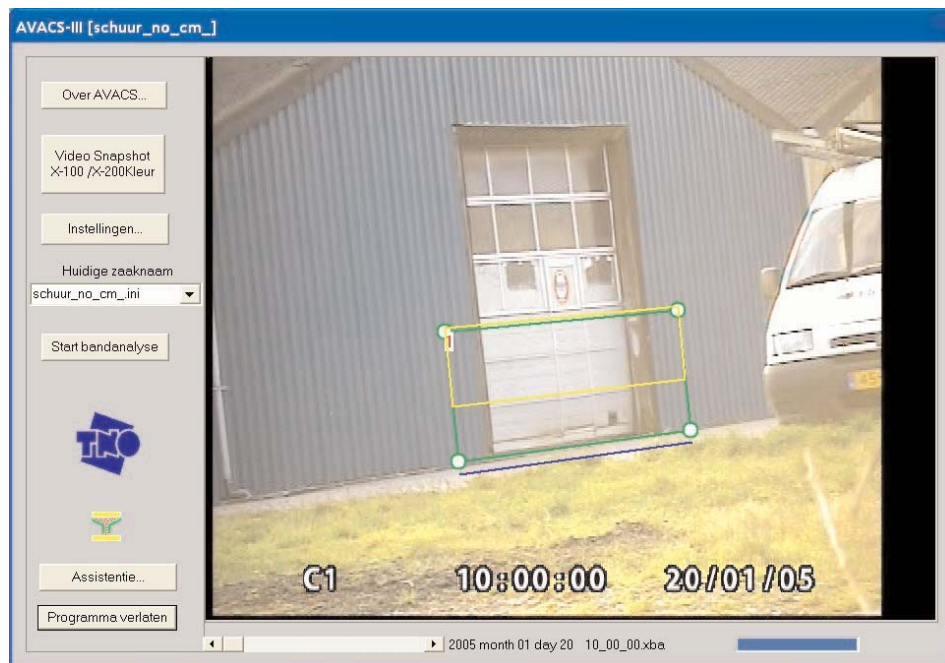Automatic Video Analysis and Compilation System

AVACS III

Keywords:

- Real-time image processing
- Time-lapse video
- Observation tape analysis
- Autonomous Image analysis

Sample image during analysis.

Problem

During analysis of time-lapse recorded images an observer can get tired when looking at images with few events-of-interest. AVACS can release this burden in an easy and flexible way.

Saving precious time, AVACS reduces the analysis time of video footage dramatically. Due to its comprehensive manual and simple operation, working with AVACS is a walk in the park. Operated by an experienced user AVACS can be up and running in minutes. Simply start the analysis and walk away. AVACS works for you and creates a compilation of the video material. AVACS controls the operation of the compilation recorder. When the analysis is completed you may store your master tape in a safe place and do your actual analysis on the compilation tape or AVI-file.

Based on proven technology and thoroughly field-tested it analyses videofootage quickly, reliably and efficiently, thus yielding a fast return on investment.

Operation

Once AVACS is started, the user can enter the essential analysis information into the Graphical User Interface (GUI).

When the analysis starts, AVACS examines every image for the occurrence of specific events, like the appearance of persons or cars in a chosen part of the image frame (like a door), which comply with the wanted person profile.

Since time-lapse recording generally covers day and night situations AVACS automatically compensates for illumination variations, if desired.

If an occurrence is found, AVACS passes the complete image to the compilation recorder and stores the image on hard disk in a user-selectable format.

Using the advanced triggering possibility, AVACS can make sure that unwanted persons (like a passer-by) are excluded from the compilation. This will significantly reduce the length of compilations thus saving time. The possibility to set a second locus enables the selection of the right situations in more complex scenes. Both locii can be used in an inclusive or exclusive way.

When the analysis has been completed a CD/DVD can be created from the selected images.

On this set postprocessing like such as smart contrast enhancement or ALPR (Automatic License Place Recognition) can be performed. The links between the imagery on the compilation and the image set on CD/DVD must be made.

AVACS keeps it simple. Just read the super-imposed label on the image from the compilation. This label is the filename on the CD/DVD.

Images as selected by AVACS become visible immediately.

In this way the user can evaluate the effect of the current setting within seconds.

Feature summary:

- AVACS can work 24 hours a day;
- Simple operation;
- Reliable operation;
- Less tiring work, saving precious labour time;
- Faster result;
- Less wear and tear for master video material;
- Comprehensive manual (electronic and in print);
- In use with European Police, Border control and Intelligence services;
- Every image on compilation tape also exists on master tape(evidence)[1];
- Automatic folder creation with size of CD/DVD;
- Use of second locus for increased diversivity;
- Use of advanced triggering for further reduction of compilation;
- Smart Contrast Enhancement. AVACS creates a second set of images from the compilation. Each image will have its local contrast enhanced.

Technical specifications

- Store up to 250,000 images;
- Video format can be either PAL, RS-170; DV on request, Y/C connection included for monochrome and color imagery;
- High speed DVD/CD-writer Supports Time Space Technologies X-100 and X-200 format;
- High-performance COTS(Commercial Off The Shelf)-based image analysis system;
- Creation of (compressed or uncompressed) AVI-movie;
- Creation of Microsoft™ Bitmap, TIFF or JPG images from selection.

Options

- Support for direct analysis of hard disk recordings (ask for supported formats).
- Automatic License Plate Recognition (ALPR). AVACS will search for recognizable license plates in the compilation. Multiple countries are available.

TNO Defence, Security and Safety

'TNO Defence, Security and Safety' is the title under which TNO operates as a strategic partner for the Dutch Ministry of Defence and makes innovative contributions to enhance the safety and security of the Netherlands both at home and abroad. We also use our accumulated knowledge for businesses, industries and foreign governments.

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Original image   *Image with Smart Contrast*

Sample image with output of ALPR

Image,	Date,	Time,	License	Rel.%	Country
59,	29-02-'05	11:26:08	79-DT-LG,	93	NL
60,	29-02-'05	11:26:09	79-DT-LG,	92	NL

[1] *If procedures as described in manual are followed correctly*