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Fully Integrated milestone

IMAGUS – MILESTONE INTEGRATION INSTALLATION AND USER GUIDE

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 PHO
 +61 7 3256 0858

 EMA
 info@imagus.com.au

 WEB
 www.imagus.com.au

 ABN
 12 152 800 649

 ADD
 2/A 139 Sandgate Rd. Albion QLD 4010 Australia

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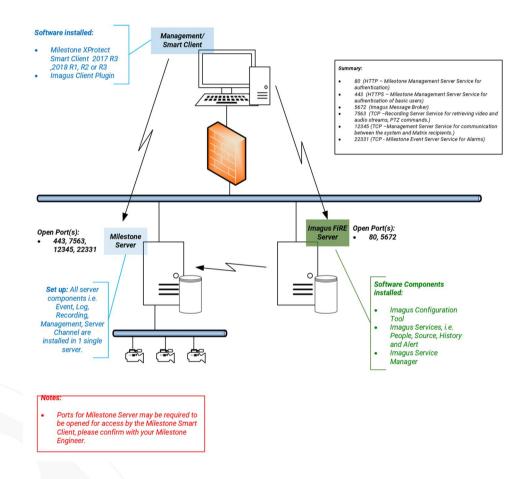
1. Introduction

Imagus has seamlessly integrated its Facial Recognition Engine with Milestone XProtect video management software. This integration enables surveillance staff to use access face recognition databases and alarms directly within the XProtect Smart Client, and also for system maintainers to configure Face Recognition through XProtect Management client without having to leave the Milestone ecosystem.

1.1 High-level Milestone XProtect VMS Product Support Matrix

| Milestone XProtect VMS | XProtect | XProtect | XProtect |
|---|--------------|---------------|--------------|
| Products | Express+ | Professional+ | Corporate |
| Supported Version with Imagus Facial Recognition | \checkmark | \checkmark | \checkmark |

1.2 System Set up Overview



2. Purpose

This document provides a guide on integrating Imagus Face Recognition Engine (FiRE) with the Milestone Video Management System. This document will not address

advanced features of installation such as clustering if these are needed, please contact your Imagus distributor.

- 3. Installing Imagus FiRE
 - 1. Run the supplied Installation File, and the screen below will be displayed.
 - 2. The data folder needs to be on a drive with a large amount of free space, currently approx. 1GB per camera per day stored. It all depends on the number of faces seen per day; please contact your Imagus distributor for assistance in calculating. An SSD drive is required for the Imagus installation.
 - 3. If you are running a single Imagus server, please leave the cluster options as default otherwise contact your Imagus distributer for advance setup assistance.
 - 4. Click on the 'Install' button to start the installation process.

| | | - | | × |
|-------------|--|---|------|----|
| | INSTALLATION LOCATIONS | | | |
| | Installation Folder | C:\Program Files\Imagus | | |
| | Data Folder | C:\ProgramData\Imagus | | |
| | CLUSTER | | | ĺ. |
| | The Cluster IP address is the m If you are installing on a single | nain machine in your installation, this should be the same for all machine e box set this to localhost | es | |
| | Cluster Ip | Localhost | | |
| Ŧ | The Shared Secret needs to be Enter Your Shared Secret | the same on all machines installed in a cluster leave blank to autogene | rate | |
| imagus fire | | | | |
| | | Install | Exit | |

| | | | | | | _ 1 | × |
|--|---|--|--|---|---|---------------------------------|----|
| | | | Installing | | | | |
| | | | | | | | |
| | ImagusFaceRe | ec.CUDNN | | | | | |
| | Removing ba | uduun filos | | | | | |
| 51 | | roduct information | | | | | |
| Ba | | roduct Features | | | | | |
| 90 | Registering p | product | | | | | - |
| imagus fire | COMPONEN | NT INITIAL INSTALL STATE | REQUESTED INSTALL STATE | UPGRADE? | STATE | PROGRESS | 5 |
| = | Microsoft .N | ET Present | Present | None | | | (|
| Pe | FiRE Installer | Absent | Present | None | Installe | - | 1 |
| | RabbitMQ | Absent | Present | None | Installe | | |
| | PostgreSQL | Absent | Present | None | Installe | | |
| | ImagusFaceR | | Present | None | Installe Installir | | |
| | ImagusFaceR Imagus.Peop | | Present Present | None None | Installi | | |
| | Imagus.Histo | | Present | None | | | |
| | Imagus.Sour | | Present | None | | _ | |
| | Imagus.Alert | | Present | None | | | |
| | Imagus imQ | Tra Absent | Present | None | | | |
| | imQSetup | Absent | Present | None | | | (|
| | | | | | | - | |
| | | Pro | ocess Comp | lete | | - | |
| | OMPONENT | | | | -7 CTA | | Ex |
| CC | OMPONENT | INITIAL INSTALL STATE | REQUESTED INSTALL STATE | UPGRAD | :? STA | TE PROG | Ex |
| | icrosoft .NET | INITIAL INSTALL STATE Present | REQUESTED INSTALL STATE Present | UPGRADI None | | _ | Ex |
| Mi FiR | icrosoft .NET RE Installer | INITIAL INSTALL STATE Present Absent | REQUESTED INSTALL STATE Present Present | UPGRADI None None | Insta | lle | Ex |
| Ra | icrosoft .NET RE Installer IbbitMQ | INITIAL INSTALL STATE Present Absent Absent | REQUESTED INSTALL STATE Present Present Present | UPGRADI None None None | Insta Insta | lle l le | Ex |
| Ra Po | icrosoft .NET RE Installer ibbitMQ istgreSQL | INITIAL INSTALL STATE Present Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present | UPGRADE None None None None | Insta Insta Insta | lle lle | Ex |
| Ra Po Im | icrosoft .NET RE Installer IbbitMQ IstgreSQL IagusFaceRec | INITIAL INSTALL STATE Present Absent Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present Present | UPGRADE None None None None None | Insta Insta Insta Insta | lle mar | Ex |
| Ra Po Im Im | icrosoft .NET RE Installer ubbitMQ ustgreSQL uagusFaceRec uagusFaceRec | INITIAL INSTALL STATE Present Absent Absent Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present Present Present | UPGRADE None None None None None None | Insta Insta Insta Insta Insta | lle ser | Ex |
| Ra Po Im Im | icrosoft .NET RE Installer IbbitMQ IstgreSQL IagusFaceRec IagusFaceRec IagusFaceRec | INITIAL INSTALL STATE Present Absent Absent Absent Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present Present Present Present | UPGRADI None None None None None None | Insta Insta Insta Insta Insta | lle lle lle lle | Ex |
| Ra Po Im Im Im | icrosoft .NET RE Installer ibbitMQ istgreSQL iagusFaceRec iagusFaceRec iagus.People. iagus.History | INITIAL INSTALL STATE Present Absent Absent Absent Absent Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present Present Present Present Present | UPGRADE None None None None None None None None | Insta Insta Insta Insta Insta Insta | lle lle lle lle lle | Ex |
| Ra Po Im Im Im Im | icrosoft .NET RE Installer abbitMQ ustgreSQL agusFaceRec agusFaceRec agus.People. agus.History agus.Source. | INITIAL INSTALL STATE Present Absent Absent Absent Absent Absent Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present Present Present Present Present Present | UPGRADI None None None None None None None None | Insta Insta Insta Insta Insta Insta Insta | lle | Ex |
| Ra Po Im Im Im Im Im | icrosoft .NET RE Installer ibbitMQ istgreSQL iagusFaceRec iagusFaceRec iagus.People. iagus.History | INITIAL INSTALL STATE Present Absent Absent Absent Absent Absent Absent Absent Absent Absent | REQUESTED INSTALL STATE Present Present Present Present Present Present Present Present | UPGRADE None None None None None None None None | Insta Insta Insta Insta Insta Insta | lle | Ex |

5. Click on the 'Exit' button when the installation is complete.

4. Installing Milestone Client Plugin

The Milestone plugin needs to be installed on all machines running the XProtect Smart Client, and also all machines where the XProtect Management Client is used.

Run the Milestone Plugin Installer, and the files will be installed to the following location *C:\Program Files\Milestone\MIPPlugins\Imagus*.

Note: Please ensure XProtect Smart Client version installed on your machine is either version 2018 R1 and above.

- 5. FiRE Software Configuration
 - Launch the 'Imagus FiRE Configuration' application.

| Ē | \square | Ś | | |
|--------|------------------------|---------------|-----|--|
| Best n | natch | | | |
| Ø | lmagu Deskto | us FiRE Confi | fig | |
| Apps | | | | |
| | | <i>.</i> . | | |

5.1 Licencing

To licence the product, please contact your Imagus distributor and supply them with the host ID displayed on the licencing page, they will provide you with an appropriate licence.

1. Select the 'Licencing' option.

| Ø | | | - | × |
|----------|----------------------|--|---|---|
| | ÷ | Imagus FiRE Configuration Tool | | |
| 2 | Licencing | 525a136e12001fc0d2066490,hostid=000AF7BDFBF6,hostid=000AF | | |
| \$ | System Configuration | 09-1302:33:41.000 • Brain(sbrain@imagus.com.au) of Imagus | | |
| ≎ | System Health | 525a136e12001fc0d2066490,hostid=000AF7BDFBF6,hostid=000AF | | |
| | | | | |

- 2. Click on the 'COPY HOSTID' button and forward this information to Imagus to generate the licence key file.
- 3. Click on 'ATTACH LICENCE' button to attach the licence key file received from Imagus.

4. The system displays the licence number of camera streams. This figure is 0 before the application of the licence key to the system.

| D | | – 🗆 X |
|--------------|--|----------------|
| ≡ | Imagus FiRE Configuration Tool | 2 |
| Host Id | disksn=00b991f6625a136e12001fc0d2066490,hostid=000AF7BDFBF6,hostid=000AF 7BDFBF4 | COPY HOST ID |
| Licence Info | Expiry date: 2019-09-1302:33:41.000 Licenced to: Steve Brain(sbrain@imagus.com.au) of Imagus Host ID: disksn=00b991f6625a136e12001fc0d2066490,hostid=000AF7BDFBF6,hostid=000AF 7BDFBF4 | ATTACH LICENCE |
| Streams | 160 | |
| | | |

5.2 System Configuration

1. Select the 'System Configuration' option.

| 9 | | | _ | Х |
|----|----------------------|--|---|---|
| | ← | Imagus FiRE Configuration Tool | | |
| | Licencing | i25a136e12001fc0d2066490, hostid=000AF7BDFBF6, hostid=000AF | | |
| \$ | System Configuration | 09-1302:33:41.000 • Brain(sbrain@imagus.com.au) of Imagus | | |
| | System Health | i25a136e12001fc0d2066490,hostid=000AF7BDFBF6,hostid=000AF | | |
| | | | | |

By default, the system will be configured for a single server installation. If you are planning to have more than a single Imagus server, please contact your Imagus distributor for advanced support.

- 2. Master Secret: This is used to enable different Imagus Servers to communicate and share the workload. This secret must be the same on all Imagus servers that intend to communicate with each other.
- 3. Message Broker: This is the IP address for the main Imagus server. By default, it is set to the localhost of this machine. This address is used to set up Milestone XProtect Smart Clients with the address to contact the Imagus Server. Only change this if the clients have a problem connecting.
- 4. Face Algorithm: Leave as the default unless instructed by your supplier.
- 5. Storage: The number of days to keep history data online before system housekeep it. The default is 30 days.

6. Milestone connections: This is the connection details for the Milestone management server. It must be a Windows account; please make sure this tests valid before saving. Once saved, the Imagus server details are entered into the Milestone configuration, and all future setup is completed in the Management Client.

| Þ | - 🗆 X |
|---|---|
| ≡ ı 3 | CHANGE MASTER SECRET |
| Message Broker | |
| Face Algorithm | v |
| Storage 5 | |
| Milestone | |
| Milestone Server Username beastmaster Administrator | t must be a Windows Authentication account Password |
| Click here to test connection to | Click here to save settings. SAVE CHANGES Click here to cancel changes and exit. |
| | |

5.3 System Health

1. Select the 'System Health' option to check and ensure all Imagus Services are running.



- 2. After each install, all services will be stopped. Please press the play button to start them.
- 3. There are 2 checks next to each item, for the CUDA status, the first checkmark indicates the correct Nvidia driver is installed, the second check indicates the Imagus Facerec Engine is correctly using the driver.
- 4. For all other items, the first check shows the service is running, and the second check shows that it is communicating.

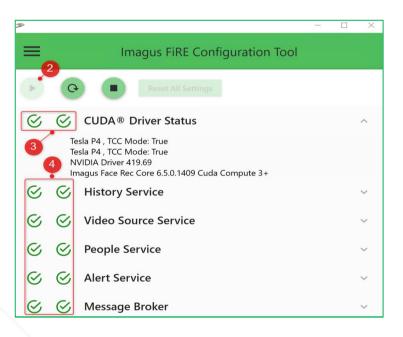


Figure 1: All services are running, but there is no NVidia Card.

6. Milestone Management Client Software Configuration

Launch Milestone Management Client Application.

6.1 Setting up Video Source

- Go to Devices → Camera to enable the Facial Recognition for a selected camera in the Milestone System.
- Change the minimum and maximum face size in pixels here to change the size of the face detected in the frame.
- Select Recognition or Verification mode, to change the algorithm determining how strict the system is before returning a result.
- Add Mask or remove mark region from facial recognition.

| Milestone XProtect Management Client 2019 | R1 | | | | | - 0 | > | < |
|--|-----------|---|-------------------------------------|-----------------------|--|----------|------|----------|
| File Edit View Action Tools Help | | | | | | | | |
| 日 9 3 • 曲 | | | | | | | | |
| Site Navigation 🗸 🕂 | X Devices | # Properties | 3 | | | | - | 4 |
| Site Nanigation Q Image: State S | X Devices | Enable Facial Recognition Location Name Recognition Mode Minimum Face Size Maximum Face Size Camera Name: Sta Add Mask Remove I | Right Click to remove a point. Doub | | egion. Scroll Marked red regi to perform fa recognition | cial | · | 4 |
| Rules Rules Notification Profiles Votification Profiles Votification Profiles Analytics Events Analytics Events | v | | | | | 2 | | F. |
| Site Navigation Federated Site Hierarchy | | 🗊 Info 👸 Settings 📘 St | treams 🥚 Record 🖈 Motion 🌘 | Fisheye Lens 🗐 Client | Privacy masking | Imagus S | etup | |

6.2 Alert Configuration



Every person in the face database can be annotated with user-defined tags. These are simple text strings. All alerts in the Imagus system are configured using these tags. A Smart client will be presented with a predefined list of tags from which they can pick.

An alert is generated when a person is recognised above a certain threshold, and they have tags that match those set up in the alert.

6.2.1 Setting up Tags

- 1. Go to Milestone Management Client → Imagus → Person Tags to set up tags for the alert in the Milestone System.
- 2. Enter the tags that you predefined in the Milestone Smart Client. If you entered a tag that already exists in the system. The system will prompt you an error.
- 3. Click on the 'Save' icon to save the settings.

| File Edit View Action Tools Help | |
|---|---|
| 📮 🆻 🕝 🗢 🏛 | |
| | Configuration |
| 3 Smart Client Profiles Management Client Profiles Matrix Rules and Events Rules Smart Client Profiles | The predefined Tags used for Imagus Alerts and enrolled people. Enter Tag name, press ENTER or TAB to complete: Saved Tags: |
| Votification Profiles | eagea 🗴 |
| Generic Events ⊡ ∰ Security - ∰ Roles | hesuea 🗙 |
| | euatsetna 💌 |
| | erae 🗴 |
| Configuration Reports | poi 🛞 |
| Transact Transaction sources Transaction definitions | steve 🙁 |
| | |

6.2.2 Setting up Alerts

- 1. Go to Imagus \rightarrow Face Alerts to set up alerts in the Milestone System.
- 2. Right-click on the Face Alerts and choose the option 'Add New' to add a new alert.

3. You will be prompted with the below pop-up message box. Enter the name of the new alert, e.g. 'POI' and click on the 'OK' button to proceed to the next step. Otherwise, click on the 'Cancel' button to close the message box.

| Add Alert | × |
|-------------|--------|
| Alert Name: | |
| ΙŢ | |
| ОК | Cancel |

| Edit View Action Tools Help | | | | | |
|-------------------------------|---------------------------------|---------------------------------------|--|-------|--|
| avigation • • • × Face Alerts | - # Alert Information | | | | |
| Devices | | POI | | | |
| Cameras 🤝 all | Name: | PUI | Camera Preview: | | |
| Microphones POI | Color: | - | Camera Name: StableFPS (localhost) - Camera 1 | | |
| - Speakers | Color: | | Cancel Hame. Subject of (central) | | |
| - 🐨 Metadata | Trigger When: | | 🗲 JERCLINIA ANNETTINA CONCURS (L.C.). (A) | | |
| - do Input | | | A Distance of Conceptual And Address of Conceptual Address of Conc | | |
| - 🖓 Output | Probability greater than: | | | | |
| Client Client | | 0% 100% 90% | | | |
| - Smart Wall | For: | For Everyone | | | |
| - Ciew Groups | | | | | |
| - 🛃 Smart Client Profiles | Only people who have the Tags: | - OR 🛛 🔵 AND | | | |
| Management Client Profiles | | | | | |
| Matrix | Except when they have the Tags: | | | | |
| Rules and Events | | | | | |
| - 📋 Rules | Duration: | Hour 0 + - Minute 0 + - Second 20 + - | | 87 | |
| - 🛞 Time Profiles | Duration: | Hour 0 + - Minute 0 + - Second 20 + - | | 5 C . | |
| Notification Profiles | | | | | |
| - 💎 User-defined Events | | | | | |
| - Analytics Events | Send as Analytic: | | | | |
| - Ceneric Events | Solid as Palaryon. | Analytic Name same as Alert 👻 | | | |
| C Security | | | | | |
| - S Roles | Send As Alarm: | | | | |
| - 🤱 Basic Users | | | | | |
| System Dashboard | Message: | | | | |
| Current Tasks | Description | | | | |
| System Monitor | Description. | | | | |
| -System Monitor Thresholds | Cameras; | | | | |
| 2 Evidence Lock | Calificitas. | DESKTOP-30BISF3 | StableFPS (localhost) - Camera 1 | | |
| Configuration Reports | | StableFPS (localhost) - Camera 1 | | | |
| Server Logs | | StableFPS (localhost) - Camera 1 | StableFPS (localhost) - Camera 1 | | |
| Access Control | | StableFPS (localhost) - Camera 1 | Camera 1 | | |
| Transact | | | | | |
| - Transaction sources | | StableFPS (localhost) - Camera 1 | StableFPS (localhost) - Camera 1 | | |
| Transaction definitions | | | | | |
| ;s⊳ Imagus | | | ** · | | |
| | | | | | |
| ⇒ Face Alerts | | | | | |
| ⇒ Person Tags Alarma | | | | | |

- 4. Enter the information below for the new alert:
 - Name The alert name specified, e.g. 'POI';
 - Colour The colour of the alarm border to be displayed.
 - o Trigger when:
 - Probability greater than Default is 90%. The % of how similar/close the face is to the face that you want to match with;
 - For If 'For Everyone' option is checked then alert will be triggered for everyone who is seen by the camera;
 - Only people who have tags Specify the tags to be alerted. This option is enabled when the 'For Everyone' option is not checked;
 - Except when they have the tags Specify the tags to be excluded.
 - **Duration** The time lapse between alerts reoccurring;
 - Send an analytic This option allows you to create a Milestone Analytic Event. However, you are required to specify the rules for the event in the Milestone System. Below are the available options:

| Send as Analytic: ⑦ | Analytic Name same as Alert |
|---------------------|--|
| Send As Alarm: ⑦ | Custom Analytic Name |
| Message: | Send Analytic to person Tags one of each |
| | |

 Analytic Name same as Alert – The analytic will have the same name as the Alert, i.e. POI; Custom Analytic Name – You can specify a custom name such as 'Violent', 'Theft' etc. It cannot be left blank. Otherwise, it will be default with the Alert Name.

| Send as Analytic:⑦ | Custom Analytic Name | | | | |
|--------------------|----------------------|---|--|--|--|
| | Analytic Name | | | | |
| Send As Alarm: ⑦ | | Custom Analytic Name cannot be empty, otherwise Alert Name | | | |
| Message: | POI | is used | | | |

- Send Analytic to person Tags one of each If this option is selected and there is a face match, the system will send the corresponding analytic events based on the number of tags that a person has. For example, if this person has three tags namely 'Theft', 'Violent', 'Blacklist', then the system will trigger three analytic events with the name as such.
- Send an alarm Check this box if you want to trigger this alarm as a Milestone Alarm. Enter the below information with the system provided parameters:

| Send As Alarm: | | |
|----------------|--|---|
| Message: | [[Person]] POI was seen at [[Time]] | 0 |
| Description: | [[Person]][[Probability]][[AlertName]] | 0 |

- Message A message that you can configure with the below system parameters that will be displayed in the Alarm Manager Tab under the Alarm List's field 'message'.
 - [[Person]] Person identified that raised the alert;
 - [[Time]] Timestamp of when the alert is raised;
 - [[AlertName]] Alert Name;
 - [[Probability]] Probability of match in %;
- Description You can compose an instruction using the above-provided system parameters. This instruction will be displayed under the Alarm Manager Tab by double-clicking on the Alarm list.
- For more details, please refer to Section 16.

 Camera – select a list of cameras from an available list for facial recognition;

| | No facial recognition enabled, click on it to enable. |
|-------------------------|---|
| Cameras: ⁽⁷⁾ | BEASTMASTER Avigilon 2.0-H3-B1 (192.168.1.151) - Camera 1 Avigilon 2.0-H3-B1 (192.168.1.151) - Camera 1 Avigilon 1.0-H3-D2 (192.168.1.104) - Camera 1 Honeywell HCL2G (192.168.1.137) - Camera 1 Mobotix S16 series (192.168.1.137) - Camera 1 OnCam OnCam These cameras have facial recognition enabled. Double -click on a selected camera to disable it. |

- 5. Click on the 'Save' icon to save the settings.
- 6. The system will prompt you a message and click on 'Yes' button to create the alert.

| File Edit View Action Tools Help | | | |
|--|---|---|---|
| E 9 0 ◆ A | | | <u>_</u> |
| | Alert Information | | |
| | | | |
| DESKTOP-30BISF3 - (13.1a) A Proce Alerts | Name: | POI | Camera Preview: |
| | Color: | | Camera Name: StableFPS (localhost) - Camera 1 |
| 🕀 🐻 R There is no Analytic Definition name "POI", would you like to create one | Trigger When: | | |
| | Probability greater than: | | |
| ti Yes No | | 0% 100% 85% | |
| Mobile Servers | For: ① | For Everyone | |
| Cameras | Only people who have the Tags: $^{\textcircled{O}}$ | vip 🛞 OR 🛛 🛑 AND | |
| - P Microphones | Except when they have the Tags: | ы 🛞 👻 | A State - State March March |
| Speakers Metadata | Except men bicy have all rags. | | |
| - do Input | Duration: | Hour 0 + - Minute 0 + - Second 20 + - | |
| - Q Output | | | |
| Client Smart Wall | | _ | |
| Smart Wall Yiew Groups | | | |
| Smart Client Profiles | Send as Analytic: | Analytic Name same as Alert 👻 | |
| Management Client Profiles | | | |
| Matrix | | | |
| Rules and Events | Send As Alarm: | | |
| Rules | Message: | [[Person]] POI are seen at [[Time]] | |
| C Time Profiles | Description: | [[Person]] [[Probability]][[AlertName]] | |
| -Motification Profiles | Description. | | |
| 👻 User-defined Events | Cameras: | > DESKTOP-30BISF3 | |
| - Analytics Events | Contraction of | > DESKTOP-30BISF3 | A StableFPS (localhost) - Camera 1 |
| - 🖓 Generic Events | | | |
| E 🐗 Security | | | StableFPS (localhost) - Camera 1 |
| - Roles | | | |
| - 🤮 Basic Users | | | StableFPS (localhost) - Camera 1 |
| System Dashboard Current Tasks | | | United at 1 (Accanicat) - Canicia (|
| System Monitor | | | « |
| System Monitor | | | |
| 2 Evidence Lock | | | |
| Configuration Reports | | | |
| < >> | | | |
| Site Navigation Federated Site Hierarchy | | | |

7. Milestone Smart Client Software Configuration

The milestone client settings are set up by the FiRE Config tool above, only change these settings if the connection status cloud is not green.

- 1. Run Milestone Smart Client.
- 2. Click on 'Settings' button and the pop-up screen below will be displayed.

| Mileston | XProtect Smart | lient | | | 7 | | | 28/05/2018 1 | 0:11:02 AM - | |
|------------|-----------------|--------------------------------------|-----------------------------------|----------------|------------------------------------|--|-------------|------------------|---------------------|---|
| Live | Playback | Sequence Explorer | Alarm Manager 👩 | Imagus | System Monitor | | | | n 🔶 🖸 | 9 |
| | | | | | | | * | Settings | | |
| | • • • • | | | | | | - | Toggle theme | | |
| 1:37:21 PM | Thank you for u | sing this trial license to demonstra | te or evaluate the XProtect video | management sof | tware. The trial license expires o | on 21/11/2018. To fully license the product, p | ease contac | Toggle simplifie | ed or advanced mode | |
| | an Desculte | | | | | | 10 | - | | |

| < Settings | | - | | × |
|--------------------------|---------------------------------------|-----------|-----------|-------|
| Application | Server Database: | | | |
| Panes | Username Imagus Password | | | |
| Functions | Queue Uri rabbitmq://boardroom/imagus | | | |
| Timeline | Connection Status: | | | |
| Export | | | | |
| Smart map | Save | | | |
| Joystick | | | | |
| Keyboard | | | | |
| Access Control | | | | |
| Alarm | | | | |
| Imagus Overlay Settings | | | | |
| Imagus Services Settings | | | | |
| Advanced | | | | |
| Language | Ph | ugin Vers | ion: v3.0 | .0.25 |
| Help | | | Clos | e] |

- 3. Select the "Imagus Services Settings" option.
- 4. The username is Imagus.
- 5. Enter the Shared Secret using the Master Password set during the installation.
- 6. Ensure the Queue URL IP address points to the Imagus Server; it will be in the form "rabbitmq://192.168.1.1/imagus".
- 7. Click on the 'Save' button to save the information.

7.1 Imagus' Tab Screen Layout Configuration and Control

One size does not fit all. As every business is different, we've made it very easy for the user to modify the layout of the screens within the Milestone Smart Client accordingly to your preference.

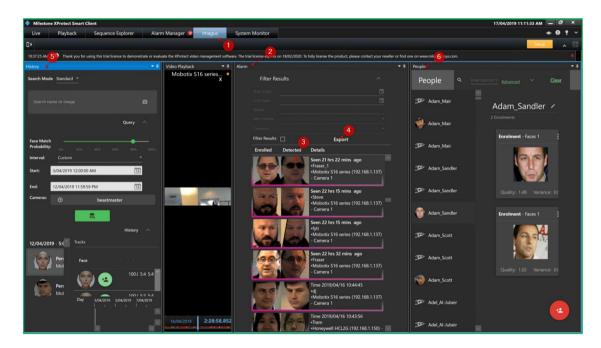
- 1. Click on the 'Setup' button to configure the Imagus Tab layout according to your preference.
- 2. Check on one or more of the below to enable screen layout auto-hide and reposition feature.
 - Alarm
 - History
 - Playback
 - People

| Mileston | e XProtect Smart | Client | | | | | | 2 | 24/04/2019 12:44:20 PM 🗕 🗗 🗙 |
|------------------------------------|------------------|-------------------|------------------------|-----------|--------------------|---------------------------------------|-----------------|-----------------------|------------------------------|
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| XProtect | 2 | < | | | | | icon | | Setup |
| V Proper | ties 🖌 | • I | listory | ÷ û | Video Playback | | - 9 | Alarm | ÷ à _§ |
| ✓ Alarm ✓ History ✓ Playback | | | Search Mode Standard * | | Mobotix S16 series | (192.168.1.137) - Camera 1 - 24/04/20 | 19 12:44 ° X | Filter Results | Side-bar after auto-hide |
| ✓ People ✓ Can Rearra Default Lay | | | | | | | | | <u> </u> |
| Ļ | | | | Query ^ | | | | Alert Name Cameras | * |

3. You can auto-resize or drag the individual sub-tab within the Imagus Tab.

8. View Alarms, Faces and People in Milestone Smart Client using Imagus Plugin

- 1. Run Milestone Smart Client and go to the Imagus tab.
- 2. To view alerts, go to the Alarms Tab, enrolled image and first detected image shown.
- 3. To replay the video from 5 seconds before the detection, click on the 'Face'.
- 4. To export the alarms, click on 'Export' button.
- 5. To view all detections, click on the History tab.
- 6. To view a list of people in the connected database, click on the People Tab in Milestone.



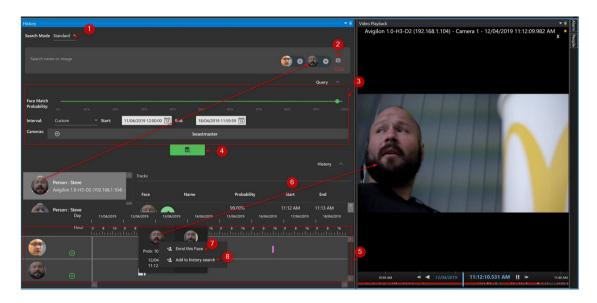
9. Perform Standard Historical Search using images within the Milestone System

In a scenario where you need to perform a historical search for anyone that has passed a facial recognition camera, you can follow the below steps:

- 1. Specify the Search mode as 'Standard', drag any images from History or People Tab and enter the filter criteria.
- 2. Click on the 'Camera' icon to select a stored image from outside of the Milestone System.
- 3. Specify the below search criteria:
 - Probability (0% 100%) The % of how similar/close the face is to the face that you search on;
 - Interval (Start and End Date) A picklist of a time interval that the person is detected;

| Interval: | Custom | - | itart: | 18/04/2019 12: | 14 | End: | 18/04/2019 11: 14 |
|-----------|-------------|---|--------|----------------|------|-------|-------------------|
| Cameras: | Today | | | bea | stma | ister | |
| | Yesterday | | | | | | |
| | This Week | | | ĩQ | | | |
| | Last 7 day | | | | | | Histor |
| | Last 30 day | | | | | | |
| | Custom | | | | | | |

- Camera The camera that you're interested in.
- 4. Click on the 'Search' button to perform the Standard Historical Search.
- 5. The system will display the results as well as the timeline.
- 6. Click on the 'Face' to replay the video from 5 seconds before the detection.
- 7. Click on the 'Enrol this Face' button to enrol the face into the People database. Refer to section 11 for more details.
- 8. Click on the 'Add to history Search' button to add this image to search criteria.



10.Perform Forensic Historical Search using images within the Milestone System

10.1 Search for a relationship between two specified persons

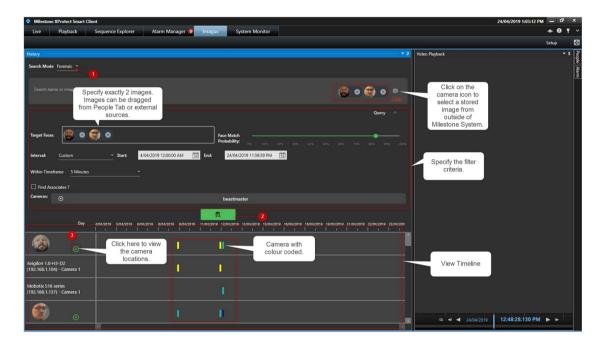
This function allows forensic historical searching for multiple people who may be seen in the same vicinity within a set period.

It can also show "unknown" people that may be associated with these people and create a timeline of people who may be connected.

Below are the steps:

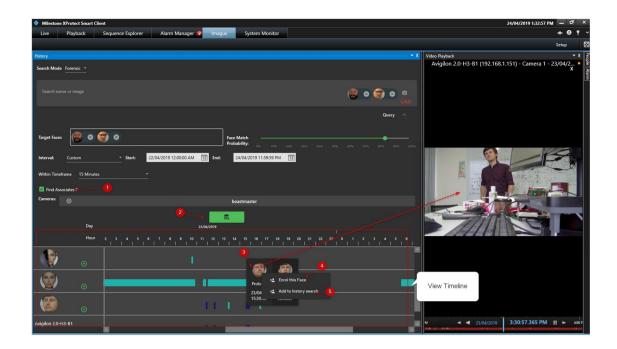
- 1. Specify the Search mode as 'Forensic' and select at most two images which can be dragged from People Tab or externally stored images.
- 2. Specify the search criteria below and click on the 'Search' button to find all those associated with the two within the specified timeframe.

- Target Faces Specify precisely two images. Images can be dragged from People Tab or external sources outside from Milestone System;
- 2. Face Match Probability The % of how similar/close the face is to the face that you search on;
- 3. Interval (i.e. Date Range) A picklist of a time interval that the person is detected;
- 4. Within timeframe The time interval that the persons are identified;
- 5. Camera The camera you're interested in.
- 3. Click on the green arrow icon to view the camera locations. The cameras are differentiated with a different colour.



10.2 Search for associates between two specified persons

- 1. Check on the option 'Find Associates?' to find the associates that you are looking for.
- 2. Click on the 'Search' button and the system will display the results in the timeline.
- 3. Click on the 'Face' to replay the video from 5 seconds before the detection.
- 4. Click on the 'Enrol this Face' button to enrol the face into the People database. Refer to section 11 for more details.
- 5. Click on the 'Add to history Search' button to add this image to search criteria.

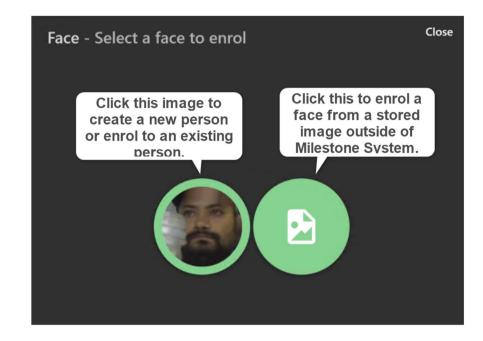


11. Enrol faces from History Tab under Timeline

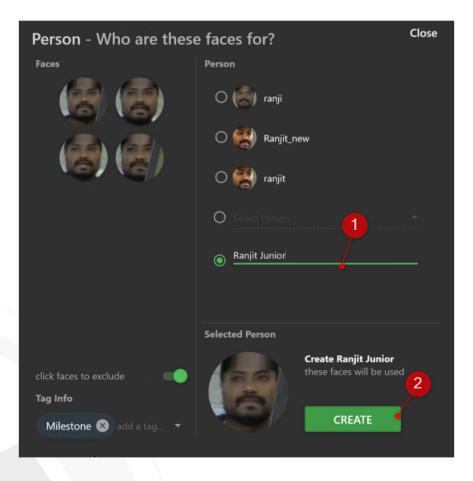
1. Faces in the 'History' tab can be enrolled by clicking on 'Enrol This Face' button under Timeline.

| + Enrol this Fa | /04/2019 | 9 11/04/2019 13/04/2019 ı ı | 15/04/2019 16/04/2019 1 ı ı | 8/04/2019 19/04/2019 21/04/2019 I I I I |
|-----------------|----------------------------------|-------------------------------------|------------------------------------|--|
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| | | | _ | History 🗸 🗸 |
| | | | (| € Enrol this Face |
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| \odot | 1 | | 12:5 | .20 V |
| | | | | |

2. An Enrolment Wizard pops up which provides options to create a new enrolment or to add faces to an existing person or enrol faces from a stored image from outside of the Milestone System.



- 12. Enrol a new person using detected faces
 - 1. Enter a New Person Name.
 - 2. Click on the 'CREATE' button to create an enrolment.



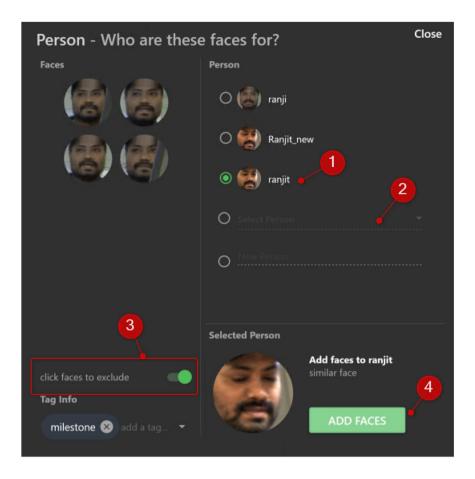
13. Enrol from a stored image outside of Milestone System

1. Click this to enrol faces from a stored image.

| Fa | ce - Select a face to enrol | Close |
|---|--|-------|
| ♦ Open | × | |
| ← → ∽ ↑ 🚨 - Libraries > Documents | ✓ ひ Search Documents | |
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| | | |
| | | |

14. Adding images to an existing person

- 1. Select the closest person to add an image.
- 2. Alternatively, select a person from a dropdown list to add an image.
- 3. To exclude faces from the enrolment, click this slide bar.
- 4. Click 'ADD FACES' to add faces to the selected person.



15. Delete an enrolment from a Person under People Tab

- 1. Run the Milestone Smart Client and go to People Tab.
- 2. Specify the search criteria if any for a particular person.
- 3. Click this trash bin icon to delete the person.

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| People1 | Specify the filter criteria if any |
|--|---|
| People Q Insert person name Match Options: Start with Mat Tags: add a tag. | ch Clear |
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| S Abdullah_Ahmad_Badi | And the second se |
| Description Abdullah_Ahmad_Bad | Enrolment - Faces 1 |
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| D Abdullah_al-Attiyah | Quality: 1.27 Variance: 0.00 |
| SP Abdullah_al-Attiyah | Enrolment - Faces 1 |
| 🛞 Abdullah_Gul | 200 |
| SP Abdullah_Gul | |
| P Abdullah_Gul | Quality: 1.17 Variance: 0.00 |

16. View Alarms and Faces in Milestone Smart Client using Alarm Manager

- 1. Run Milestone Smart Client and go to the Alarm Manager Tab.
- 2. Click on Alarm from the list to view the Faces and Video.
- 3. Under the 'Message' column, the message is displayed as "*Terry POI was* seen at 24/04/2019 12:23:08 PM'. The format of the message is configured at Milestone Management Client having the format of **[[Person]]** POI was seen at **[[Time]]**.

| Milestone XProtect Sma | urt Client | | | | | | 24/ | 04/2019 1:48:07 PM — 🗗 🗙 |
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| ▼ New (3342) ▼ In progress (0) ▼ On hald (0) ▼ Closed (0) Servers | Time Time 2000 Control (Control (Contro) (Contro) | Priority-Level 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | State Level 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | New | 4 4 (4 PO ass sen at 2404/2019 1224 235 PM Text, Faca3 and Visionig Text, Faca3 Text, Faca3 (2014) ass sen at 2404/2019 1222 247 PM Text, Faca3 (2014) 2404/2019 1222 240 PM Text, PD lass sen at 2404/2019 1220 PM Text, PD lass sen at 2404/2019 1220 PM Text, PD lass sen at 2404/2019 1 | Some Dear Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 515 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 Model 516 even 1123 16 < | 0 445 744 744 744 746 746 746 746 746 | |

4. Double-clicked an alarm from the alarm list, the system will display the below pop-up message box.

| 7457 Terry POI was seen at 24/04/2019 12:23:08 PM - Moboti: | x S16 series (192.168.1.137) - C | amer — 🗆 X |
|---|----------------------------------|------------------------------------|
| Mobotix S16 series (192.168.1.137) - Camera 1 | |) - Camera 1 - 24/04/2019 12:23:08 |
| | | |
| | | |
| Test_Face3 (99.00%) | | |
| Detection List Pixels Between Eyes 4 | | |
| /iew : Sharpness 48.58 | | |
| Silarphess 40.56 | | ALL-T |
| Frontal Facing 0.00 | | |
| | | |
| | | |
| | 12 🔍 < 24/04/2019 | 12:23:08.666 PM 🕨 |
| | | |
| Camera: Mobotix S16 series (192.168.1.137) - Camera 1 💌 | | Go to Alarm Time |
| Instructions: | Assigned to: | |
| Terry84.14%POI | State: | 1: New 🔻 |
| | Priority: | 1: High 💌 |
| | Category: | |
| 5 | ID: | 7457 |
| | Source: | Mobotix S16 series (192.168.1 |
| | Alarm: | POI |
| | Message: | Terry POI was seen at 24/04/20 |
| Activities: | Туре: | FaceAlarm |
| Time Activity Owner | Rule: | |
| 12:23 PM Initial state: 1: New | Location: | Mobotix S16 series (192.168.1 |
| 12:23 PM Initial priority: 1: High | Tag: | {"personName":"Terry","personI |
| | Vendor: | lmagus |
| | Object: | 4b3b5eca-f31c-4a93-87ac-7441 |
| | • | |
| | Add | |
| | | |
| Help Print | | ОК |
| Help Print | | ОК |

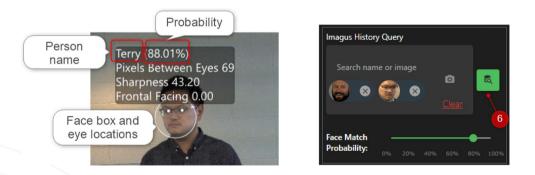
5. The message displayed in the instruction box is configured at Milestone Management Client having the format of *[[Person]][[Probability]][[AlertName]]* which has the value of 'Terry84.14%POI'.

17. Display Live Faces in Milestone Using Imagus

- 17.1 Viewing Faces in 'Live Tab' and replay video clips in 'Playback' Tab
 - 1. Run Milestone Smart Client.
 - 2. Navigate to 'Live' tab.
 - 3. Drag in a Camera (which it has been added to perform face recognition).
 - 4. Right-clicked on any face in the detection list, you will have the options to either enrol the face or add this face to the search history query.

| Milestone > | (Protect Smart | Client | | -H all | | imagusbigdell1 | _ 8 × _ | 24/04/2019 2:29:26 PM | - | ٥ | × |
|---------------|-----------------------|--|--|-----------------|----------------|-------------------------|----------------------------|---|-------|-----|-------------|
| Live | Playback | Sequence Explorer | Alarm Manager 🍘 | Imagus | System Monitor | | | | + (| 9 9 | |
| XProtect | | < 1 | vew View (1 x 2) | | ъ | | | | Setup | | \boxtimes |
| 💉 MIP Plug | | | Mobotix S16 series (192 | .168.1.137) - C | amera 1 | | | | | | (K • |
| - | | ^ | | | | | | | | | |
| Imagus Alarm | | | | | | | | | | | |
| Filter Re | | × | Imagus Alarm | | | | | | | | |
| Enrolled | Detected | Details | | | | | | | | | |
| 20 | 94 | Seen 3 secs ago | | ísible Face c | count | | | | | | |
| 5 | Let | Linda POI was seen at | | | Journ | | | | | | |
| 201 | | 24/04/201 | | | | A list of faces | | the second with the second | | | |
| 20 | 1.00 | Seen 0 sec ago | Faces In View : 1 | | 1 | detected. | | Terry (88.01%) | | | |
| 5 | | •Linda •Mobotix | | | Detection | | | Pixels Between Eyes 69 Sharpness 43.20 | | | |
| | | S16 series | State State | | Detection | a dist | -0 | Frontal Facing 0.00 | | | |
| -315 | mon | Seen 1 sec ago | Drag any faces | | | +1 Enrol this Face | | (Too) | | | |
| | A | •Terry •Mobotix | from the alarm li to the Search | st | | + Add to history search | | | | | |
| | 1 | S16 series | Criteria. | 1 | | | | | | | |
| | bio | Seen 1 sec ago | | 1 | | | Terrent and a state of the | | | | |
| 1 A | 12 | Terry PC | - | | | | | And and a second second | | | |
| | 1 | was e _n at 2 704/201 | 50 | 1 | | 4 | | | | | |
| 100 | | Seen 3 secs ado | Imagus | | T | | | | | | |
| Imagus Histor | y Query | | | the second | | | | | | | - |
| | | and the second s | | | | | | | | | |
| Search nam | and the second second | 0 | To perform | | | | | | | | |
| 8 | 🗐 🍭 | Clase | historical search o selected faces. | n | | | | | | | |
| | | STREET. | selected laces. | | | | | | | | |
| Face Match | | III | | | | | | | | | |
| Probability: | | . 60% 80% 100% | ^ | | | | | | | | |

5. You can Observe boxes on faces as shown below.



6. Click on the 'Search button' under 'Imagus History Query' to perform the historical search on the faces selected. System navigates to 'Playback' tab to replay the video from 5 seconds before the detection.

17.2 Historical Timeline display in 'Playback' Tab

- 1. Run Milestone Smart Client and navigate to the 'Settings' Tab and click on Timeline.
- 2. Enter the below information:
 - Additional data Show/Hide
 - Additional markers Show/Hide

| Settings | | | _ | |
|--------------------------|----------------------|-----------|---|------------------|
| Application | Option | Setting | | Follow Server |
| Panes 1 | Incoming audio | Show | - | |
| Functions | Outgoing audio | Show | - | |
| | Additional data | Show | - | |
| Timeline | Additional markers | Show | - | |
| Export | Bookmarks | Show | - | |
| Smart map | Motion indication | Show | - | \checkmark |
| Toone to | All cameras timeline | Show | - | \checkmark |
| Joystick | Playback | Skip gaps | - | \checkmark |
| Keyboard | | | | |
| Access Control | | | | |
| Alarm | | | | |
| Imagus Overlay Settings | | | | |
| Imagus Services Settings | | | | |
| Advanced | | | | |
| Language | | | | |
| Help | | | | Close |

3. If the above two fields are set to 'Show', you will be able to click on the timeline to playback the video.

| Igus History Query | | | Prob: 98.02% 30/04/19 | | | | |
|-----------------------------------|--|-----------|--------------------------|----------|------------|-----------------|-------------------------|
| e Match | 7:00 AM 8:00 A Mobotix S16 series (192:168:1:137) - Camera 1 All cameras in view | MA 900 AM | 09:13:24 | 11:00 AM | 30/04/2019 | 12:08:55.371 PM | 2:00 PM |
| bability: 0% 20% 40% 60% 80% 100% | ⊡ ⊙ | | 1 | + 4 | - | | F I F I |

17.3 Label Definitions

Visible Face Count

The number of faces in view.

Pixels Between Eyes

The distance between the eyes on a face measured in a number of pixels on the camera.

Frontal Facing

A measure of how close the face is to a passport style photo. The higher the number, the more suitable it is for face recognition. The scale is from 0 to 2, to be considered an excellent CCTV capture.

Sharpness

A measure of the clarity of the pixels. A low number means the image is blurry; a high number indicates the image is sharp. A number lower than ten (10) is unsuitable for face recognition. A number higher than 40 is preferred. *Please note that it is possible to inflate this number by using image processing artificially. But it does not help face recognition, as it is making up details, which do not necessarily exist.*

Probability (%)

A measure in the percentage of how likely a face belongs to a person.

Faces

The face boxes with eye locations.

Branding

Display of Imagus Face Recognition Logo.

17.4 Label Configuration

All information displayed over faces inside the Smart Client is configurable.

To change settings:

- 1. Click Settings under the Overflow Menu in the top right corner of Smart Client
- 2. In the settings Dialog, select "Imagus Overlay Settings" from the left-hand tabs
- 3. Toggle the checkbox to enable or disable the User Interface (UI) Element.

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