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**What is REMS?**

REMS is a software platform for integration of security, business intelligence and different other devices with POS data and other metadata. This gives a retailer a very detailed insight into daily store/mall operations and enables management to execute better business decisions. The results of usage are optimized staffing, lower inventory loss, lower energy consumption and higher sales and customer satisfaction – and at the end, improved bottom line.

Architecture of the solution consists of end point devices which either generate alarms or data, which are collected in the database. REMS database processes combine and prepare the data which is then showed on REMS frontend. Front end visualization of the data is made user friendly so that management of the company can prepare information for their decisions fast and efficiently.

**Main advantages of REMS software:**
- one platform that combines crucial store-operation data,
- more accurate decision making,
- cost optimization,
- lower maintenance cost,
- lower operational cost,
- higher efficiency of existing integrated systems.
Devices than can be integrated into the REMS software:

- EAS antennas and deactivators *
- Video recording devices **
- IP video cameras ***
- LPR cameras ****
- People counters (through LAN or relay communication with PC Data collector) *****
- POS solutions (via webservice)
- All relay switch devices (via LAN enabled I/O module)

NOTES:

* all antenna systems with alarm output. Deactivators only Sensormatic through LDM II device.
** Currently integrated are AD Intellex, Milestone, NUUO, Artec
*** currently REMS server can directly communicate with Hikvision, Basler and Sanyo IP cameras
**** currently supported are ARH LPR cameras
***** currently supported are integrated NEDAP and Sensormatic people counters, all relay people counters, Irisys, Telsec and Brickstream people counters

NOTE: all brands mentioned in text above are in ownership of their respective owners.
REMS Alarm management module

REMS alarm management module combines any alarm relay/digital with CCTV image or any other media correlated to certain alarm input. Module is prepared to connect alarms from burglary, fire alarm, EAS devices, cable security devices, access control or with other words any device that can generate alarm. The power of REMS is in automatic export of CCTV image correlated with alarms. The systems allows also correlation with other media like images, document or weblink.

Functionalities overview:
- tabular display of all alarms with advanced filtering option
- automatic alarm with CCTV data correlation
- automatic sending of general alarm report on email
- acknowledgment of the events by responsible persons

Supported CCTV recording devices:
- Callisto
- American Dynamics
- ARTEC
- NUUO
- Milestone

Supported EAS devices:
- Sensormatic
  (only alarm from antennas)
- NEDAP
  (only alarms from antennas)

Supported burglary/AC producer:
- DSC
- Kantech

NOTE: All stated brand names are owned by their respective owners and not Tenzor d.o.o.
REMS POS-EM module

Tenzor POS-EM module enables retailer comprehensive detection of fraudulent action. Its main advantage is automatic invoice and CCTV recording correlation and export not via RS232 printer port but direct connectivity to POS software.

If a possibly fraudulent action occurs during a POS transaction, like storno, manual input of price, quantity or rebate then our software automatically exports video from DVR and saves it to REMS server. All such alarm events are also shown in a list and have to be processed and confirmed by a responsible person, usually CSO (Chief Security Officer) in the company. Video image is synchronized with time when items are passed through barcode scanner which enables user easy navigation through invoice.

More of such alarm events in a specified period of time, made by one cashier are recognized as an exception, which is immediately sent by email to responsible persons which has to take action. Unlimited number of algorithms that define exceptions can be programmed in software and later altered if needed.

Search and filter options:
- by id and name of cashier
- by id, name of location
- by product name or code
- by price range
- by date and time
- by type of possibly fraudulent action
REMS Mapping module

Mapping module gives REMS user capability to effectively overview alarms and device status in the store or entire store chain. Flexible mapping creation module allows user to effectively change the configuration of the devices in the store chain if they occur.

Functionalities overview:
- flexible map creation with vector support
- multiple map layers with automatic map switching at alarms
- alarm animation for individual alarm events
- element info/secondary action (picture, remote connection,...) one click access for supported products and brands
REMS Plate Recognition Module

The number plate recognition system uses a technology that transforms the image data from a camera into a result string that enables a further processing in a database. But the recognition camera and recognition core don’t have any value if they are not supported by user-friendly admin/analytical software.

Applications
• automatic parking lot management without tickets or other identification elements,
• toll collection on highways,
• to identify and foil non-payers at gas stations,
• border crossing control,
• traffic control,
• mobile traffic control by units attached to vehicles (police).

Taking a picture
The picture of a vehicle is taken by a camera that enables the recognition of a number plate at any time of day and is not sensitive to weather conditions. Additionally, another the camera can take a panorama picture or a picture of the driver at the moment of the recognition. The recognition technology uses the OCR technology (Optical Character Recognition for Cars) which is adjusted to "read" number plates. It can identify single and double line number plates. Despite external effects (plates are damaged, dirty, faded or covered) we can achieve almost 98,7% reliable recognition rate.

Data processing
The recognized result strings are stored into the database, they can be equipped with additional data like date and time of the recognition, reliability, picture, etc. Defined applications enable to process, search, sort out this data subsequently, to manage a parking place, etc.
Admin / analytical software: