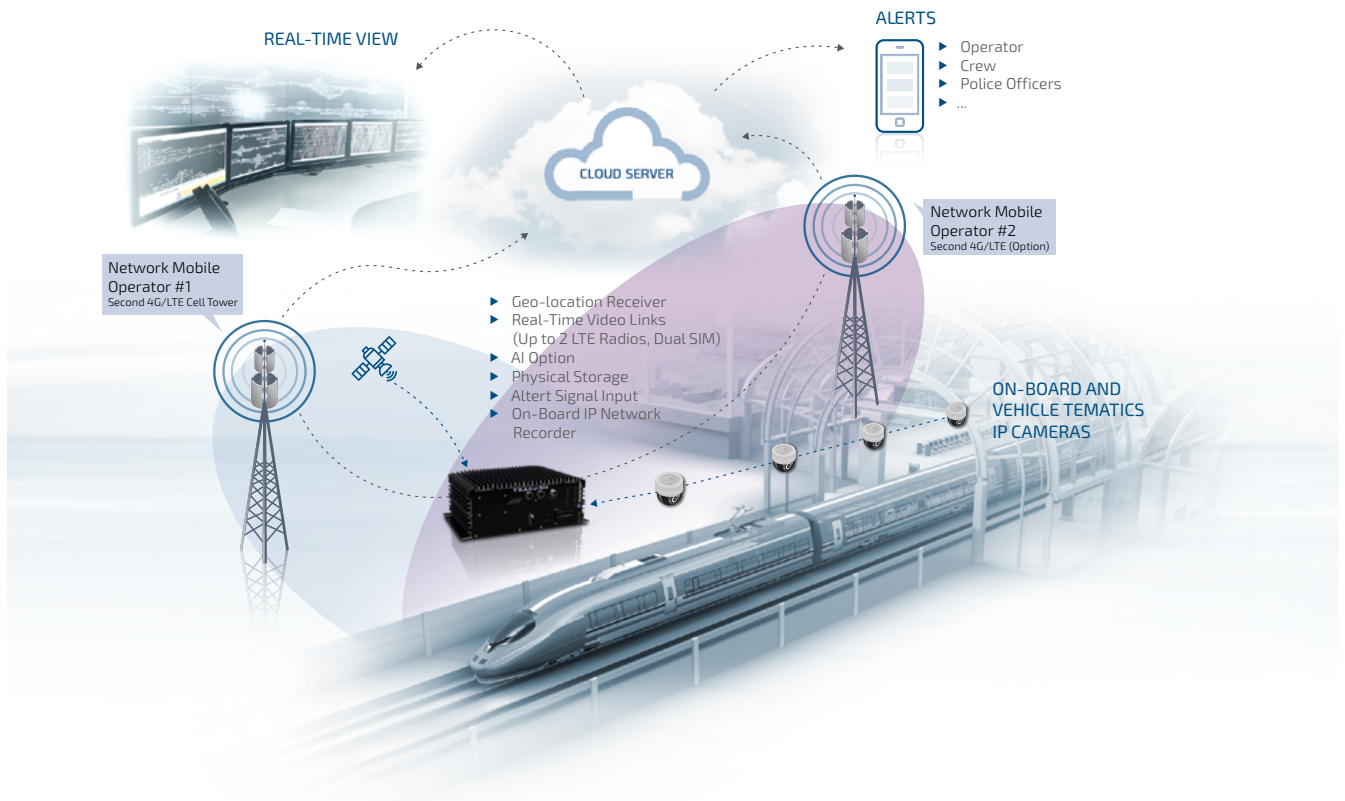




ONBOARD SURVEILLANCE FOR PUBLIC TRANSPORTATION

"ON-BOARD SURVEILLANCE DEALING WITH REAL-TIME DETECTION AND DIGITAL SECURITY"



On-board surveillance has become a major stake for public transport, so as to handle new security challenges and threats that operators can face nowadays. This is about safeguarding passengers and on-board accompanying staff, managing incidents and conducting investigations, all without affecting transportation operations.

Video is no longer limited to an on-board recording which provides evidences to the authorities. CCTV must now provide a real time monitoring and alerting. From a simple alert button up to a complex live Video Analytics, on-board video protection needs to be connected and scalable so as to interoperate with complex video analytics thanks to Artificial Intelligence.

Security is no longer limited to passenger protection. New needs focus on vandalism or violence crime detection and location, as well as inappropriate behaviour. These real time analytics, although demanded by the security and safety of people, cannot however compromise with personal privacy and related regulations. To this end, all video streams must remain protected and only accessible by the appropriate authorities. Digital security and data protection must be processed accordingly in all the surveillance solution and system.

All these security challenges are addressed and performed by an all-in one Solution Ready Platform powered by Genetec and Kontron.

A SOLUTION READY PLATFORM

The Kontron TRACe™ V40x platform and the Genetec™ Security Center offer the best system addressing on-board public video surveillance for transportation. This turnkey system is ready for exploitation in a matter of minutes. The Kontron / Genetec Solution Ready Platform is designed for harsh environments like railway and road vehicles and is fully compatible with the latest available video technologies. Using Genetec™ Security Center unified with IP security platform provides the support for a wide range of industry-leading IP cameras and CCTV equipment with industry-leading video analytics, integration with vehicle telematics and other onboard systems, as well as data correlation and decision support.

With TRACe™ computers, Kontron has demonstrated the reliability of its scalable hardware with regard to the connectivity, performance, digital security and video analytics. A perfect matching platform for video surveillance projects of various scales.

The GENETEC™ Security Center Technology that manages the on-board video security, will unify operations over on-board rolling stock systems to wayside locations, thanks to features like the automatic video transfers. Thousands of cameras in your fleets of train, bus, metro will simply be controlled and monitored along with equipment located in stations or depots. Information will be instrumentally shared and exploited across your entire fleet.

Video streams are individually configurable in various video compression formats (H.264, MPEG-4, MJPEG) for live viewing-local or remote, as well as recording for storage and bandwidth optimization.

Alarms from video content and physical button (driver's silent alarm, passenger alter buttons) are configurable and associated to specific users and required actions such as acknowledgement, forward, snooze, trigger start/stop recording, send e-mail notification or show procedure.

Mobile devices such as smartphones, tablets, panel PCs can receive alarms and access any video streams during live events.

A secured video system using hardware secure elements with end-to-end data encryption and arranged in the on-board recorder prevent any unauthorized access. This system allows the first responders, the authorities or law enforcement, to be alerted online with the situation and react accordingly from a single, trusted data source. The GENETEC™ Security Center platform can be used to safely and easily exchange information between agencies, while maintaining evidence handling standards and strict access restrictions on data access.

Connectivity for data transfer is fully integrated with the wireless multiple links supported by TRACe (Wi-Fi and Cellular).

When geo-location is needed, a GNSS receiver is installed on TRACe to localize information and data.



// TRACe™ V40x

KONTRON TRACe™ V40X NETWORK VIDEO RECORDERS

TRACe™ V40x is a family of rolling stock recorders and Network Video Ready Platforms designed for video security system and monitoring in transportation.

Connected to the on-board physical local I/Os and to the IP cameras through Ethernet links and wireless connectivity (Wi-Fi, LTE, LoRaWAN, GNSS radios, as well as the support of removable disk storage units,) TRACe is the perfect platform supporting your solution in transportation with Genetec™ Security Center. Thanks to the state of the art security technology coming with TRACe, both at hardware and firmware levels, the KONTRON TRACe GENETEC™ represents actually the ultimate digital security for EN50155 rolling stock on the market.

TRACE-GENETEC SERVER FEATURES

Field Proven Video Recorder

- ▶ Developed and tested according to transportation standards (EN50155, EN45545,...) for train, tram and metro
- ▶ Design to meet bus standard (ISO 7637)

Install and Forget

- ▶ Rugged design, shock and vibration proof
- ▶ No moving parts
- ▶ Maintenance free
- ▶ Wide operating temperature range (-40 °C up to 70 °C)
- ▶ Automatic remote firmware updates

Easy Install

- ▶ Box computer with fixing brackets, various mounting positions

Wide range input Voltages

- ▶ Accomodates voltages from 24 to 110 VDC for train, tram and metro
- ▶ Accomodates voltage from 12 – 24 VDC for vehicles (buses, trucks, agriculture)

Modular Connectivity (Not exhaustive list, please ask)

- ▶ Physical inputs
- ▶ Wi-Fi wireless (both access point and client mode)
- ▶ Up to 2 LTE with Dual SIM
- ▶ GNSS receiver with phantom power

Real-Time Video Content Analytics Support (option)

- ▶ Vision Processing Unit for Deep Neural Network
- ▶ Support IA models from TensorFlow and CAFEE

▶ TRACe-V40x

- ▶ Fanless Video Recorder
- ▶ Up to 40 IP cameras (and even more on some conditions)
- ▶ Genetec™ Security Center Ready
- ▶ 2 extractable local disks (4 in option)
- ▶ Antenna connectors on front according installed modules Wi-Fi, LTE radio, GNSS
- ▶ Dual SIM support for installed LTE modems (up to 2 modems)
- ▶ Circular rugged connectors for input power and Ethernet links



▶ TECHNICAL INFORMATION

		TRACe V404-GE	TRACe V403-GE	TRACe V407-GE
NUMBER OF CAMERAS (4 Mbps)		16	24	40
OUTPUT VIDEO STREAMS		2	4	9
LOCAL SECURITY CENTER DESK		1	1	1
MAX. STORAGE		8 TByte	8/16 TByte	8/16 TByte
PROCESSOR		Intel Atom® x5-E3940 1.6 GHz	Intel® Core™ i3-6100U 2.3 GHz	Intel® Core™ i7-6600U 2.6 GHz
MEMORY	TYPE SIZE	DDR3L 8 GByte	DDR4 8 GByte	DDR4 8 GByte
ETHERNET	TYPE NUMBER OF PORTS	Gigabit Ethernet 2	Gigabit Ethernet 2	Gigabit Ethernet 2
BOOT DRIVE	SIZE	32 GByte	32 GByte	32 GByte
DISK DRIVE	TYPE NUMBER OF DISKS SIZE RAID	SATA 2 2,5" RAID0; RAID1	SATA 2/4 2,5" RAID0; RAID1	SATA 2/4 2,5" RAID0; RAID1
OPTIONS	DIGITAL INPUTS WIRELESS CONNECTIVITY	8x Inputs LTE, Wi-Fi, GPS	8x Inputs LTE, Wi-Fi, GPS	8x Inputs LTE, Wi-Fi, GPS

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