# INTELLIGENCED VEHICLES In CRITICAL COMMUNICATION

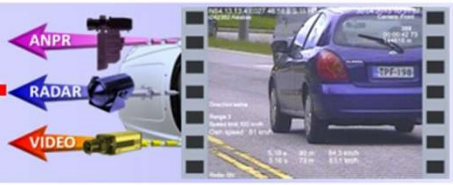
SUNIT

Bridge for Demanding Duties




# PATROL-ASSIST

SUNIT
Bridge for Demanding Duties
PATROL-ASSIST
INTELLIGENCE ON MISSION CRITICAL




# MISSION-CRITICAL – CRITICAL COMMUNICATION


Public safety ask's for secure and safe actions by authorities when critical situation takes in place. Traffic accidents, hart-attacks, fires, chemical catastrophes and natural disaster are patterns where time and communication are critical presumes for confident services.

Critical-communication demands constant connection between authorities, but also instruments providing reliable and rapid support for in-duty decisions.

Proactive and preventive act is one of the most important roles for authorities. For example, road safety demands that all road users have an appropriate vehicle as well as safe traffic-behaviours.

Patrol-Asist is an excellent tool for supervisions where reliability is the key on duty and service.

Patrol-Assist is a whole-sale solution comprising powerful Computers, HMI-equipment's, Communication tools, Cameras and Applications tailored in close collaboration with the authorities in various countries.

Patrol-Assist is suitable for all vehicle types, as Motor-bikes, Vans, Sedans, Heavy units, Vessels and Airborne. Of course, solutions are and will be tailored due to Transport type and Client-specifics.

For utilization of Client-applications, the system applies an Open Architecture Computing for Multi-users.

There are available interfaces as Multi-LTE, -GNSS and -Screens, Voice-Management applications and Interfaces toward Cell phone / Tablet thru Wi-Fi / B.T. for HMI-clones.

The Computing units are equipped with Trusted Platform Modules for security point of views.

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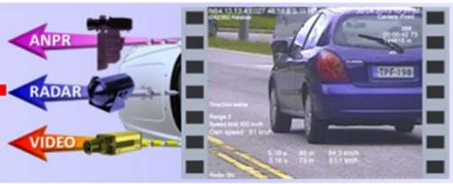
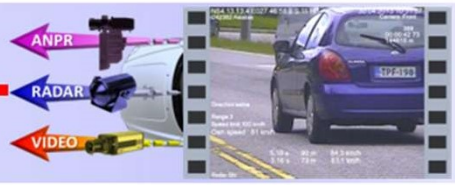



# PATROLL-ASSIST
# INTELLIGENCED VEHICLE ON CRITICAL COMMUNICATION

SUNIT Patrol-Assist system offers properties that brings value-add to the vehicle as well as features simplifying the crew's workload. Patrol-Assist system carries solutions that supports authority-duties and utilization of the vehicle-equipment's.

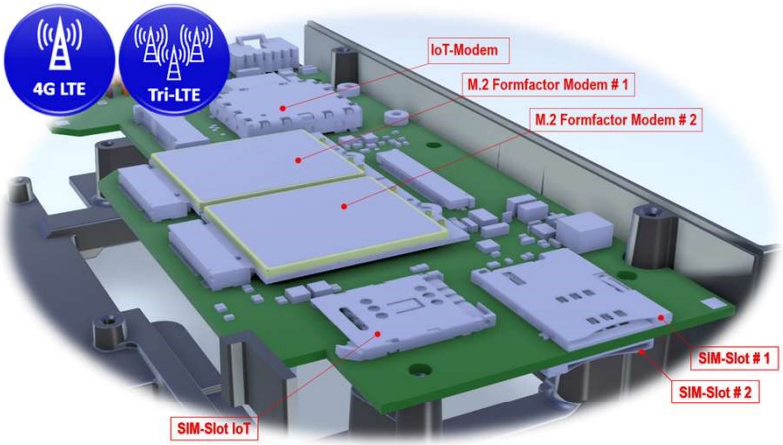

- LTE-Connected
- Traffic-Connected
- Vehicle-Connected
- Live-Video Connected
- Excellent Human-Machine Interface


For motorcycles, we offer a comprehensive equipment platform that facilitates work stress.
Sunit Bike-Assist system is connected to existing Trunked radio enabling voice control between voice-cores to desired priority levels. The Set-up also includes keypads and tripods for special functions as blue lights, quick-resets, quittances, etc.




# CRITICAL COMMUNICATION

Critical communication requires All-time connections, interruptions are not desirable. Our solution to demands on Critical Communication is design where computer can be equipped with several modems.



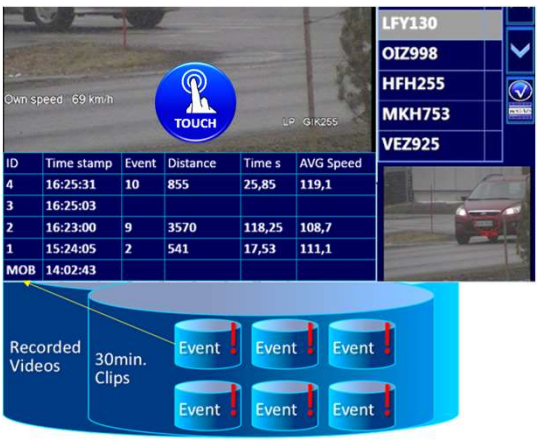

There is optionally platforms for 1 or 2 Modems for Client applications and in addition 1 modem for IoT-interface. Modem-types are selective according to the Clients options.
There is Stand-Alone SIM-Slots for all 3 Modems.
The platform is Open Architecture meaning that Client applications have full control of Critical Communication.

Traffic Surveillance Video, Radar-connected speed recording, On-Touch Speed-measurement and ANPR with Severity-levels, an effective way to ease stress on Duty.



There are build-in interfaces for Authority Applications, whereon connections toward Back-Office databases of recognized vehicles do not require manual typing, just On-Screen touch is sufficient.

In the event of a chasing, Events can be recorded in the video with simple touch which are easily found in playback as evidence.





Live Video from the vehicle to the Command-centre, from where further sharing to other nearby vehicles and receivers improves interplay to the top.

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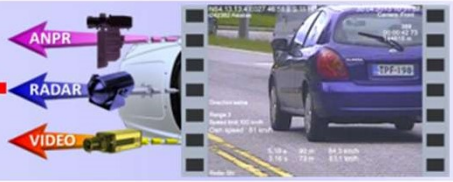


# TRAFFIC SURVEILLANCE BY TAILORED COMPUTING

SUNIT Patrol-Assist Application offers to Patrol Cars and Motorbikes On-Demand solutions tailored to various Client-Specific needs.

Applications on Patrol-Assist incorporates Stand-Alone whose utilization is Client-selectable.

The Applications are:

- **Traffic Surveillance video** recording with **speed measurement** and **event recording**
- **ANPR Application**, including Severity-levels for Alarm on identified vehicles
- **Radar interface** for Radar-settings and Radar-speed recognizing into the video.
- **Copy a video** sequence for playback and edits.
- **Camera controls** and settings
- **Upload Live-video and Photos** to Command-central


## APPLICATION; TRAFFIC-SURVEILLANCE

Application “Traffic-Surveillance” is connected with 1 or 2 Colour Cameras. The Video is recorded continuously, it saves the video into memory as 30-minute sequencies.
Play-Back include Sequence-reproductions.


The Remote-Control unit is utilized for labelling of events, Speed-measurements and Extraction of Photos.

The Video have labelled data as Location, Time, User-ID, and is modifiable due to Client-specifics.

As Option, the Video is connected onto Radar (Stalker) having the Radar-Speed(s) labelled on video.


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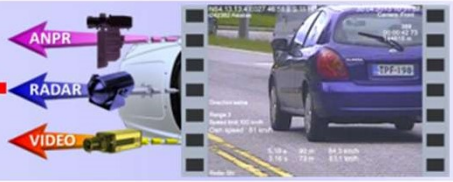
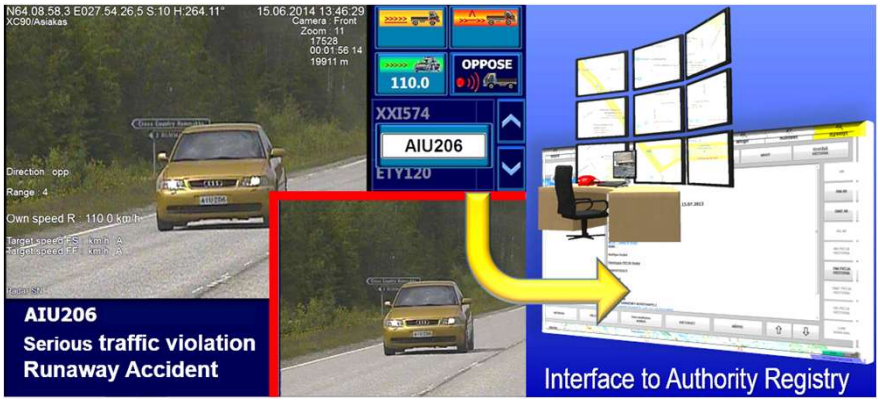



## APPLICATION; ANPR – NUMBER-PLATE RECOGNITION

Application "ANPR" is capable of reading vehicle Number-plates on high-speeds. All-weather recognition applies on speeds higher than 250 Km / hr. Application is connected to Sensitive SUNIT-FOX ANPR Camera having IR for Nigh-Visio.


The Application analyses continuously the car plates, checks toward downloaded Authority registers (up-to 3 register). When Hit takes in place it is notified by Voice and Colour-signal. Colour-signal signifies the severity of Hit.

Due to Notify/Violation registries are downloaded into the Vehicle computer, the response-time on Screen is extremely short. Up-to 5 cars / second is recognized.




**Patrol-Assist** have interface for LIVE connected Video– and Still-picture streams between car and Central.

For notified vehicles, the Authority have just one-touch function for interface toward Authority Applications.

The LIVE-connection for Still-Photos for recognized cars to Command-Centre have modes of Operations as:

- Manually transmission, the Authority in car have Control of LIVE –stream.
- On an emergency occasion such as chasing. LIVE-stream takes place by Application.
- When Patrol-car is on "Stand-Alone Duty" (In-situ) the application sends numbers of Still-photos (due to pre-setting).

## INCREASED DUTIES BY DECREASED WORKLOAD

Patrol-Assist Application design focus on One-Touch functionalities instead of Typing-technology. It creates solution where manual operations are almost eliminated.

Our feedback from users affirms that Authority with pleasure utilizes Sunit Patrol-Assist due to high Assist-class by Application.
User-friendly Layout with visible Shapes creates Easy-access Solution on tough duty.

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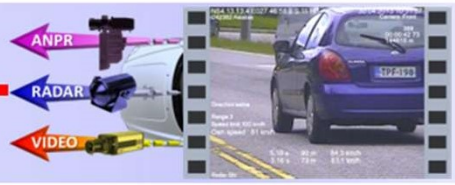
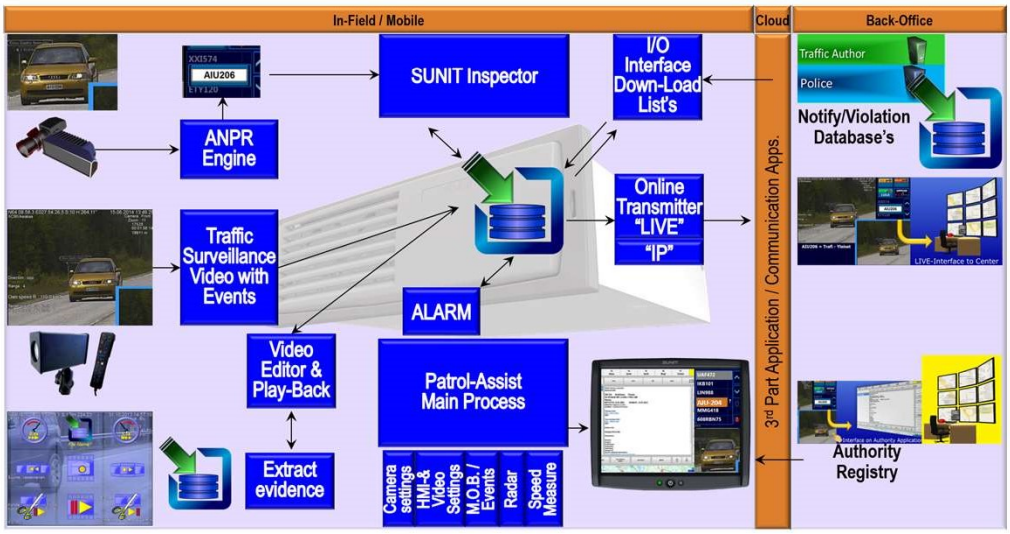



# SUNIT PATROL-ASSIST EQUIPMENT'S




All Hardware and Application are Produced by SUNIT that warrants Quality and extremely long In-Field life.

DESIGN FROM FINLAND ®

**SUNIT-FQ Serial CPU**. Several versions available due to Client-required concepts.

- Intel i5 7442EQ Skylake H. 4 x 1.9GHz
- Intel i7 6822EQ Skylake H. 4 x 2.0GHz
- Intel i7 7820EQ Kaby Lake H. 4 x 3.0GHz

Download Technical Sheets: **WWW.SUNIT.FI**

**SUNIT-Screens** Varied-size Dashboard-mounted Indoor or Outdoor Screens due to Client-required concepts. Wide-Viewing and High-Bright screens. Solar-cowers for Sunlight intensive use.

Multi-Screen and OSD-Screen solutions available.

**SUNIT Hand-held Keypad.** 24 or 5-button pad for registry of Events, Average Speed-measuring's, Camera-settings, etc.

Lighted and Ergonomic design.

**SUNIT-FOX IR-Camera for ANPR.** High-performance IR-Camera.

Distance for ANPR 12—15m. Mounted indoor. When Dual-Camera, swap either manually on-touch or Time-Interactive.

**Traffic-Surveillance Video-Camera.** Application controlled Colour-camera. You can have up-to 8 pre-settings for Focus etc. Camera is controlled by Touch-screen or Hand-held Keypad.

When Dual-Camera, swap either manually on-touch or Automatically Time-frequented.

Several Camera-Models available due to installations-environmental claims.

**SUNIT-Antennas.** Several types and Concepts as well as Tailored for 4G/5G, FM, Tetra, etc. Up-to 7 antenna-connections.

Wiring-lengths suitable to Vehicle requirements.

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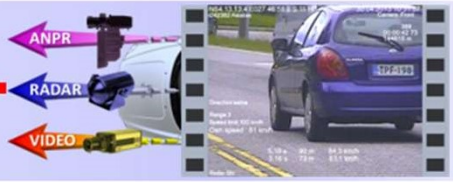
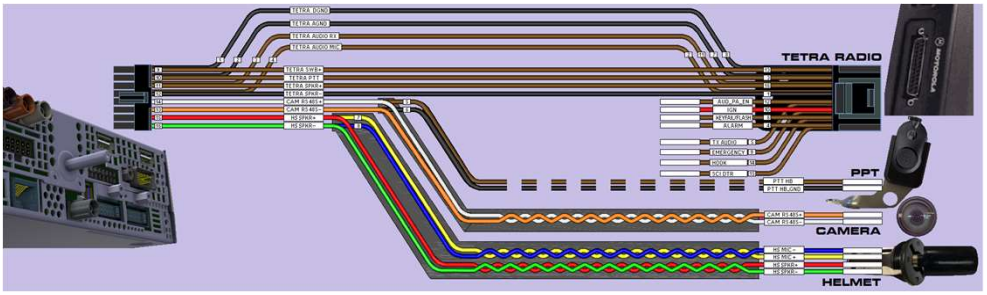



# SUNIT PATROL-ASSIST OPTIONAL EQUIPMENT'S


**RADAR-Interface** In case vehicle is equipped by Radar, it is connected to SUNIT Computer.

The Radar-data is labelled onto Surveillance Video-stream.

In case Dual-antenna is in use, the swap of antenna-data onto video follows Video-camera.




**Accessory-Harness**

For connections of TETRA-Radio and Helmet as well as for Voice-Priority Managements.


**SUNIT-IC360 IR-Security camera**. Camera for areas where the mounting should be invisible and unnoticeable.

Is widely used for car in-cabin installations like Police, where team-safety during transports shall be ensured.


**SUNIT-R Reversing camera & SUNIT-RearView Application.** All-In-Weather Camera offers camera technology connecting high imaging quality for Car reversing on Day and Night Visio.



**GPS/GNNS and 3-Axis Gyro** are used in addition of LBS when poor GPS-Connections (tunnel, High-houses, etc.) for coverage of ADR.

There is DUAL-Interfaces for GNSS meaning that 2 Applications can utilize signals parallelly.


Connecting **SUNIT-Computer** to Vehicle Speed Sensor (VSS) for Patrol-Speed. The Computer fulfils MID-Directive 2004/22/EC.

The VSS is utilized for exact Speed- & Distance measurements.

CAN-connection makes possible management of e.g. Blue-Lights thru Touch-Screen as well as Remote-controlled.

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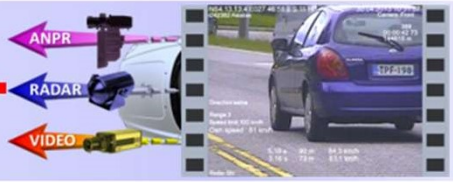



# SAFETY FIRST – KEEP HANDS ON STEERING WHEEL


## PATROL-CAR COMPUTER IS INCREASINGLY CONNECTED TO THE STEERING WHEEL

Cabin-Space is safest when all function control is applied via Touch-Screen.

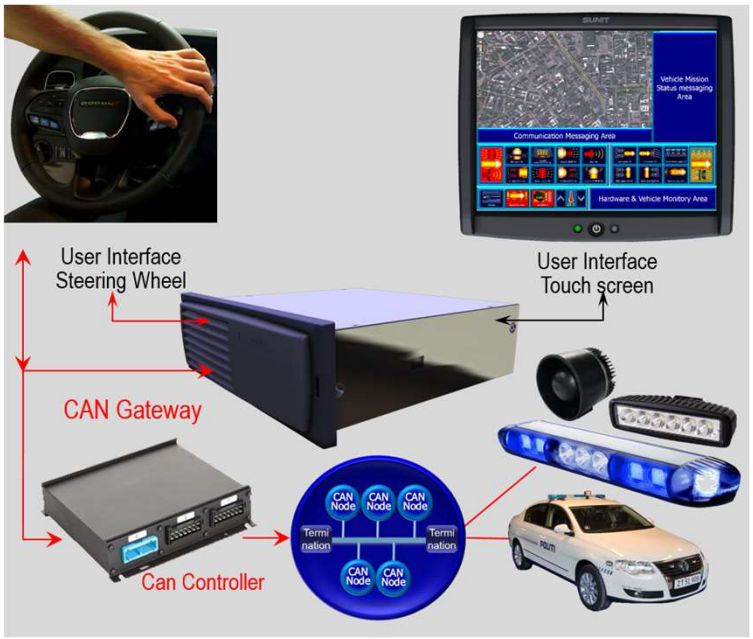
High-Bright Screen creates easy HMI for Duty-operations regardless it is about Communication, Vehicle control or Traffic Enforcement.

It's about Safety and Ergonomics.

When an offensive is on and speed is high, author's cabin-safety shall be prioritized. Keep eyes on the road and hands on Steering wheel.

SUNIT Computer connected on Steering Wheel via Vehicle-CAN or CAN-unit for Blue-light controls the most significant functions like Emergency Lights, PTT, Radio, Toggle of applications on Screen.

It allows both hands and eyes to be focused on the traffic.




*Steering-Wheel Interface is usually created in corporate with Client's supplier of Blue-Lights or Cars.*

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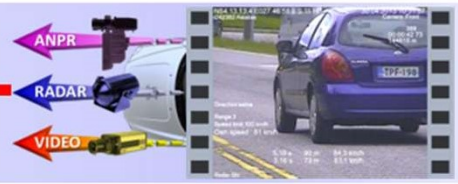



# CAR-OFFICE —UTILIZING THE CAR OEM-SCREEN ON DUTY


**PATROL-CAR OEM-SCREEN IS INCREASINGLY UTILIZED AS A HMI FOR AUTHOR-DUTY APPLICATIONS.**

Cabin-Space—Ergonomy—Safety.

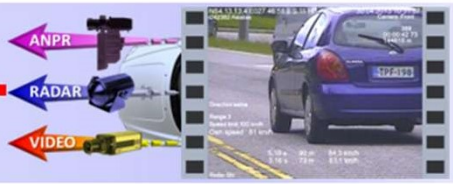
Utilizing Car OEM-Screen for Patrol-Duty applications makes Authors working environment significantly safe.

Especially Civilian-coloured (Unmarked) Patrol-cars have benefit of this utilization due to discreet interior.


SUNIT-Computer is connected to OEM-Screen by Screen-cable toward Car Infotainment Control Module with Graphic-Interface Unit.

The solution keeps Car-original windows on Screen, Duty-Application from Computer is Add-On function.

*SUNIT Computers are connected toward Car-Screen in corporation with Car-Supplier / Manufacturer.*




# MY NOTES

# SUNIT

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Mission Critical

# PATROL-ASSIST

Design From Finland

REACH 2006/121/EC

RoHS 2011/65/EC

WEEE 2002/96/EC

E17 ECE 10R-05 0020

ISO 9001

BUREAU VERITAS Certification

N° FIHSK10299467A