

FaceVACS-VideoScan automatically scans incoming video streams, detects multiple faces and checks for possible watch list matches. If a match is found, operators are notified in real time. FaceVACS-VideoScan can work as a stand-alone solution, but also integrates into DVR systems with a variety of integration interface.

FaceVACS® technology

Incorporates B5T8 and A14T8 engines

Engine is robust against

- typical gesture changes
- pose (+/- 15° deviation from frontal image)
- partial face occlusion
- beard and hairstyle changes
- glasses (except dark sunglasses)
- lighting changes that do not cause strong shadows

Minimal image requirements for facial recognition

- sharp image
- one face is completely visible in the image
- inter-pupil spacing larger than 32 pixels
- at least 64 grayscales within the face area

Image requirements for optimal facial recognition

ISO 19794-5 compliant Token Frontal or Full Frontal Images

Biometric characteristics

- configurable score threshold
- image quality assessment focused on face evidences
- optional configurable sample quality check

Functionality

- fully distributed architecture of tracking stations, cluster controller, and computing nodes
- highly scalable and robust against hardware failure
- central software activation at cluster controller
- check multiple watch lists

Tracking station

- analyzes video streams and detects faces
- sends person tracks to the cluster controller
- runs as a service
- fast and reliable face tracking
- integrated camera control for selected cameras based on real-time scene analysis to deliver video footage with best possible face representation
- configurable tracking through minimum and maximum face size relative to frame width
- multiple Video channels independently configurable (frame rate, resolution, interface etc)
- all connected video streams can be monitored through the network

Video/chokepoint monitor

- graphical presentation of live video streams or video streams that are processed
- supports manual triggering in chokepoint operation mode

Cluster controller

- compares incoming and queued face evidences with watch list and alerts a match
- scalable by adding computing power 'on the fly'
- high availability option for deployments where no single point of failure is allowed
- multiple watch lists
- supports automatic watch list replication and distribution with any watch list network topologies

Batch import and enrolment

- from face photograph databases, can adopt to various naming schemes
- constantly provided progress feedback
- robust, re-start possible
- efficient batch enrolment, with failure correction and image quality assessment
- import of person data

Case Management

- supports configurable case data
- enrolled case gets an operator's authorization tag and timestamp

Alert center

- graphical presentation of alerts by time and video source
- alert confirmation and navigation
- automatic unconfirmed alert selection

Interactive enrolment

- from still face photograph
- from connected video stream
- from captured image received from acquisition camera
- supports visual inspection and manual annotation supports re-enrolment

Operation modes

- **Watch List Alert:** sends alert if a person of the watch list appears in a video stream
- **White List Alert:** sends alert if an unknown person (no white list member) appears in a video stream
- **Chokepoint:** automatically or manually triggered face tracking

Disclaimer

Face recognition technology, like any biometric application, cannot provide 100% recognition accuracy.

Cluster controller

Video input source - Windows

- selected IDS GigE Vision cameras
- selected Basler GigE Vision cameras
- selected AVT Prosilica GigE Vision cameras
- CCTV cameras with frame grabber via DirectShow
- USB and firewire cameras via DirectShow
- IP cameras accessible via http using still image or MJPEG requests
- IP cameras accessible by using DirectShow plugins
- video stream format support (like MPEG2, MPEG4; AVI) depends on installed Direct Show Codecs

Video input source - Linux

- selected IDS GigE Vision cameras
- selected AVT Prosilica GigE Vision cameras
- CCTV cameras with frame grabber via Video for Linux
- IP cameras accessible via http using still image or MJPEG requests

Image format support for enrolment

JPG, PNG, JPG2000, BMP, PPM, PGM, TIFF 6.0

Administration

- verification and identification for operational test purposes
- GUI supports easy biometric and non-biometric configuration of the system

Logging

- records activities of the system
- the content configurable
- logging of user actions
- option to share with operation database or to install as independent database
- enabled for audit tracking
- accessible via web interface

Integration API

- watch list add / remove record
- watch list enrolment
- watch list identification
- alert subscribing

Deployment packages

Tracking station

runs as service

Cluster controller

- runs as service
- configuration editor and system monitor for monitoring the distributed installation

Computing nodes

configurable as matcher or encoder

Cognitec front-ends

deployment package consisting of alert center, video monitor, case management

Integrator's kit

- various integration points, for the purpose of integrating with DVR systems and existing video surveillance solutions
- published, extensible and adoptable database scheme
- flexible tools for import of data from existing image repositories
- cluster controller and tracking station API
- API in C++ programming language
- web service API

Technical facts

Image format support

JPG, JPG 2000, PNG, BMP, PPM, PGM, XFD

Operating system

- Windows XP SP2
- Windows Server 2003 SP1
- Windows Server 2008
- Windows 7
- Suse Linux Enterprise Server 10
- 32 bit/64 bit versions

Database

- runs with Oracle 10g, Oracle 11g, MS SQL Server 2005 and 2008, IBM DB2 9.1
- other databases on request

Minimum hardware requirements

- Intel® Core™ i7 920, 2 GB main memory
- 2.5 GB free disk space
- covers a gallery of 100k enrollees

Language support

- English
- other languages on request