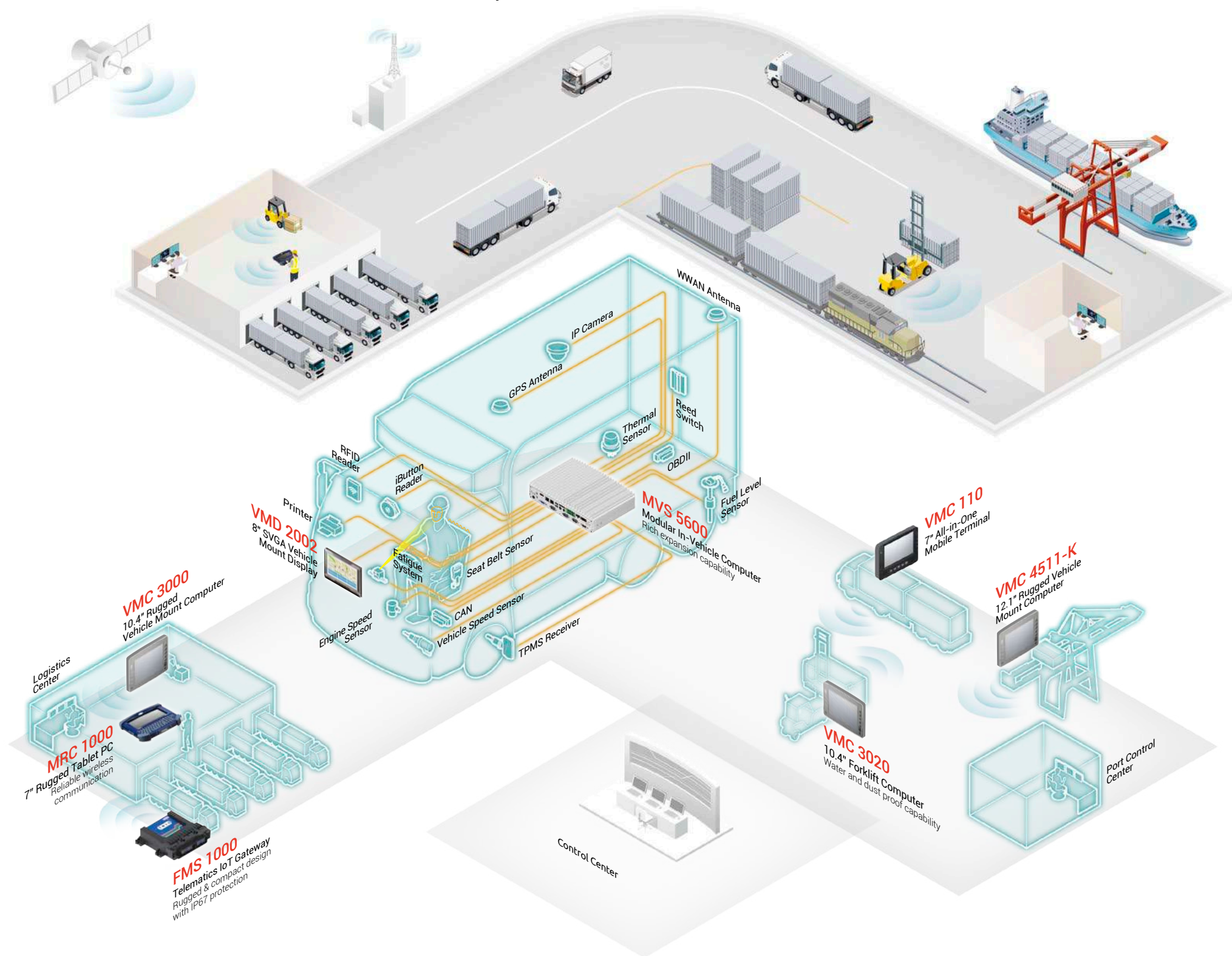
Create New Paradigm in Profitability & Efficiency Through Effective Raw Material Management

Overview & How It Works

In the primary sector, the use of smart raw material management with modern technology and business intelligence is becoming ever more important in providing energy-efficient food production. The global warming has given rise to the food resource crisis and placed the agriculture industry under great pressure; agriculturists need more efficient methods to maximize harvest yields in decreasing arable land. Using in-vehicle computers integrated with GPS and sensor technology, farming equipment can be steered automatically with turn-by-turn navigations without missing an area in the crop field and with improved seed and fertilizer distribution.

On the other hand, in the mining sector, modern mining management systems use a central dispatch controller to monitor all truck and equipment activities within a mine operation. Events such as trucks travelling out of the predefined route or falling behind schedule can be identified in real-time, allowing central dispatch to immediately send on-screen alerts to drivers' vehicle mount computers to take corrective actions. In addition, job reassignments such as dispatching new tasks to drivers can be centrally managed and allocated in real-time to improve mining operations.

Successful Factors

- Position accuracy determines the effectiveness of location-based functions such as dispatching and asset tracking
- Stay connected to the control center and be able to receive real-time work instructions on a trusted human machine interface
- Robust design for long-lasting use in harsh outdoor operating conditions
- In-vehicle systems that enable intelligent management and measurement of workload input and output, work efficiency, harvest quality and operating costs
- Real-time KPI reporting for back-end business intelligence to lower the total cost of ownership
- Allocate resources and make strategic decisions accordingly based on real-time data
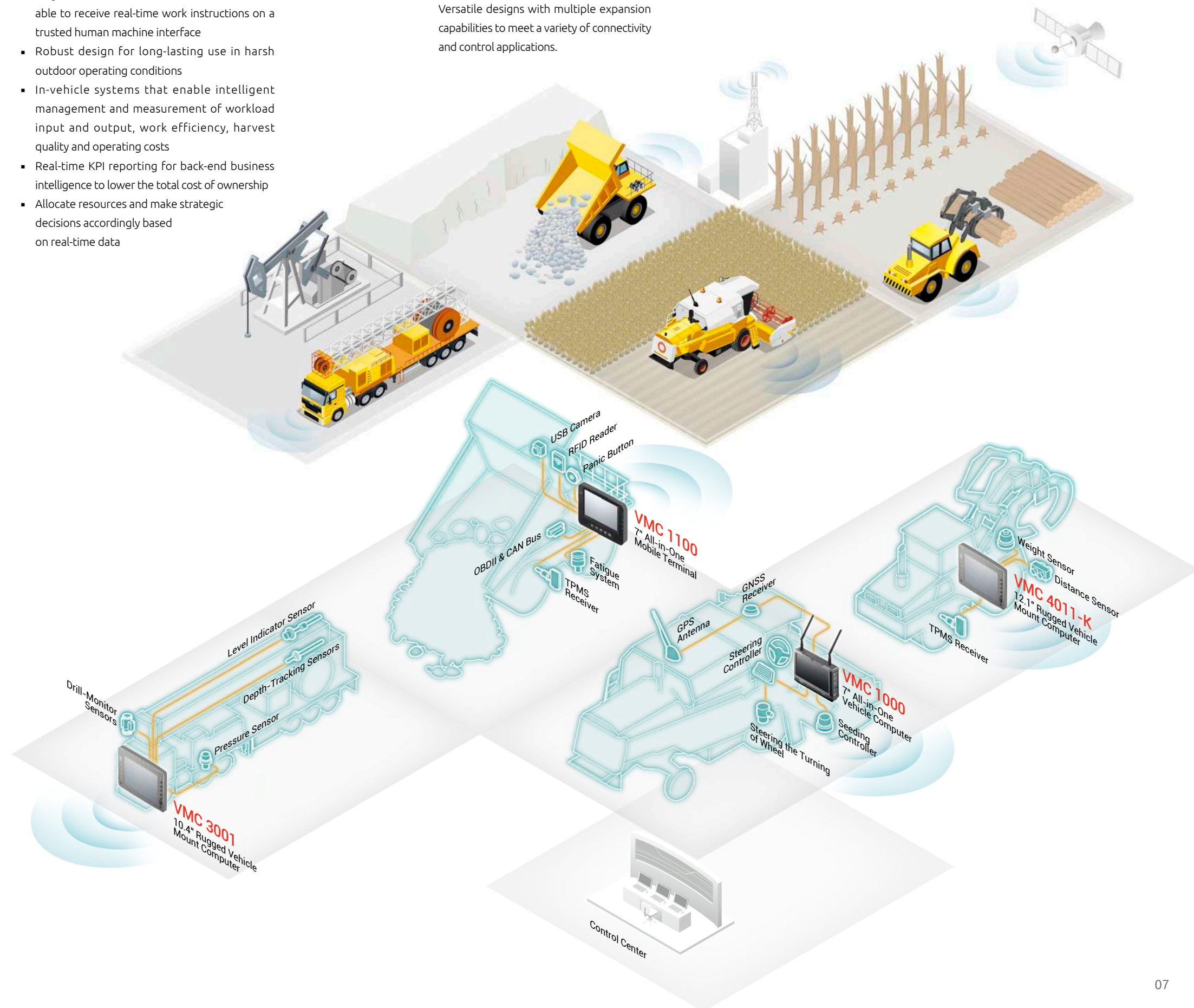
NEXCOM's Strengths

Reliable systems with rugged LCD touch screens, built-in processors, WWAN, WLAN communication and GPS tracking capabilities.

Versatile designs with multiple expansion capabilities to meet a variety of connectivity and control applications.

The VMC series equips robust mechanical system design with added dust and water intrusion protection, and IP-rated rugged panel displays.

The VMC series supports a variety of voltage inputs for different types of vehicles.

USB Camera
RFID Reader
Panic Button

OBDII & CAN Bus

Fatigue System

TPMS Receiver

VMC 1100
7" All-in-One Mobile Terminal

GNSS Receiver

Weight Sensor
Distance Sensor

VMC 4011-K
12.1" Rugged Vehicle Mount Computer

TPMS Receiver

GPS Antenna

Steering Controller

VMC 1000
7" All-in-One Vehicle Computer

Steering the Turning of Wheel

Seeding Controller

Level Indicator Sensor

Depth-Tracking Sensors

Drill-Monitor Sensors

Pressure Sensor

VMC 3001
10.4" Rugged Vehicle Mount Computer

Control Center

Our Core Competency: Value-added Solutions at the Forefront of Innovation
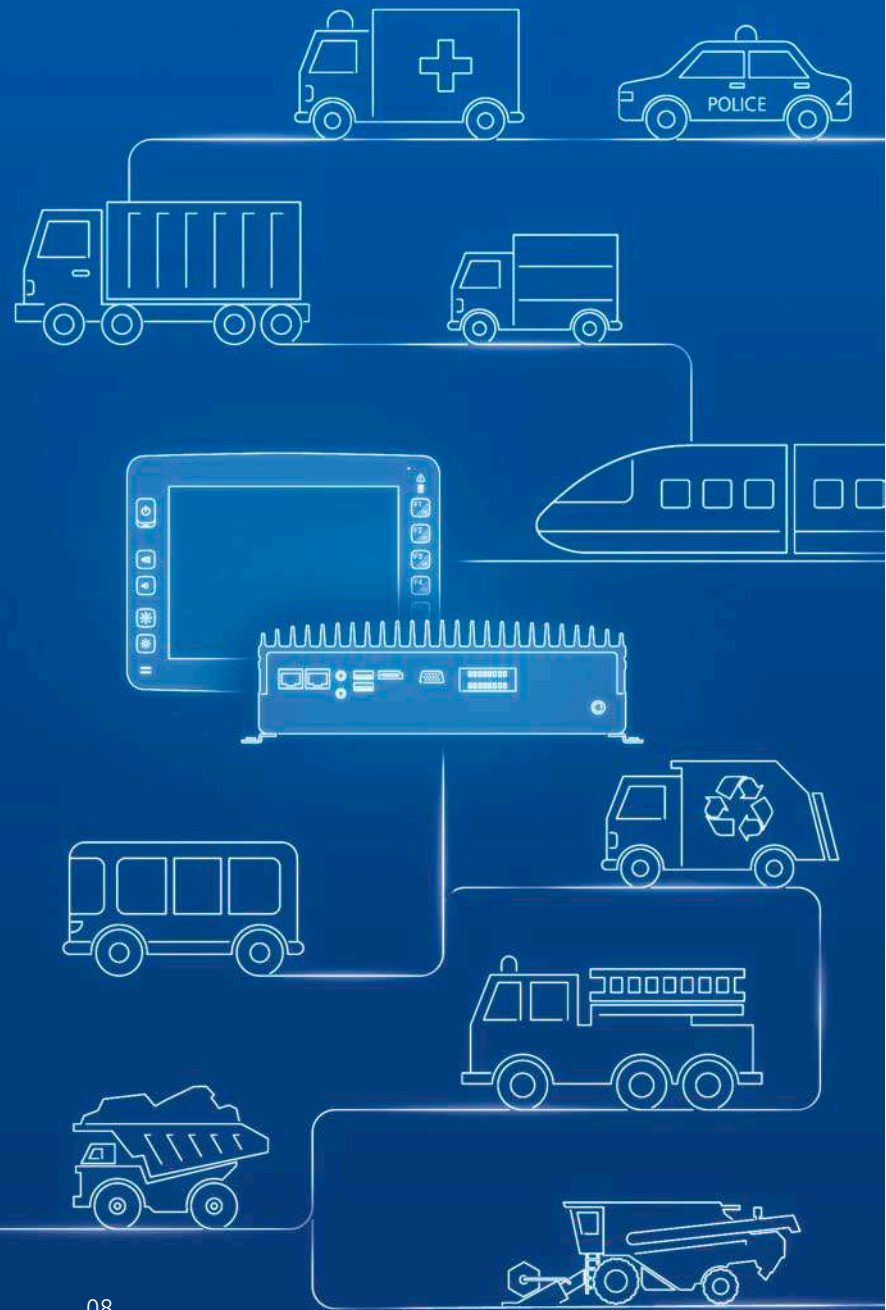
Quick and Extensive Software Development

To meet the ever-increasing complex requirements in vehicle and railway industries, NEXCOM not only provides hardware solutions, but also software integration. Delivering value-added software at all levels of the solution chain, ranging from the lower hardware level to the top application level, NEXCOM software integration includes firmware, BIOS, SDK, drivers, Qt (GUI and Linux), apps (Android) and software applications (video surveillance). NEXCOM differentiates from other competitors by offering value-added features specifically designed for vertical applications. For example, intelligent auto. is one successful software application developed in the Android OS to assist customers in working with CAN bus, RFID, iButton, tracking, GPS and 3G/LTE communication functions. The intelligent auto. application offers a development example that helps customers to easily and quickly develop customized software in the Android OS.
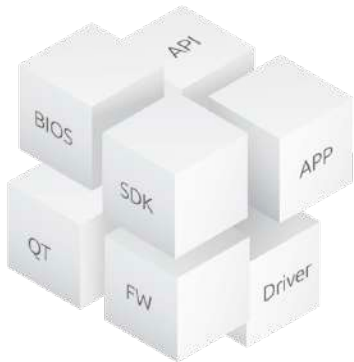
Figure 1. Software Solution

Outstanding Mechanical and Electronic Design

The design of vehicle telematics and mobile data terminal requires meticulous attention to details due to complex electronic equipment inside cars and
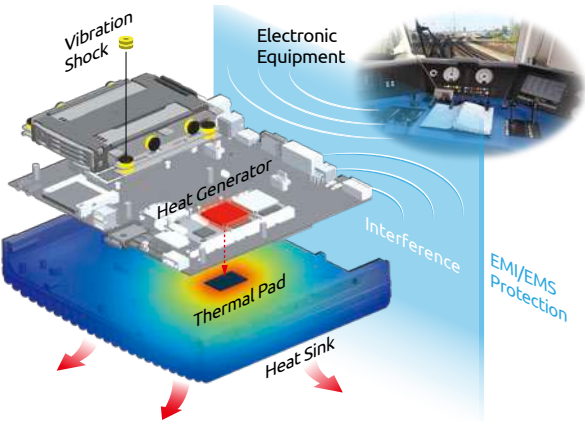
Figure 2. Superb EMC, thermal, shock and vibration resistant design

trains, as well as the rugged and extreme environments where the vehicles travel in. To offer a trusted and reliable solution, NEXCOM's vehicle telematics systems adopt a unique mechanical structure designed to offset the impact of severe vibration and shock to survive in extreme working environments, while keeping a compact form factor to fit into limited spaces. Furthermore, to avoid interference from electronic equipment in cars and trains, NEXCOM's vehicle telematics systems integrate rugged hardware and durable mechanical designs to lower EMI or EMS, which is important for securing equipment operation and human safety when cars or trains are on the move.

Integration Turns Computer Box into Operational Intelligence

System integration is the technical convergence of different discrete hardware modules and software, working together in synergy to deliver a complete bundled solution. NEXCOM adds value to the computer system by integrating off-the-shelf software, such as the NVR management software, to help customers save the time in searching and evaluating a suitable software solution. With integrated software and hardware, NEXCOM can bring real-time intelligence on board to any vehicles. For example, by putting an NVR board with VMS software inside the computer system and synergizing all the features of NEXCOM's rugged hardware and add-on software, the vehicle computer can transform into powerful integrated systems with added functionalities such as micro servers, mobile NVRs, and data loggers.

NEXCOM also retains the flexibility in function expansions. Different discrete modules are available to allow rapid deployment of feature expansions. NEXCOM's full array of flexible add-ons includes PoE switch, 3G module, dual CAN module, OBDII module, SAE J1939/J1708 module, internal/external back-up battery and IP protection kit to interface with different subsystems and provide protection against unexpected power outages and external physical impact.
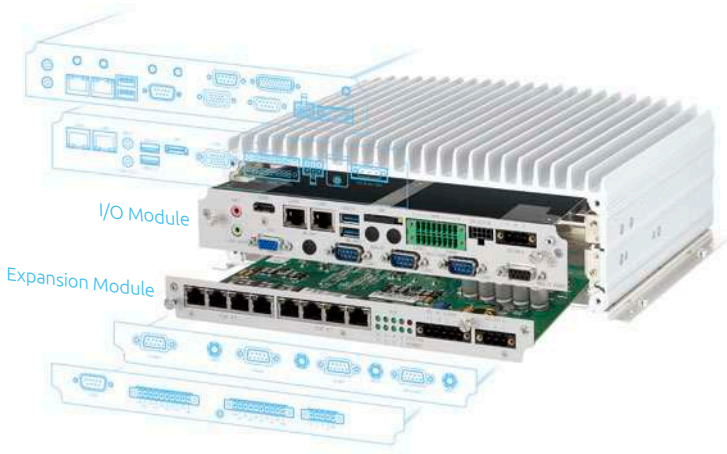
Figure 3. The removable plug-in design provides a convenient way to install I/O and expansion modules without extra effort

The Modular Benefit

Embedded applications have all kinds of different requirements. It is important to offer a wide variety of selections to support the growing diversity of different applications. NEXCOM's modular approach enables faster, easier and more efficient customization of standard products to unique user needs. This modularity benefit provides users with a convenient way to easily select and customize suitable I/O modules or expansion modules for their unique requirements or vertical market

applications. These I/O modules and expansion modules are also designed to be easily installed through simple pull-out and plug-in process.

I/O modules or expansion modules can be customized or replaced without changing anything else in the computer system, saving the need to validate the rest of the system functions besides the new modules. If any new specification or further enhancement is required, the modules can be individually upgraded before being reintroduced into the same computer system.

Application Layer

Logistics	Public service	Public transportation	Raw material
fleet management, port management, warehouse & distribution	emergency service, law enforcement, municipal services	video surveillance, infotainment	management mining, off-highway, agriculture
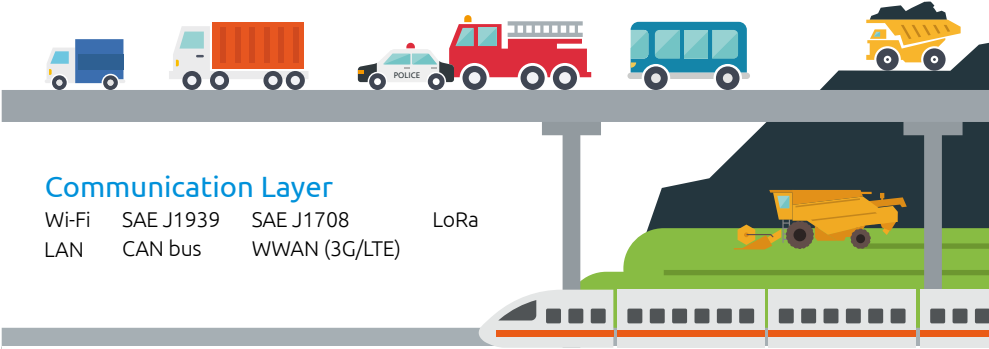
Communication Layer

Wi-Fi	SAE J1939	SAE J1708	LoRa
LAN	CAN bus	WWAN (3G/LTE)	

Hardware Layer

Back-up battery	SAE J1939 module	NVR board w/ VMS software
CAN bus module	WWAN module	IP protection kit
SAE J1708 module	PoE module	RFID/iButton driver identification

Figure 4. NEXCOM's value-added integration turns computer box into business intelligence

Product Selection Guide

Vehicle Telematics Computer

CPU	COM							CAN Bus		Video Output				Mini-PCIe	Model
	RS232	RS422	RS485	RS232/422/485	RS422/485	RS232/485	RS232/422	CAN 2.0B	OBDII	DP	VGA	LVDS	HDMI	Quantity	
ARM®											V			0	NANO 1190
Atom™	2 x TX/RX							2	*		V			2	VTC 1910
	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
	5 x TX/RX		2					1	*		V		V	2	VTC 1020
	5 x TX/RX		2					1	*		V			2	VTC 1020-PA
	1 x Full, 1 x TX/RX				1			1	*		V		V	3	VTC 1021
	4 Full	1									V	V		2	VTC 6200
	2 Full	1									V	V		2	VTC 6200-NI
	2 Full	1									V	V		2	VTC 6201
	2 Full				1			1	*	V	V			4	VTC 6210-BK
	2 Full				1			1	*	V	V			4	VTC 6210-VR4
	1 Full				1			*	*		V	V		2	VTC 7100-BK
	1 Full				1			*	*		V	V		2	VTC 7100-C8SK
Celeron®	1 Full				1			*	*		V	V		2	VTC 7120-BK
	1 Full				1			*	*		V	V		2	VTC 7120-C4SK
Core™ i	1 Full				1			*	*		V	V		2	VTC 7110-BK
	1 Full				1			*	*		V	V		2	VTC 7110-C4SK
	2 Full			1				1	*	V	V	V		4	VTC 7200
	2 Full			1				1	*	V	V	V		4	VTC 7210
	2 Full			1				1	*	V	V	V		4	VTC 7220
	2 Full			1				1	*	V	V	V		4	VTC 7230
	2 Full			1				1	*	V	V	V		4	VTC 7240
				2				1	*		V	V		3	MVS 5200-BK
				2				1	*		V	V		3	MVS 5210-BK
	2 Full			1				1	*		V		V	3	MVS 5603-3C8SK
	2 Full			1				1	*		V		V	3	MVS 5603-7C8SK
	2 Full			1				1	*		V		V	3	MVS 5600-3BK
	2 Full			1				1	*		V		V	3	MVS 5600-7BK
MCU	1 x TX/RX							2						1	FMS 1000

* : Optional module available
S: Selectable

Vehicle Mount Computer

Display Size	CPU			Touch Type	COM						IP Protection			Model
	ARM®	Atom™	Core™ i	Resistive Touch	RS232	RS422	RS485	RS232/422/485	RS422/485	RS232/485	IP54 (Front)	IP65 (Front)	IP65 (Enclousure)	
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 x Full							V		VMC 3500
			V	V	1 x Full								V	VMC 3501
			V	V	1 x Full								V	VMC 3511
12.1"		V		V	1 x Full, 1 x TX/RX			1					V	VMC 4011-K
			V	V	1 x Full, 1 x TX/RX			1					V	VMC 4511-K

S: Selectable

Vehicle Mount Display

Display Size	Video Input			Touch Type		Brightness		Touch Interface	Model
	VGA	LVDS	CVBS	RS	PCAP	400 nits	500 nits	USB	
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
10.4"	V		V	V		V		V	VMD 3002

PoE

PoE No.	Power Output		LAN Port		CPU				Storage				Model
	60W	120W	1	2	ARM®	Atom™	Core™ i	Celeron®	1	2	3	4	
4	V		V				V				V		VTC 7110-C4SK
	V		V					V			V		VTC 7120-C4SK
	V	V			None	None	None		None	None	None	None	VES 30-4S
	V	V	V					V					NANO 1190
	V	V	V					V					NANO 1190-RA
8	V		V				V					V	nROK 5300
	V		V				V					V	nROK 5500
	V		V			V					V		VTC 7100-C8SK
	V		V				V					V	MVS 5210-R
		V	V		None	None	None		None	None	None	None	VES 30-8S
	V		V				V					V	MVS 5200
	V		V				V					V	MVS 5210
	V		V				V				V		MVS 5603-3C8SK
	V		V				V				V		MVS 5603-7C8SK

Train Computer

Power Input		PoE No.		LAN		CPU			M12 Conncetor					Model
		4	8	10/100	10/100/1000	ARM®	Atom™	Core™ i	Audio	USB	Power Input	PoE	LAN	
24VDC	DC-DC Isolated			3				V	V	V		V	V	nROK 3000
			V		2			V	V	V	V	V	V	nROK 5300
			V		2			V	V	V	V	V	V	nROK 5500
					2			V		V	V		V	VTC 7220-RA
		V		1	V						V	V	V	NANO 1190-RA
	DC-DC Non-Isolated			1			V		V		V		V	nROK 1020-A
					2		V		V	V	V		V	VTC 6210-RA
					2			V	V	V	V		V	MVS 5210-RA
36VDC	DC-DC Isolated		V		2			V	V	V	V	V	V	nROK 5300
			V		2			V	V	V	V	V	V	nROK 5500
					2			V	V	V	V		V	VTC 7220-RB
	DC-DC Non-Isolated				2		V		V	V	V		V	VTC 6210-RA
72VDC	DC-DC Isolated		V		2			V	V	V	V	V	V	nROK 5300
			V		2			V	V	V	V	V	V	nROK 5500
110VDC	DC-DC Isolated			3				V	V	V	V	V	V	nROK 3000
			V		2			V	V	V	V	V	V	nROK 5300
			V		2			V	V	V	V	V	V	nROK 5500
					2		V		V	V	V		V	VTC 6210-RF
					2			V	V	V	V		V	VTC 7220-RF
			V		2			V	V	V	V		V	MVS 5210-RF

Vehicle Mount Computer

Model	VMC 110	VMC 1000	VMC 1100	VMC 3000/3500
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/m²	500cd/m²	400cd/m²	400cd/m²
Contrast Ratio	800 : 1	600 : 1	600 : 1	600 : 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
Audio	2 x Built-in Speaker	2 x Built-in Speaker	2 x Built-in Speaker	2 x Built-in Speaker
Touch Screen	4-wire antiglare	4-wire antiglare	4-wire antiglare	5-wire antiglare
Camera	N/A	N/A	N/A	N/A
Control Button	F1~ F5 functions 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 functions 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 75/100
Ingress Protection	Front IP54	Front IP54	Front IP54	Front IP65
Dimension (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™ D2550 Intel® Core™ i7 2610UE
Chipset	N/A	N/A	N/A	Intel® ICH10R Intel® QM67
Memory	2GB DDR3L on board	1GB DDR2 on board	DDR3L 1600MHz SO-DIMM slot (up to 4GB)	DDR3 1333MHz SO-DIMM slot (up to 4GB)
Storage Interface	1 x EMMC 1 x Micro SD	1 x mSATA	SATA DOM	1 x CFast 1 x 2.5" SSD SATA 2.0 (9.5mm)
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	u-blox NEO-M8N on board	u-blox NEO-6Q on board	u-blox NEO-M8N on board	u-blox NEO-6Q on board
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
COM	1 x RS232, 1 x RS232/RS485	2 x RS232, 1 x RS422/RS485	1 x RS232, 1 x RS232 (TX/RX) or 1 x RS485	2 x RS232
CAN	2 x CAN bus 2.0B	1 x CAN bus 2.0B	1 x CAN bus 2.0B Optional OBDII	1 x CAN bus 2.0B Optional OBDII
Ethernet	2 x 10/100/1000	1 x 10/100/1000	1 x 10/100/1000	1 x 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-Card	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+ SATA), 1 x USB
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	3 x In, 3 x Out
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
OS	Android 5.1 & YOCTO	Win XP, Win 7, Linux	Win 10, Win 8, Win 7, WES 7 Linux (Kernel 3.x)	VMC 3000: WES 7, Win 7, Win XP, Linux VMC 3500: WES 7, Win 7, Win 8, WES 8, Win XP, Linux
Operation Temperature	-20℃ to 70℃	-20℃ to 50℃	-20℃ to 60℃	-30℃ to 60℃

Model	VMC 3001/3501	VMC 3011/3511	VMC 3020	VMC 4011-K/4511-K
LCD Size	10.4" TFT LCD	10.4" TFT LCD	10.4" TFT LCD	12.1" TFT LCD
Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768
Brightness (Typ.)	400cd/m²	1200cd/m²	1200cd/m²	1300cd/m²
Contrast Ratio	600 : 1	600 : 1	600 : 1	600 : 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
Brightness Adjustment	Auto via light sensor	Auto via light sensor	Auto via light sensor	Auto via light sensor
Audio	2 x Built-in Speaker	2 x Built-in Speaker	2 x Built-in speaker	2 x Built-in Speaker
Touch Screen	5-wire antiglare	5-wire antiglare	5-wire antiglare	5-wire antiglare
Camera	N/A	N/A	N/A	N/A
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
Mounting	VESA 75/100	VESA 75/100	VESA 75/100	VESA 75/100
Ingress Protection	IP65	IP65	Front IP65	IP65
Dimension (mm)	290 x 230 x 68	290 x 230 x 68	290 x 230 x 78	340 x 262 x 75.1
CPU	Intel® Atom™ D2550 Intel® Core™ i7 2610UE	Intel® Atom™ D2550 Intel® Core™ i7 2610UE	Intel® Atom™ x5-E3930	Intel® Atom™ D2550 Intel® Core™ i7 2610UE
Chipset	Intel® ICH10R Intel® QM67	Intel® ICH10R Intel® QM67	N/A	Intel® ICH10R
Memory	DDR3 1333MHz SO-DIMM slot (up to 4GB)	DDR3 1333MHz SO-DIMM slot (up to 4GB)	DDR3L 1333/1600 SO-DIMM, 4GB (default) up to 8GB	DDR3 1333MHz SO-DIMM slot (up to 4GB)
Storage Interface	1 x CFast 1 x 2.5" SSD SATA 2.0 (9.5mm)	1 x CFast 1 x 2.5" SSD SATA 2.0 (9.5mm)	1 x CFast 1 x 2.5" SATA 3.0 SSD bay (9.5mm)	1 x CFast 1 x 2.5" SSD SATA 2.0 (9.5mm)
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	u-blox NEO-6Q on board	u-blox NEO-6Q on board	Optional VIOB-GPS-02 module (u-blox NEO-M8N)	u-blox NEO-M8N on board
Optional Communication	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN	Wi-Fi/Bluetooth/WWAN
USB	1 x USB 2.0	1 x USB 2.0	1 x Powered USB (5V/1.5A, 12V/1.5A) USB 2.0 type A (5V/1A) USB 2.0 type A (5V/1A)	2 x USB 2.0
COM	1 x RS232	1 x RS232	2 x RS232 (5V/1.5A, 12V/1.5A) 1 x RS232 (share with GPS)	1 x RS232 (5/12V), 1 x RS232 (TX/RX), 1 x RS232/422/485
CAN	1 x CAN bus 2.0B Optional OBDII	1 x CAN bus 2.0B Optional OBDII	1 x Isolated CAN bus 2.0B	1 x CAN bus 2.0B Optional OBDII
Ethernet	1 x 10/100/1000	1 x 10/100/1000	1 x 10/100/1000	2 x 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
Mini-Card	1 x (PCIe+ USB+ SATA), 1 x USB	1 x (PCIe+ USB+ SATA),1 x USB	1 x (PCIe + USB), 1 x USB 1 x M.2 Key E (PCIe+SDIO+UART+USB)	1 x (PCIe+ USB+ SATA), 1 x USB
GPIO	3 x In, 3 x Out	3 x In, 3 x Out	2 x In, 2 x Out	2 x In, 2 x Out
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B, E13	CE, FCC Class B
OS	VMC 3001: WES 7, Win 7, Win XP, Linux VMC 3501: WES 7, Win 7, Win 8, WES 8, Win XP, Linux	VMC 3011: WES 7, Win 7, Win XP, Linux VMC 3511: WES 7, Win 7, Win 8, WES 8, Win XP, Linux	Win 10, Linux (Kernel 3.x)	VMC 4011-K: WES 7, Win 7, Win XP, Linux VMC 4511-K: WES 7, Win 7, Win 8, WES 8, Win XP, Linux
Operation Temperature	-30℃ to 60℃	-30℃ to 60℃	-30℃ to 60℃	-30℃ to 60℃

Fleet Management System

Model	
	FMS 1000
CPU	ST MCU
Chipset	N/A
Memory	PSRAM 1MB
Storage	Optional USB flash
Second Storage	N/A
Dimension (mm)	153 x 146 x 56
Power Input	DC 9V to 36V (w/ internal back up battery)
Ignition Control	Yes, w/ 8 level delay time setting
Power Management	Battery deep discharge protection
GPS	uBlox NEO-M8N on board
Wireless Communication	Wi-Fi (optional)/WWAN
Voice Communication	Yes
SMS/ Ring Wake Up	Yes
SIM Socket	1
USB 2.0	1
COM	1 x RS232 (w/ 12VDC) for RFID reader
CAN/OBDII	2 x CAN 2.0B
Video Out	N/A
PCI-104	N/A
Ethernet	1 x 10/100
PoE	N/A
Mini-PCIe Socket	1 x SPI
SMBus	N/A
DC Output	12VDC (1A)
GPIO	3 x DI, 3 x DO 2 x Analog-in 1 x Speed frequency
Certification	IP67
Operation Temperature	-40°C to 70°C (w/o battery) -20°C to 40°C (w/ battery)

Rugged Tablet Computer

Model	
	MRC 1000
LCD	7" WVGA TFT (LED type)
Touch	4-wire resistive
CPU	Intel® Atom™ Z530
Memery	2GB DDR2
Storage	32G SSD
Wireless	802.11a/b/g/n, BT v2.1+EDR Option: GSM/GPRS/3.5G
GPS	Optional
Camera	Rear: 2.0M Pixel CMOS
Optional Modules	Barcode scanner/MSR module
Power	DC in 19V/3.42A
IO Interface	1 x Audio jack 2 x USB 2.0 1 x Finger print reader
IP Rating	IP65
Weight (kg)	0.99
Dimension (mm)	206 x 200 x 34
Operation Temperature	-20°C to 50°C
Certification	CE, FCC Class B

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), Internet of Things (IoT), Interactive Signage Platform (ISP), 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	iAutomation: Industry 4.0 Solution, industrial robot & motion, industrial network, DMS 4.0
IDS	Intelligent Digital Security: IP Cam, NVR, mobile server platform
IoT	Internet of Things: total solutions for vertical IoT applications Healthcare and Medical 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.

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