



# VAST Face Manager

## Facial Recognition System

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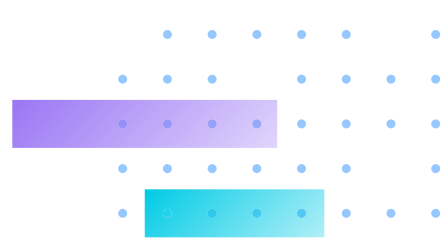


### Key Features

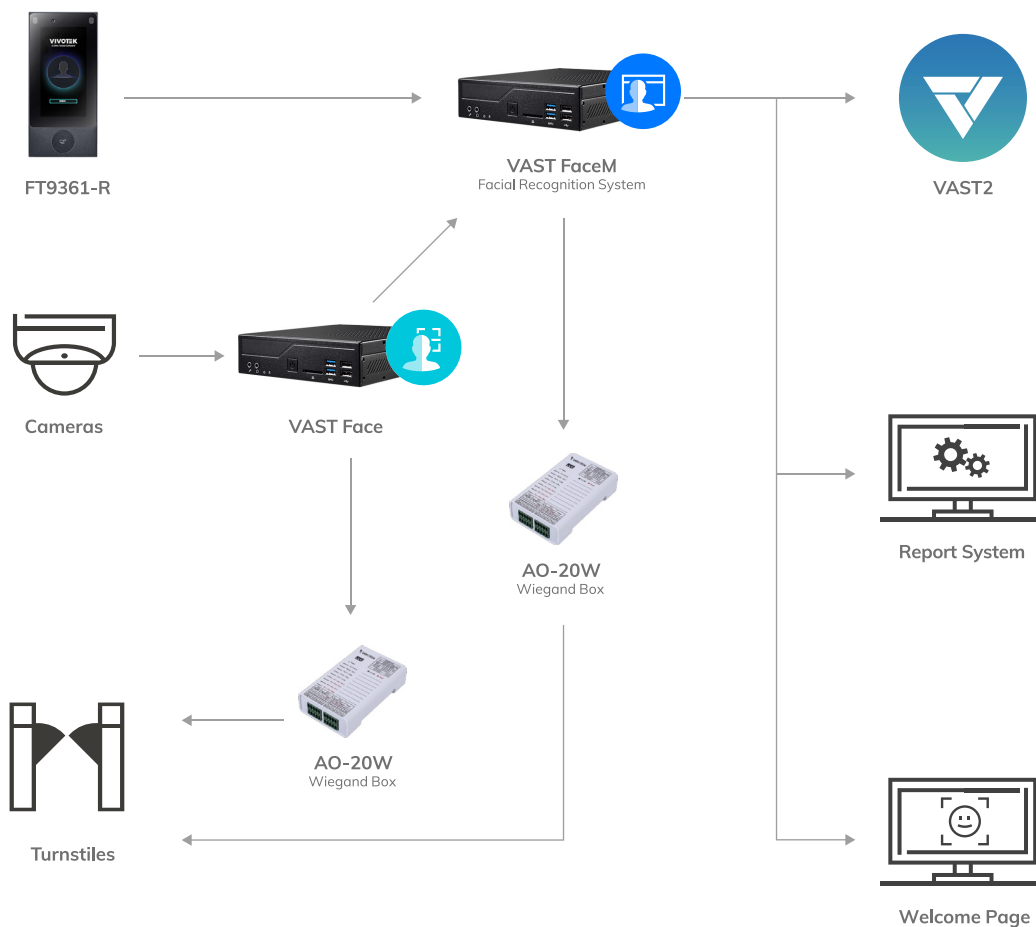
- Centralized Management System
- Accurate Authentication
- High Security
- Rich Infographic Reports

### Overview

VIVOTEK VAST Face Manager is an advanced AI-based system that utilizes facial recognition technology for access control and management. Registered users no longer need to worry about forgetting access cards or blurry fingerprints, simply present their face to a facial recognition camera, or tablet, to gain entry. VAST Face Manager provides a secure and seamless authentication mechanism by utilizing each user's face as a non-transferable biometric token. Thus, it can apply to a wide range of applications such as security checkpoints, staff attendance records, automated identity verification, and compliance with building occupancy levels.



## System Architecture



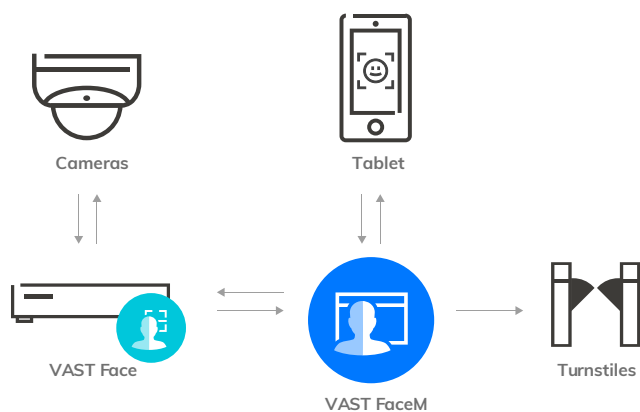
## Key Features

### Centralized Management System

VAST Face Manager is a centralized system, capable of managing a maximum of 128 connected facial recognition devices (camera, tablet, or other hardware). Through VAST Face Manager's single interface and person lists, entry conditions can be established, action definitions can be used for post searches, attendance investigations can be conducted, and facial profiles can be easily managed.

### Accurate Authentication

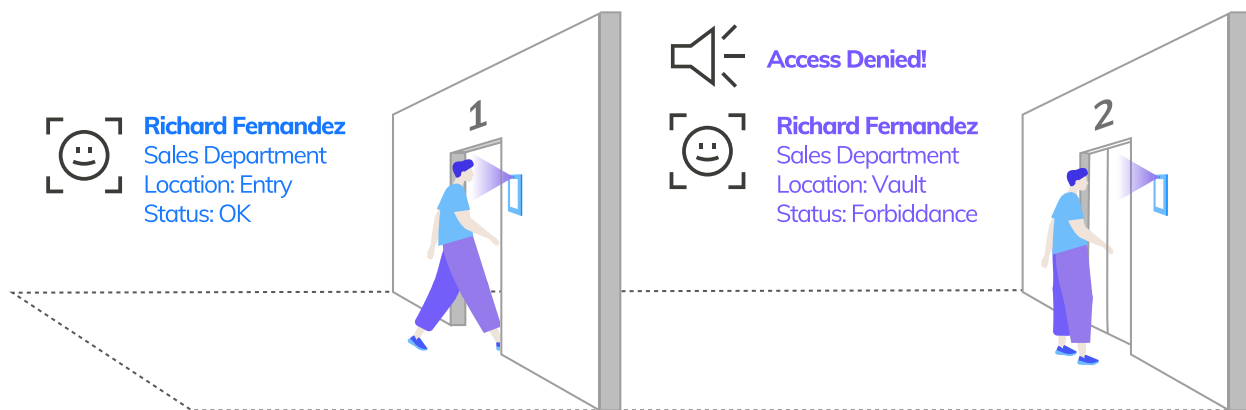
Facial images are captured and verified in real-time with biometric authentication. Furthermore, deep learning analytics can accurately verify a person's identity even through makeup, beards, hats, glasses, or surgical masks, providing accurate authentication for a safe and secure environment.



## Key Features

### Highly Secure

Unlike with access control cards, facial recognition uses biometric credentials that cannot be transferred to others, thus greatly reducing the risk of fraudulent access or "buddy punching" for employees clocking in. Going a step further, VAST Face Manager allows users to define customized access authentication rules and schedules by area or by user group, providing more flexibility than traditional card-based access systems. Additional security checks such as body temperature levels and face mask detection are also available on VAST Face Manager.



### Rich Infographic Reports

Facial images are captured and verified in real-time with biometric authentication. Furthermore, deep learning analytics can accurately verify a person's identity even through makeup, beards, hats, glasses, or surgical masks, providing accurate authentication for a safe and secure environment.

VAST FaceM

Account

Investigation

Monitoring

Review

Action

Attendance

Access Group

Person

Devices

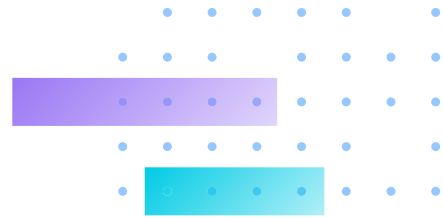
Schedule

Greeting

| NO | Person Type | Person | Tags              | Entry Date             | Departure Date         | Stay Time | In Snapshot | Out Snapshot |
|----|-------------|--------|-------------------|------------------------|------------------------|-----------|-------------|--------------|
| 1  | Staff       | Derek  | • Staff           | 2021/11/02<br>10:19:12 | 2021/11/02<br>14:16:33 | 03:57:21  |             |              |
| 2  | Staff       | zake   | • Staff           | 2021/11/02<br>11:18:07 | 2021/11/02<br>12:02:22 | 00:44:15  |             |              |
| 3  | Staff       | A02084 | • Staff<br>• Tony | 2021/11/02<br>10:22:58 | 2021/11/02<br>13:48:27 | 03:25:29  |             |              |
| 4  | Staff       | A01599 | • Staff           | 2021/11/02<br>10:09:43 | 2021/11/02<br>14:29:21 | 04:19:38  |             |              |

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Web Version: v1.08.03 Server Version: v1.08.03

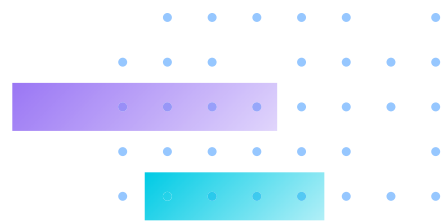


# VAST Face Bundle Kit

| VAST Face Manager Workstation- IE8213-FM |  |
|--|--|
| Model                                    | IE8213-FM  |
| Hardware                                 | Intel CPU: i7-10700Memory: DDR4-2666 32GB RAM, HDD: 2.5" 500GB SSD |
| OS                                       | Linux  |
| Maximum Number of Faces in Database      | 50,000   |
| Maximum Number of Connected Devices      | Up to: 128   |
| Power Input                              | 100-240V AC  |
| Power Consumption                        | Max. 90W   |
| Dimensions                               | 190 x 165 x 43 mm (LWH)  |
| Weight                                   | 1.3 kg net and 2.1 kg gross  |
| Safety Certifications                    | CE, FCC  |

## Technical Specifications

| Minimum Hardware Requirements*   |  |
|--|--|
| CPU  | Intel Core i7 (8th Generation) or higher CPU |
| RAM  | 32 GB or abpve                               |
| HDD  | 500GB or above                               |
| Network  | 10/100 Mb Network                            |
| * The above configuration can support up to 128 facial recognition cameras/tablets |  |
| System   |  |
| Architecture   | Three Tier Server-client system:             |
|  | · Web Server                                 |
|  | · Application Server                         |
|  | · Database Server                            |
| Supported OS   | Ubuntu Server 20.04                          |
| Supported Protocols  | HTTP & HTTPS                                 |
| Supported Hypervisors  | VMWare, Hyper-V, Virtual Box                 |
| Container Type   | Docker                                       |
| Database Type  | MongoDB                                      |
| System Security  | · Single device login                        |
|  | · Renewable session token                    |
|  | · Hardened HTTPS                             |



## Technical Specifications

### Management Interface

|                    |                       |
|--------------------|-----------------------|
| Interface          | Using Web client      |
| Supported Browsers | · Google Chrome       |
|                    | · Mozilla Firefox     |
| Languages          | · English             |
|                    | · Traditional Chinese |

### Environment Adaptability

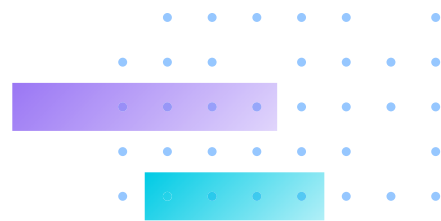
|                            |   |
|----------------------------|---|
| Camera Installation Height | · 3.0 meters max. camera height               |
|                            | · Mounting position within 10 degrees incline |
| Supported Image Modes      | Color & Monochrome                            |
| Robust Against             | · Large expressions                           |
|                            | · Beards, moustaches and different hairstyles |
|                            | · Eyeglasses                                  |
|                            | · Caps and scarfs                             |
|                            | · Irregular lighting                          |
|                            | · Partial face obstruction                    |

### Supported Devices & Integrations

|                         |   |
|-------------------------|---|
| I/O Relay               | · Large expressions                           |
|                         | · Beards, moustaches and different hairstyles |
|                         | · Eyeglasses                                  |
| IP-to-Wiegand Converter | · Doorcard DCT-4TW26                          |
|                         | · VIVOTEK AO-20W Wiegand Box                  |
| HTTP Notifications      | Send customized GET/POST HTTP messages        |
| Others                  | Use VAST Face RESTful API                     |

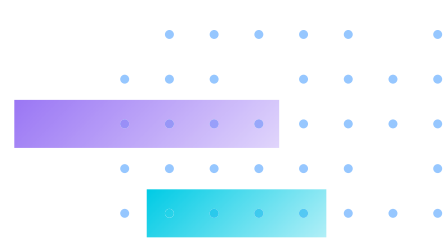
### Persons of Interest (POI) Management

|                      |  |
|----------------------|--|
| POI Management       | · Enroll person using Web client.                  |
|                      | · Manage face profiles database through Web Portal |
| POI Authentication   | · Using Face as a credential                       |
|                      | · Using Card Number                                |
| POI Groups           | · Default groups: VIP, Blacklist, Staff            |
|                      | · User defined person groups                       |
| POI Batch Enrollment | Supports bulk enrollment using Excel & JPEG files  |



## Technical Specifications

|                                  |   |
|----------------------------------|---|
| Enrollment Photo                 | Min. face size = 200 x 200 pixel  |
| Requirements                     | 1MB Max. photo size (.JPG or .PNG)  |
| POI Profile Information          | Name, ID #, card #, job position, email, phone, POI group(s), and expiration date       |
| POI Reports                      |   |
| Investigation Reports            | Generate facial recognition reports and filter events by:                               |
|                                  | · Location  |
|                                  | · Time period   |
|                                  | · Name  |
|                                  | · POI Group   |
|                                  | · POI type (enrolled or stranger)   |
| Attendance Reports               | Generate staff clocking reports and filter events by:                                   |
|                                  | · Clock-in time   |
|                                  | · Clock-out time  |
|                                  | · Stay length   |
|                                  | · Late Arrival  |
|                                  | · Early Leave   |
| Actions Reports                  | Generate a report for which pre-defined actions were triggered in response to an event. |
| Export Data                      | Export results to Excel file  |
| Trigger Rules and System Actions |   |
| Rule Engine                      | Rule based engine to trigger single or multiple system actions based on:                |
|                                  | · Event Location  |
|                                  | · Schedule  |
|                                  | · Detection time period   |
|                                  | · Specific POI profile  |
|                                  | · POI face group affiliation  |
|                                  | · Person type (enrolled or stranger)  |
| Supported System Actions         | · POI is (not) a member of a group  |
|                                  | · Trigger I/O Relay   |
|                                  | · Trigger IP-to-Wiegand converter   |
|                                  | · Send HTTP GET/POST command  |
|                                  | · WebSocket notification  |



# Technical Specifications

## System Users Management

|                    |  |
|--------------------|--|
| System Users       | Register user accounts using Name, E-Mail address & Phone number |
|                    | · System Administrator   |
| System User Groups | · Administrator  |
|                    | · VAST Face Manager  |

## System Inter-compatibility

|                    |                            |
|--------------------|----------------------------|
|                    | · VIVOTEK VAST2 VMS/ CMS   |
| Supported Products | · VIVOTEK VAST FaceManager |
|                    | · VIVOTEK VAST FaceVisitor |

## Facial Recognition Verticals

|                       |   |
|-----------------------|---|
|                       | · Identify potential troublemakers (shoplifters, criminals or any other barred individuals) |
|                       | · Detect VIP members upon arrival to deliver a tailored experience                          |
| Possible Applications | · Provide physical entry to commercial buildings, residences, and other rooms               |
|                       | · Contactless staff clock in system   |
|                       | · Verify visitor's identity   |