

IMAGUS MILESTONE INTEGRATION MANUAL

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vixvizion.com

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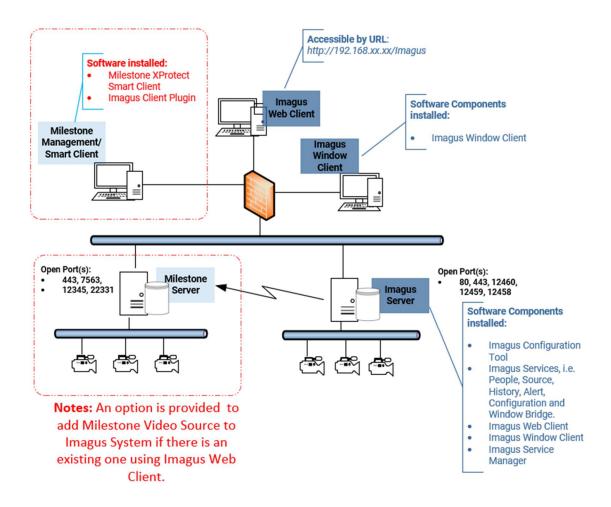
2 INTRODUCTION

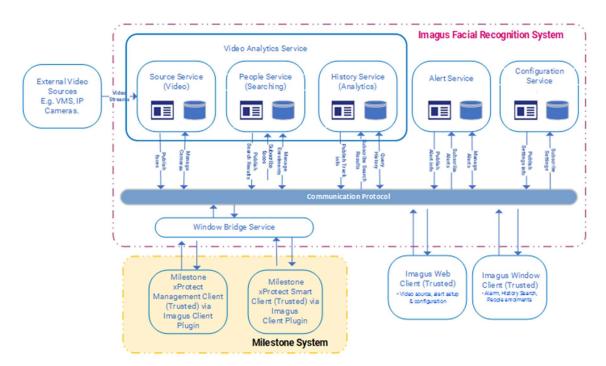
Vix Vizion (formerly Imagus Technology) has seamlessly integrated its Facial Recognition Engine with Milestone XProtect video management software. This integration enables surveillance staff to use access face recognition databases and alarms directly within the XProtect Smart Client, and for system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

AFROILCI							
Mileston e VMS Products	Essential +	Expres s	Express +	Profession al	Professional +	Exper t	Corporat e
2019 R2	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2019 R3	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2020 R1	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2020 R2	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2020 R3	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2021 R1	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2021 R2	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2021 R3	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2022 R1	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2022 R2	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark
2022 R3	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark

2.1 PRODUCT SUPPORT MATRIX FOR IMAGUS PLUGINS INTO MILESTONE XPROTECT

2.2 SYSTEM SET UP OVERVIEW





2.3 SYSTEM ARCHITECTURE DIAGRAM

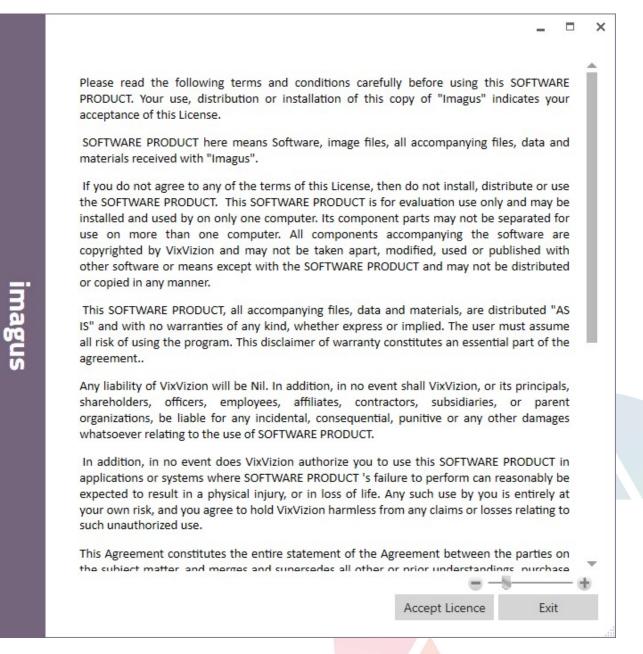
3 PURPOSE

This document provides a guide on integrating the Imagus Face Recognition System 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.

4 INSTALLING IMAGUS FACIAL RECOGNITION SOFTWARE

Pre-requisite: Please ensure that the IIS is turn on before installation.

- 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 Software distributor for assistance in calculating. An SSD drive is required for the Imagus Software installation.
- 3. Click on the 'Install' button to start the installation process.



Contact: info@vixvizion.com

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		_ [×
INSTALLATION LOC	ATIONS		
Installation Fold	C:\Program Files\Imagus\		
Data Folder	C:\ProgramData\Imagus		
imaglic			
	Install	E	xit

× Acquiring statsDB 55.25MB of 143.87MB 6% COMPONENT INITIAL INSTALL STATE REQUESTED INSTALL STATE UPGRADE? STATE PROGRESS Installing IIS: IIS Absent Present None Verifyir Microsoft .NET Present Present None Microsoft .NET Absent Verifyir Present None Microsoft Winc Absent Present None Verifyir Imagus Installe Absent Present Verifyir MajorUpgra PostgreSQL Present Present None Imagus.Stats.D Absent Present MajorUpgra Aquirir ImagusFaceRec Absent Present MajorUpgra ImagusFaceRec Absent Present MajorUpgra Cuda Absent Present MajorUpgra Inference MajorUpgra Absent Present FFmpeg Absent Present None Models Absent Present MajorUpgra Imagus.Configi Absent MajorUpgra Present Imagus.Windov Absent Present None Imagus.Config. Absent Present MajorUpgra Imagus.People. Absent Present MajorUpgra Imagus.Alert.Se Absent Present MajorUpgra Imagus Tray Ap Absent Present MajorUpgra Present Imagus Absent MajorUpgra Imagus Post In: Absent Present MajorUpgra

Web: vixvizion.com

imagus

Contact: info@vixvizion.com

		F	Process Com	plete		-	Ex	×
	COMPONENT	INITIAL INSTALL STATE	REQUESTED INSTALL STATE	UPGRADE? S	TATE	ROGRESS		_
	Installing IIS: IIS	Absent	Present	None				- 1
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	Microsoft .NET	Absent	Present	None				
	Microsoft Winc	Absent	Present	None				
	Imagus Installe	Absent	Present	MajorUpgra				
imagus	PostgreSQL	Present	Present	None				
00	Imagus.Stats.D	Absent	Present	MajorUpgra				
S	ImagusFaceRec	Absent	Present	MajorUpgra				
	ImagusFaceRec	Absent	Present	MajorUpgra				
	Cuda	Absent	Present	MajorUpgra				
	Inference	Absent	Present	MajorUpgra				
	FFmpeg	Absent	Present	None				
	Models	Absent	Present	MajorUpgra				
	Imagus.Configu	Absent	Present	MajorUpgra				
	Imagus.Windov	Absent	Present	None				
	Imagus.Config.	Absent	Present	MajorUpgra				
	Imagus.People.	Absent	Present	MajorUpgra				
	Imagus.Alert.Se	Absent	Present	MajorUpgra				
	Imagus Tray Ar	Absent	Present	MajorUpgra				
	Imagus	Absent	Present	MajorUpgra				
	Imagus Post In:	Absent	Present	MajorUpgra				.d

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

5 INSTALLING MILESTONE CLIENT PLUGIN

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

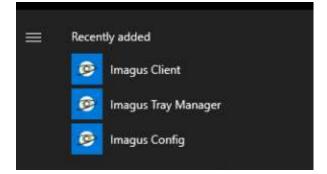
Run the Milestone Plugin Installer, and the files will be installed to the following location: *C*:*ProgramFiles**Milestone**MIPPLugins**Imagus*.

Please ensure the XProtect Smart Client version installed on your machine is either version 2019 R2 and above.



6 IMAGUS SOFTWARE CONFIGURATION

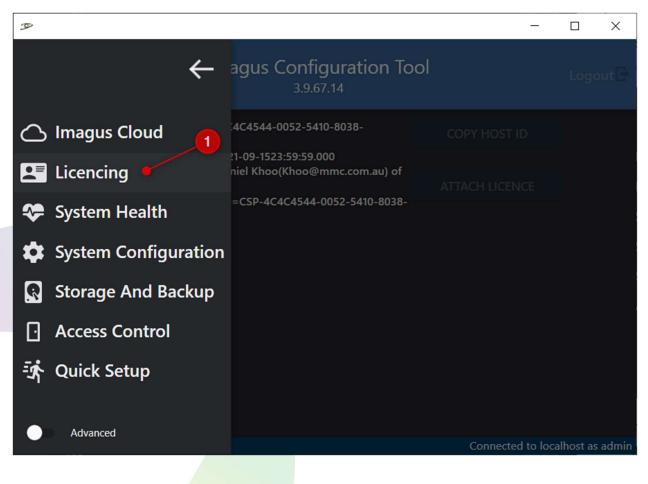
• Launch the 'Imagus Config' application.



6.1 LICENSING

Please contact your Imagus Software distributor to licence the product and supply them with the host ID displayed on the licensing page. They will provide you with an appropriate licence.

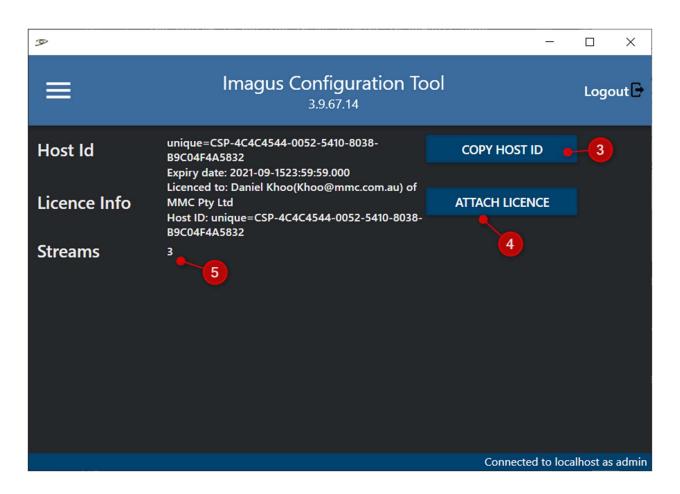
1. Select the 'Licencing' option.



2. The system is not logged in as 'admin' in default upon installation. Click on the 'Login' button to login as 'Administrator' to attach/see the licence information, monitor 'System Health', and 'System Configuration'.

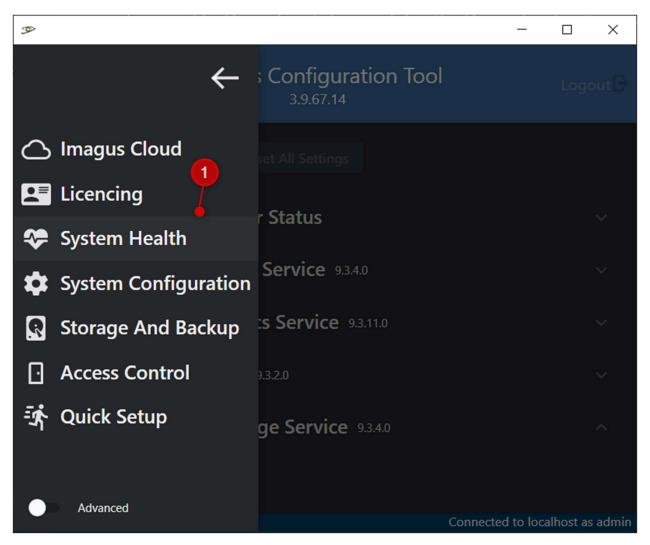
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	Imagus Configuration T 3.9.67.14	ōol	2	Log	jin - D
Host Id	unique=CSP-4C4C4544-0052-5410-8038- B9C04F4A5832	COPY HOST ID)		
			•	lot con	nected

- 3. Click on the 'COPY HOSTID' button and forward this information to Vix Vizion to generate the licence key file.
- 4. Click on the 'ATTACH LICENCE' button to attach the licence key file received from Vix Vizion.
- 5. The system displays the licence number of camera streams. This figure is 0 before the application of the licence key to the system.



6.2 SYSTEM HEALTH

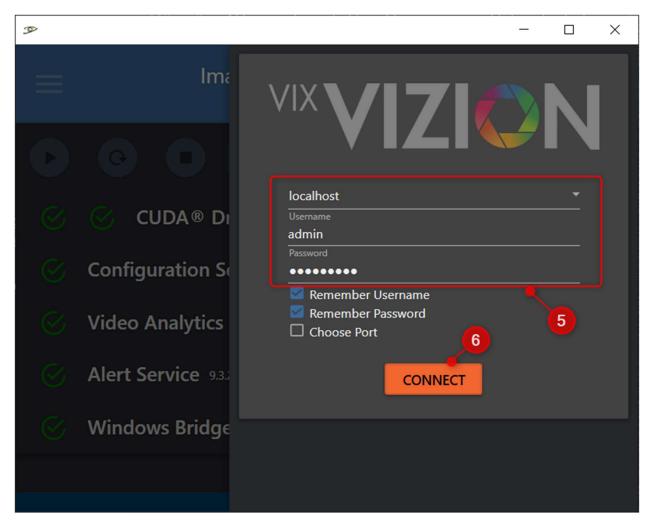
1. Select the 'System Health' option to check and ensure all Imagus Software Services are running.



- 2. After each install, all services will start automatically.
- 3. If the services are not started, press the play button to start them.

Ø	- 🗆 X
Imagus Configuration Too 3.9.67.14	ol 4 Logout D
C Reset All Settings	
CUDA® Driver Status	~
Configuration Service 9.3.4.0	~
Video Analytics Service 9.3.11.0	~
Alert Service 9.3.2.0	~
Windows Bridge Service 9.3.4.0	~
	Connected to localhost as admin

- 4. Click on the 'Login' button to login as 'Administrator' to save the settings configured under 'System Configuration' and 'Storage And Backup'.
- 5. Enter the default admin password provided.
- 6. Click on the 'CONNECT' button.



- 7. 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.
- 8. For all other items, the first check shows the service is running, and the second check shows that it is communicating.

ø	- 🗆 X
Imagus Configurat	ion Tool Logout 🕞
Reset All Settings	
CUDA® Driver Status	^
NVIDIA GeForce GTX 1650 , TCC Mode: F NVIDIA Driver 466.470 Imagus Face Rec Core 9.1.161.0 Cuda Co	
Configuration Service 9.3.4.0	^
Sideo Analytics Service 9.3.7	11.0 ~
S Alert Service 9.3.2.0	~
S Windows Bridge Service 🤐	3.4.0
	Connected to localhost as admin

All services are running with NVidia Card.

6.3 SYSTEM CONFIGURATION

1. Select the 'System Configuration' option.

Ð		-		×
←	5 Configuration Tool 3.9.67.14			
C Imagus Cloud				
Licencing				
💝 System Health 🚺				
System Configuration				
Storage And Backup				
Access Control				
🖅 Quick Setup				
	be a Windows Authentication account			
Advanced				
	Connected	d to local	host as	admin

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

- 2. Face Algorithm: The possible options are as follows:
 - Fast (V6) Face recognition based on the V6 model with the option to enable/disable automatic mask recognition;
 - Mask (V8 Mask) All faces will be recognised using Face-Mask optimised model. The accuracies for people not wearing a mask will not be as good as a non-mask model;

- Accurate(V8) Face recognition based on V8 model with the option to enable/disable the automatic mask recognition;
- Milestone connections: This is the connection details for the Milestone management server. It must be a Windows account; please make sure the test is valid before saving. Once saved, the Imagus Software server details are entered into the Milestone configuration, and all future setup is completed in the Management Client.

P	- 🗆 X
Imagus Configuration Tool 3.9.67.14	Logout 🗗
Local Machine Address	
Local Machine Address, This address must be accessible by other machines on the network	SET
Face Algorithm	
Accurate (V8)	•
Enable Automatic Mask Recognition	
Milestone	
Note: This Milestone user account must be a Windows Authentication account Milestone Server	
localhost Username Password	
4 SAVE CHANGES	
CANCEL CHANGES	
Con	nected to localhost as admin

6.4 STORAGE AND BACKUP

1. Select the 'Storage And Backup' option.

P		- 🗆 X
÷	Imagus Configuration Tool 3.9.67.14	
Imagus Cloud		
Licencing	ace Images 🖆 Delete Alarm History Iours Mins Days	
💝 System Health		
System Configuration		
Storage And Backup		
Access Control		
ন্দ্র্ Quick Setup	Set Job Schedule At 01:00 AM	
	Set Job Schedule At 03:00 AM	
	Set Job Schedule At 04:00 AM	
Advanced		Connected to localhost as admin

- 2. Storage:
 - i. Delete Metadata History: The number of days to keep history metadata online before system housekeep it. The default is 30 days.
 - ii. Delete Face Images: The number of days to keep face images data online before system housekeep it. The default is 20 days.
 - iii. Delete Alarm History: The number of days to keep alarm data online before system housekeep it. The default is 30 days.
 - iv. Video Recording Enable Recording: To enable video recording and indicate the number of days to keep video recording to a specified location.
- 3. Backup Configuration: The number of backup copies to keep to a specified location. The default time for the job to run is set at 03:00 AM.
- 4. Backup Face Database: The number of backup copies to keep to a specified location. The default time for the job to run is set at 03:00 AM.

5. Backup – History Database: The number of days to keep history data online before system housekeep it to a specified location. Thedefault time for the job to run is set at 04:00 AM.

Ð		- 🗆 X
≡	Imagus Configuration Tool 3.9.67.14	Logout
Storage		
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30 c:\videos		
3		
Configuration	Set Job Schedule At 01:00 AM	Configuration Backup Location
Face Database 4	Set Job Schedule At 03:00 AM	G Faces Backup Location
History Database		
Days Of History Backup to Keep	Set Job Schedule At 04:00 AM	History Backup Location
		Connected to localhost as admin

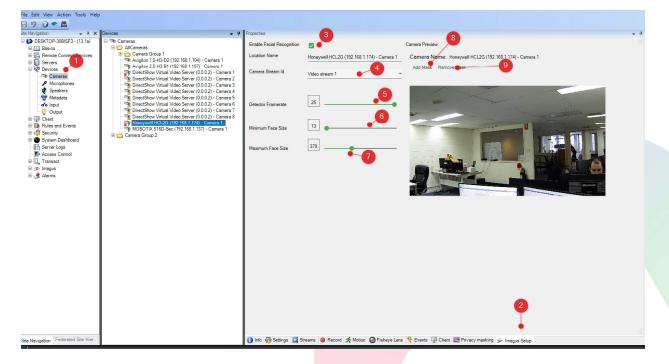
7 MILESTONE MANAGEMENT CLIENT SOFTWARE CONFIGURATION

Launch Milestone Management Client Application.

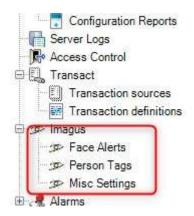
Please ensure the XProtect Management Client version installed on your machine is either version 2019 R1 and above.

7.1 SETTING UP VIDEO SOURCE

- Go to Devices → Camera to enable the Facial Recognition for a selected camera in the Milestone System. →
- 2. Click on the 'Imagus Setup' tab.
- 3. Check on the 'Enable Facial Recognition' checkbox to enable facial recognition for the selected camera.
- 4. Select the camera stream to perform facial recognition.
- 5. Select the detector frame rate at which the detector will base on.
- 6. Change the minimum and maximum face size in pixels here to change the size of the face detected in the frame.
- 7. Click on the 'Add Mask' button to mark the region from facial recognition.
- 8. Click on the 'Remove Mask' button to remove mark region from facial recognition.



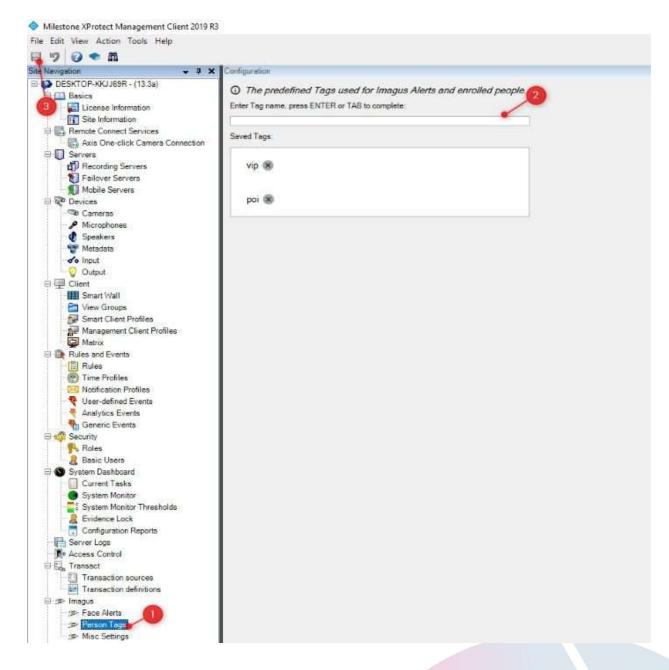
7.2 ALERT CONFIGURATION



- 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.

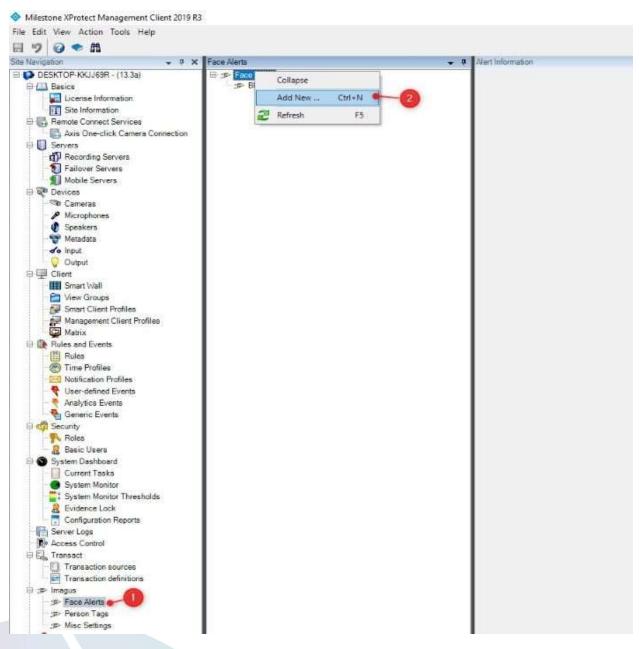
7.3 SETTING UP TAGS

- 1. Go to Milestone Management Client \rightarrow Imagus \rightarrow 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 to an error.
- 3. Click on the 'Save' icon to save the settings.

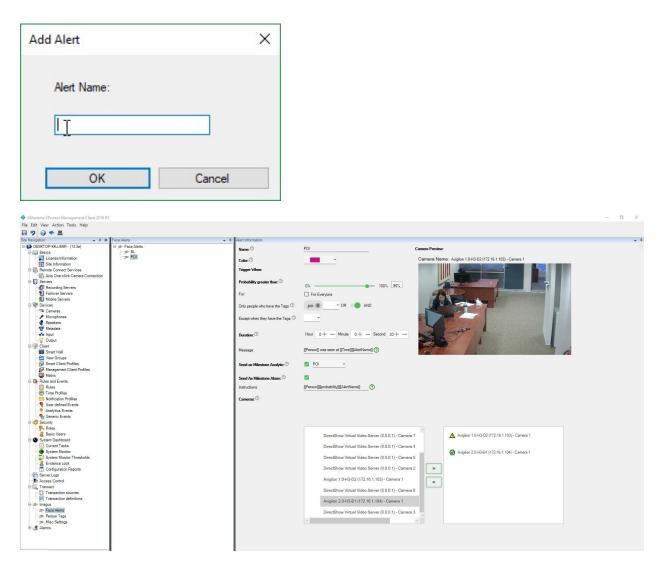


7.4 SETTING UP ALERTS

- 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 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.



- 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.
 - 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 Analytics Event. However, you are required to specify the rules for the event in the Milestone System. Below are the available options:

Send as Analytic: ⁽²⁾	Analytic Name same as Alert
Send As Alarm:	Custom Analytic Name
Send As Alarm.	Send Analytic to person Tags one of each
Message:	

- *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.

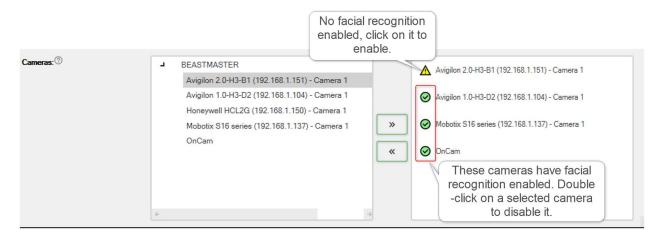
Send as Analytic: ⁽⁷⁾	Custom Analytic Name		
	Analytic Name		
Send As Alarm: ⑦		Custom Analytic Name cannot be empty.	
Message:	POI	otherwise Alert Name is used	

- 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 doubleclicking 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;

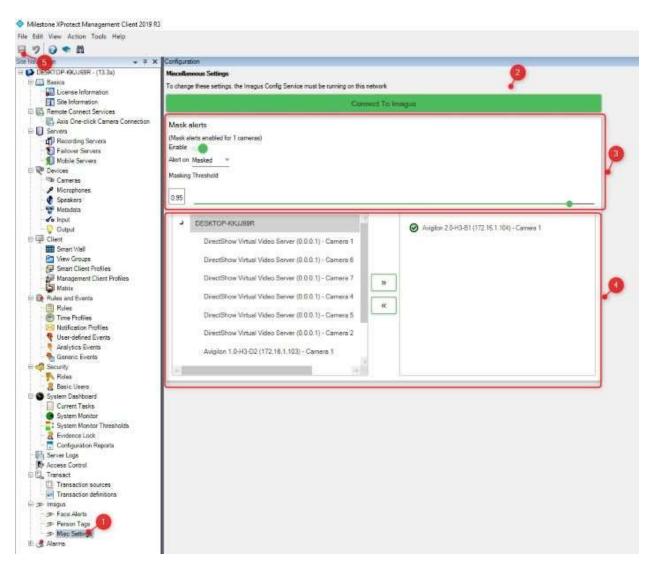


- 5. Click on the 'Save' icon to save the settings.
- 6. The system will prompt you a message and click on the 'Yes' button to create the alert.

File Edit View Action Tools Help							
Site Navigation - 7 ×	Face Alerts 🚽 👎	Alert Information			, ą		
	⊟ : J⊅> Face Alerts	Name:	POI	Camera Preview:	\uparrow		
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		Color:		Camera Name: StableFPS (localhost) - Camera 1			
R There is no Analytic Definition name "PC	DI" would you like to create one	Trigger When:					
	or, noord job me to treate one						
🖗 🔲 S		Probability greater than:	0% 100% 85%				
ų	Yes No						
Mobile Servers	· · · · · · · · · · · · · · · · · · ·	For:	For Everyone				
Pevices		Only people who have the Tags:	vip 🗴 🗸 OR 🛑 AND				
Cameras	6	Only people who have the Tags: U					
Microphones		Except when they have the Tags: ⑦	bl 🛪 👻	A Way water - service water at the service of the s			
🔮 Speakers		Except when they have the Tags:	bi @				
🕎 Metadata							
Output		Duration: ⑦	Hour $0 + -$ Minute $0 + -$ Second $20 + -$				
□ I Client							
Smart Wall							
- 🔚 View Groups		Send as Analytic: ⑦					
- 😥 Smart Client Profiles		,	Analytic Name same as Alert 👻				
Management Client Profiles			_				
Matrix		Send As Alarm: ⑦					
Rules		Message:	[[Person]] POI are seen at [[Time]]				
- 🛞 Time Profiles		Description:	[[Person]] [[Probability]][[AlertName]]				
Notification Profiles		Description.					
		Cameras:	> DESKTOP-30BISE3				
Analytics Events			, Desirior subirio	StableFPS (localhost) - Camera 1			
Generic Events							
Roles				StableFPS (localhost) - Camera 1			
- 🧸 Basic Users							
System Dashboard				StableFPS (localhost) - Camera 1			
Current Tasks				«			
System Monitor							
Evidence Lock							
Configuration Reports							
< >							
Site Navigation Federated Site Hierarchy			6	*	4		

7.5 SETTING UP MASK DETECTION AND ALERTS

1. Go to Imagus \rightarrow Misc Settings to set up the mask alerts.



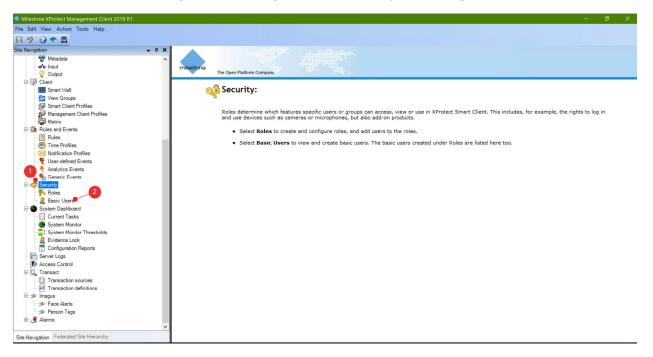
- 2. Click on the 'Connect to Imagus' to establish the connection to Imagus Configuration Service.
- 3. Enter the below information for Mask Alerts:
 - Enable A slider option to enable/disable Mask Alerts;
 - Alert on The possible values are Masked and Unmasked
 - Masking Threshold Default value is 0.8. For best settings, set it to 0.95.
- 4. Cameras Select list of cameras for mask detections and alerts.
- 5. Click on the 'Save' icon to save the settings.

7.6 USER ACCESS CONTROL

System Administrators have an option to restrict Imagus facial recognition functionality access rights to specified users.

7.6.1 Create a basic user account

1. Go to Security → Basic User → Create Basic User option to create a basic user account with specified Imagus facial recognition functionality access rights.



- 2. The below screen will be displayed. Enter the below information and click the 'OK' button to save the details or 'Cancel' button to exit.
- User name Basic user account name;
- Description Description of the user account to be created;
- Password Set a password to access the Milestone System;
- Repeat password Repeated password for verification;

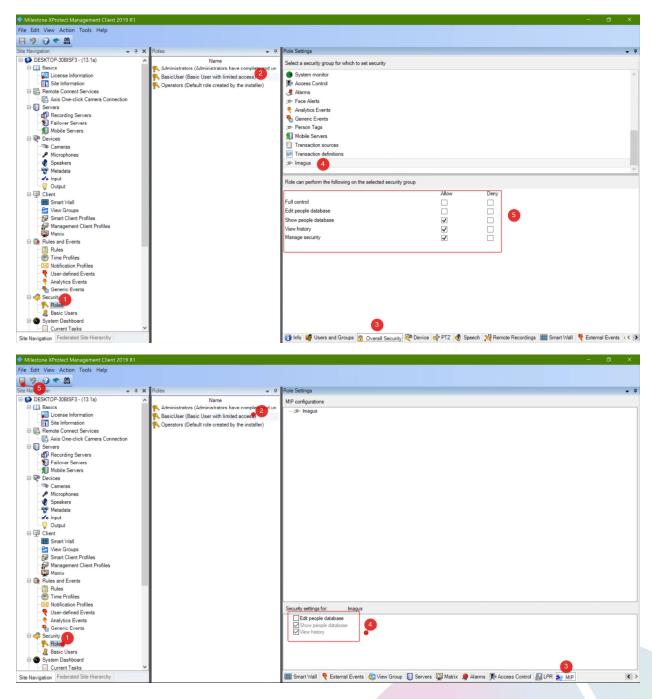
	User	Basic User	w Ba
	e:	rname:	ern
	Access	da-NoAccess	nda
	n:	eription:	scri
< 2	r account with no access rights to imagus FR	ik user accou	asic
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7.6.2 Set security/access rights to a role

- 1. Go to Security → Roles and select a role, e.g., BasicUser (Basic User with limited access)
- 2. Click on the 'Overall Security' or 'MIP' Tab, navigate to select 'Imagus' security group option under Role Settings.
- 3. Below security options will be displayed for access right settings:
 - Full Control Ability to edit, view people database, view history as well as managing security;
 - Edit people database Ability to make changes to people enrolment records in people database;
 - Show people database Ability to view people enrolment records in people database;
 - View History Ability to view and search historical data;
 - Manage Security Ability to manage security;
- 4. Select/Check on the security options that this role group can perform and click on the 'Save' option to save the settings.

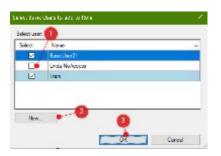


7.6.3 Add a user to a role

- 1. Go to Security → Roles and select a role, e.g., BasicUser (Basic User with limited access)
- 2. Click on the 'Users and Groups' Tab and click on the 'Add' button and select the 'Basic user' option.

Milestone XProtect Management Client 2019 R1				- o ×
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3. The below pop-up screen will be displayed and check/select the new basic user account that is created in Section 6.3.1.



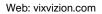
4. The below pop-up screen will be displayed and check/select the new basic user account that is created in Section 6.3.1.

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Site Navigation	↓ ↓ × Roles	→ ₽	Role Settings	
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Output		r (Basic User with limited acces		Basic user account with no access rights to Imagus FR
E Client		(Default role created by the inst		usual password, if you want to test this user
View Groups				
- 🐙 Smart Client Profiles		-		
Management Client Profiles				
Matrix				
Rules and Events				

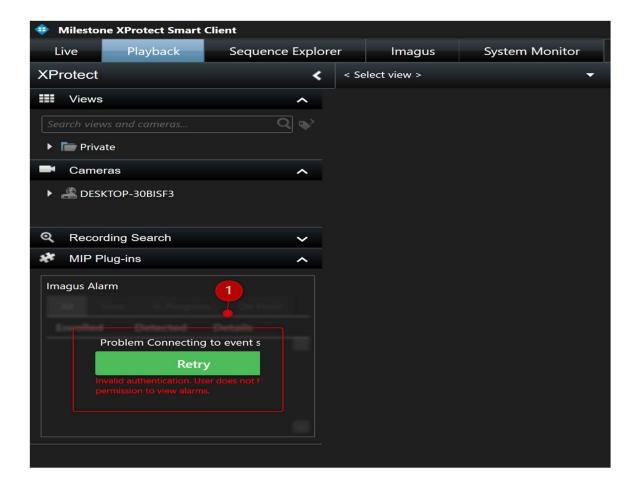
For example: The below shown a basic user with a role with no access to Imagus Tab's functionalities. The user will be prompted with an appropriate message on the access level.

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Alarm Problem Con Prate And Problem Con Prate And Problem Con	necting to event server Retry	History		Video Playback 1030 AM 6/11/2019	10:46:21.723 AM
		Curr	2 ent user does not have permission to view history	People	nission to view people database.

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Contact: info@vixvizion.com



8 MILESTONE SMART CLIENT SOFTWARE CONFIGURATION

The milestone client settings are set up by the Software 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.

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Filter Results ^ Search	h Mode Standard 🔻			Q Insert p	erson name Advanced	Clear	
🗢 Settings							
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Access Control							
Alarm							
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Imagus Services Settings							
Advanced							
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Language							
					Plugin V	ersion: v3.2.0.6	
Help						Close	ŋ

- 3. Select the "Imagus Services Settings" option.
- 4. The Connection Address and Port are set during the installation.
- 5. The Connection details point to the Imagus Server; it will be either IP address or hostname and come in the form "192.168.1.1" or "boardroom".
- 6. Click on the 'Save' button to save the information.

8.1 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
 - Can Rearrange

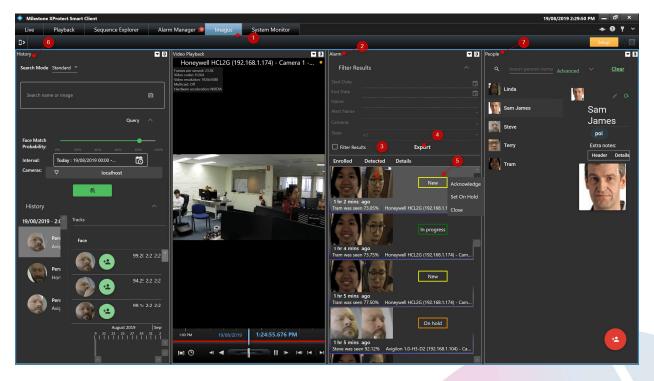
Mileston	XProtect Smart	Client							24/04/2019 12:44:20 PM 🗕 🗗 🗙
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✓ Alarm ✓ History ✓ Playback		1	Search Mode Standard -		Mobotix S1	16 series (192.168.1.137) - Camera 1	I - 24/04/2019 12:44 ◎ X	Filter Results	Side-bar after auto-hide
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L				Query ^				Alert Name Cameras	~

- 3. You can auto-resize or drag the individual sub-tab within the Imagus Tab.
- 4. To have a default layout, click on the 'Default Layout' button.

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Alarm I 🖬 🗶	History	▼ ₽ ×	Video Playback
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9 VIEW ALARMS, FACES AND PEOPLE IN MILESTONE SMART CLIENT USING IMAGUS PLUGIN

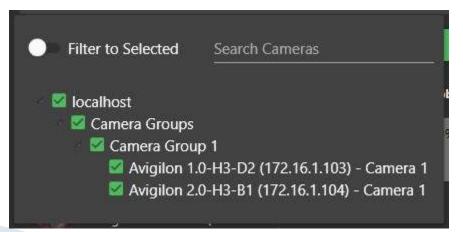
- 1. Run Milestone Smart Client and go to the Imagus tab.
- 2. To view alerts, go to the Alarms Tab, enrolled image and first detected image shown.
- 3. To replay the video from 5 seconds before the detection, click on the 'Face'.
- 4. To export the alarms, click on 'Export' button.
- 5. To update the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



10 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:
 - Face Match 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 date and time interval that the person is detected;
 - 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.
- 9. Click on the 'Save faces to file' button to save faces to a file.

History n	▼ 🖪 🗙 Video Playback 🔍 🗖 🕅 🕅
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	People 🔽 🕅 🗙

10. Click on the EXPORT button to export the historical data to an excel file.

Start	End	Probability	Face
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22/10/2020 8:38	22/10/2020 8:42	99.1	3
22/10/2020 8:42	22/10/2020 8:43	99.51	
			36

11 PERFORM FORENSIC HISTORICAL SEARCH USING IMAGES WITHIN THE MILESTONE SYSTEM

11.1 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. Click on the 'Search' button to find all those associated with the two within the specified timeframe.
 - 1. 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.

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					12: 📲 🚽 24/04/2019	12:48:28.130 PM	• •	

11.2 SEARCH FOR ASSOCIATES FOR ONE OR 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.

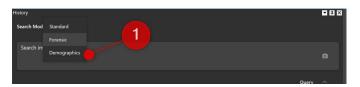
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Target Faces 🔞 😵	Face Match	
	Probability: 0% 10% 20% 30% 40% 50% 60% 20% 80% 90% 100%	
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Cameras: 🕤		
	beastmaster	
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	15:30:	
•		
Avigilon 2.0-H3-B1		

12 PERFORM SEARCH BASED ON DEMOGRAPHIC INFORMATION WITHIN THE MILESTONE SYSTEM (ONLY AVAILABLE IN THE MARKETING MODULE)

This function allows the end-users to perform a search on historical information filter on age band and gender selections.

Below are the steps:

1. Specify the Search mode as 'Demographics' under Imagus -> History Tab.



- 2. Specify the below search criteria:
 - Age Range from 0 -100 years old;
 - Genders Male or Female. If you selected both, the search results would include the Unknown as well;
 - Enabled advanced options A checkbox to enable the option for Gender threshold level adjustment.
 - Gender Threshold A slider option from 0.0 to 1.0. The default value is 0.2.
 - Interval (i.e. Date Range) A picklist of a time interval that the person is detected;
 - Camera The camera you're interested in.

History	▼ ₽ ×
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Search images	۵
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Age Range 👝	
20 30 40 50 60 70 80	90
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Enabled advanced options	
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Today : 26/10/2020 00:00 - 26/10/2020 23:59	ର୍ଗ
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3	

3. Click on the Search button, and the system will display the results based on the search parameters specified in s/n 2.



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Gender Threshold	•						
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1/10/2020 - 12:00 PM	2		0.00%		1:06 PM	1:06 PM	
Timelines unavailable for demo	graphics search						

Contact: info@vixvizion.com

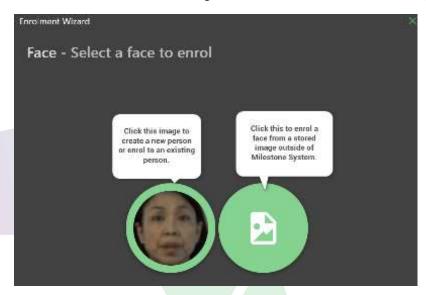
13ENROL FACES FROM HISTORY TAB UNDER TIMELINE

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



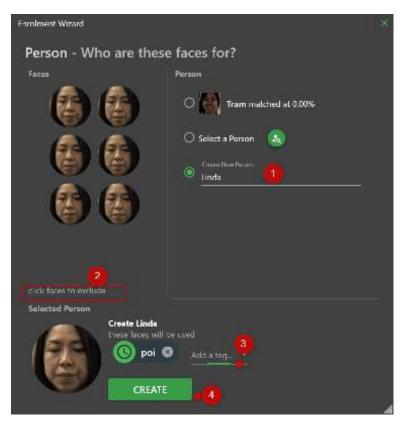
2. An Enrolment Wizard pops

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.



- 3. Enter a New Person Name.
- 4. To exclude faces from the enrolment, click this slide bar.
- 5. Add in a tag for the person.

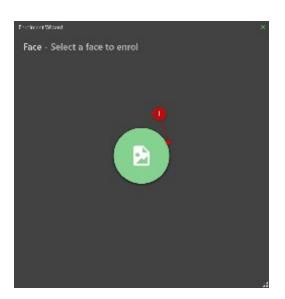
6. Click on the 'CREATE' button to create an enrolment.



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

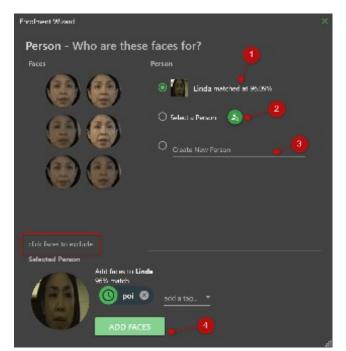


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14ADDING IMAGES TO AN EXISTING PERSON

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



Contact: info@vixvizion.com

15DELETE AN ENROLMENT FROM A PERSON UNDER PEOPLE TAB

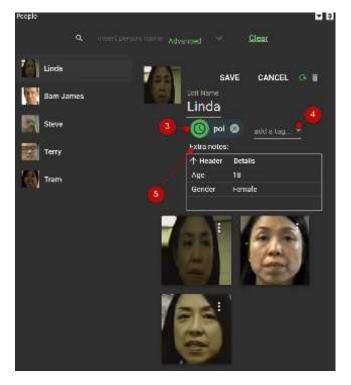
- 1. Run the Milestone Smart Client and go to People Tab.
- 2. Select the person from the people list that you want to delete.
- 3. Click on the delete icon to delete the selected image to be deleted from the person.
- 4. Click this trash bin icon to delete the person record.



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16ADD EXTRA INFORMATION FOR A PERSON UNDER PEOPLE TAB

- 1. Run the Milestone Smart Client and go to People Tab.
- 2. Select the person from the people list and click on the edit icon.
- 3. Click on the clock icon to set the expiry of the selected tag.
- 4. Select additional new tags from the pre-defined list set up at xProtect Management Client.
- 5. Click on the 'Extra notes' section to add any extra information such as age, gender, remark etc.



17 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]]*.

Live Playback	art Client Sequence Explorer Alarm Man			em Monitor			24/04/2019 1:48:07 PM — ਰੋ ×
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▼ New (3342) ▼ In progress (0) ▼ On hold (0)	Time 12.24.35 PM 2404/2019 12.24.35 PM 2404/2019 12.24.27 PM 2404/2019 12.24.27 PM 2404/2019 12.24.27 PM 2404/2019 12.24.27 PM 2404/2019 12.23.47 PM 2404/2019 12.23.47 PM 2404/2019 12.23.47 PM 2404/2019 11.41.54 AM 2404/2019 11.41.54 AM 2404/2019 11.31.11 AM 2404/2019 11.27.01 AM 2404/2019 11.27.01 AM 2404/2019	 Priority Level 1 	State Level 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	New	Message di di di di di di di di di di	Mototix S16 series (192 16 Mototix S16 erries (192 16 Mototix S16 erries (192 16 Mototix S16 erries (192 17 Mototix S16 erries (192 16 Mototix S16 erries (192 16 Mototix S16 erries (192 16 Mototix S16 erries (192 16 Avigen 1 044302 (192 16 Avigen 1 044302 (192 16 Avigen 1 044302 (192 16 Avigen 1 044302 (192 16 Avigen 1 04302 (192 16	D 7465 7464 7461 7422 7483 7480 7489 7489 7489 7489 7489 7489 7483 7485 7483 7485 7483

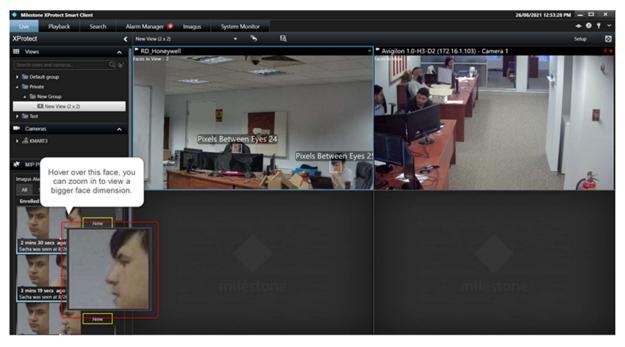
4. Double-clicked an alarm from the alarm list, the system will display the below pop-up message box.

12:23:08 PM - Mobotix 12:23:08 PM - Mobotix	S16 series (192.168.1.137) - C	amer — 🗆 🗙
Mobotix S16 series (192.168.1.137) - Camera 1 Test_Face3 (99.00%) Pixels Between Eyes 4 View : Sharpness 48.58 Frontal Facing 0.00	Mobotix S16 series (192.168.1.137)) - Camera 1 - 24/04/2019 12:23:08 •
	12	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
< (C)	•	
	Add	
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'.

18ZOOM FEATURE WHEN YOU HOVER OVER THE FACE (NEW)

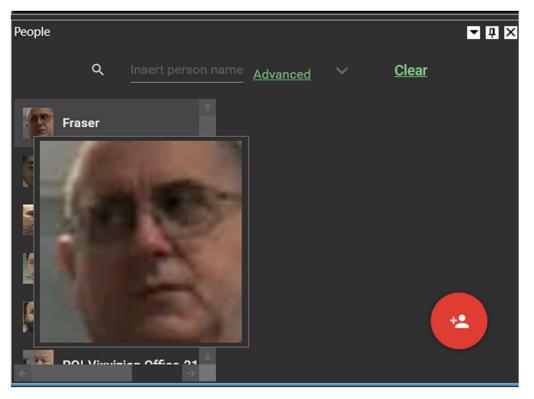
When hovering the face in the Imagus, Live and Playback tabs, the user can zoom in to view the face in a bigger dimension as shown in the below diagrams.



Live Tab: Hover over the face at the right-hand side to Zoom in to view the face in a bigger dimension.



Playback Tab: Click on the face under Live Tab Alarm list to playback video.



Imagus Tab: Zoom in to view face in People list

Contact: info@vixvizion.com

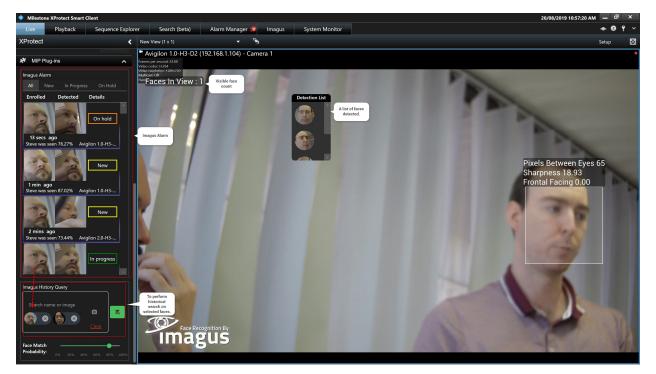
History	e						1 1 X
Search Mode							
Search ima	jes						٥
						Query	
Face Match Probability:				60% 7	70% 80%		
Custom : 18	/08/2021 00:00 - 26/08/	2021 23:59					5
▽		3 of 3 Histo	ory Cameras Se	elected			C
26/08/2021	- 1:00 PM		8				
FX	Par	Ĩ	9 I	August 2021 22 	24 1	26 I I	

Imagus Tab: Zoom in to view face in History list

19DISPLAY LIVE FACES IN MILESTONE USING IMAGUS

19.1 VIEWING FACES IN 'LIVE TAB' AND REPLAY VIDEO CLIPS IN 'PLAYBACK' TAB

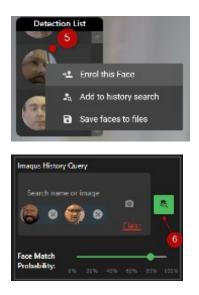
- 1. Run Milestone Smart Client.
- 2. Navigate to the 'Live' tab.
- 3. Drag in a Camera (which has been added to perform face recognition).



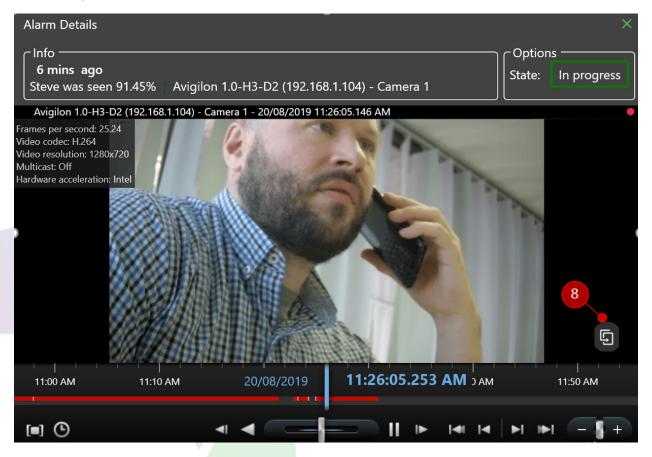
4. You can Observe boxes on faces, as shown above. Please note that if the person as above does not have a close match in the face database, the system will not display the person name and probability %. Below is a person with a close match to a person, Linda, with a probability of 98.20%.



5. Right-clicked on any face in the detection list, you will have the options to either enrol the face, add this face to the search history query or save faces to file.



- 6. Click on the 'Search button' under 'Imagus History Query' to perform the historical search on the faces selected. The system navigates to the 'Playback' tab to replay the video from 5 seconds before the detection.
- 7. Right-click on the detected faces in the 'Imagus Alarm' section to view alarm and playback video at Live Tab.



8. To export the video clips, click on this Open button to access the playback in a new Live and Playback window.

19.2 DETECT FACES AND SEARCH FOR THEM IN THE 'PLAYBACK' TAB

- 1. Run Milestone Smart Client.
- 2. Navigate to the 'Playback' tab.
- 3. Drag in a Camera (which has been added to perform face recognition).
- 4. Click on the 'eye' icon to detect faces from the selected playback video.
- 5. Right-click on the detected faces to enrol, search it in history or save the faces to a file.

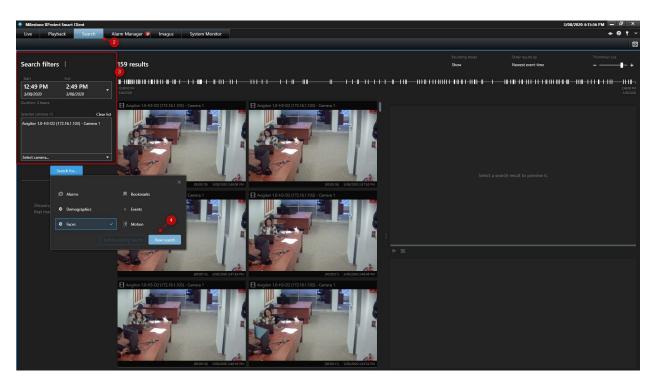




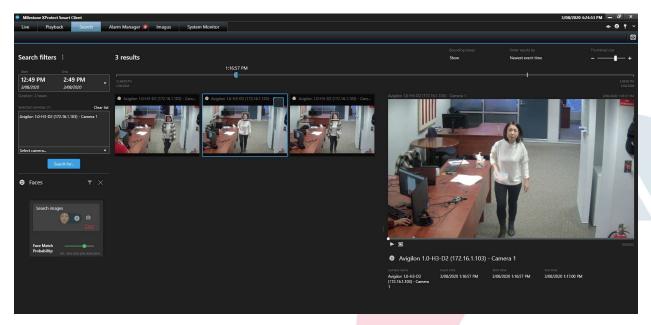


19.3 DETECT FACES AND SEARCH FOR THEM IN THE 'SEARCH' TAB

1. Run Milestone Smart Client.

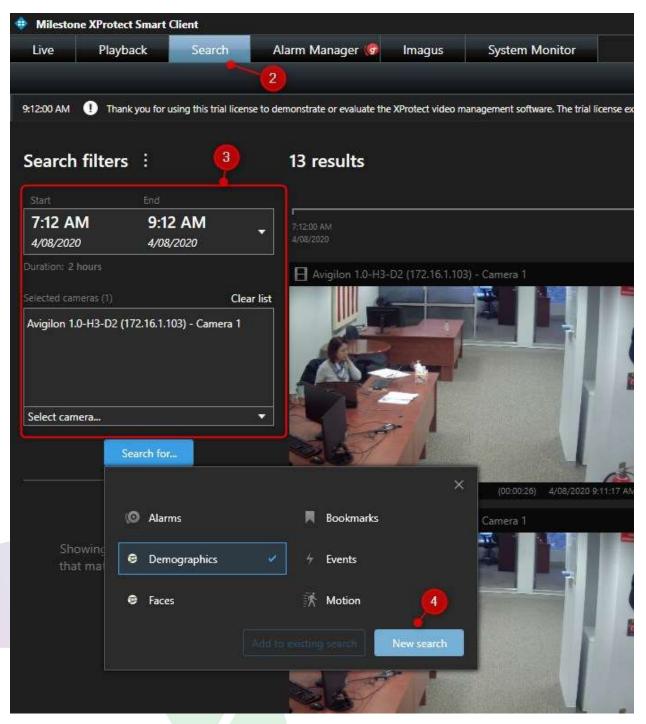


- 2. Navigate to the 'Search' tab.
- 3. Enter the below Search filters and click on the 'Search for..' button.
 - Start and End Date/time
 - Select Cameras Select a list of cameras set up for facial recognition
- 4. Select the 'Faces' option, and click on the 'New Search' button. Below show the search results.



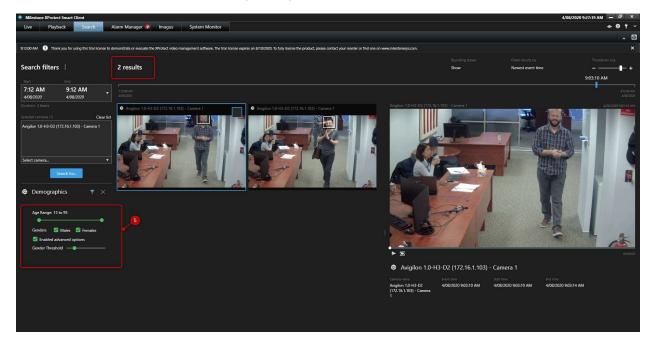
19.4 DETECT FACES AND SEARCH FOR THEM IN THE 'SEARCH' TAB USING DEMOGRAPHIC INFORMATION (ONLY AVAILABLE IN THE MARKETING MODULE)

1. Run Milestone Smart Client.



- 2. Navigate to the 'Search' tab.
- 3. Enter the below Search filters and click on the 'Search for..' button.

- Start and End Date/time
- Select Cameras Select a list of cameras set up for facial recognition
- 4. Select the 'Demographic' option and click on the 'New Search' button.
- 5. Specify the below filter criteria, and the results will be displayed as below:
 - Age Range 15 to 95
 - Genders i.e. Males or/and Females
 - Enabled Advance options Checked to allow adjustment of gender threshold
 - Gender Threadhold (0-1.00)



19.5 DISPLAYING OF MIP PLUGIN IN THE SETUP BUTTON, 'LIVE' AND PLAYBACK TAB

- 1. Run Milestone Smart Client and navigate to the 'Settings' Tab and click on Panes.
- 2. Enter the below information:
 - Live -> MIP Plugin Available/Unavailable
 - Playback -> MIP Plugin Available/Unavailable
 - Setup -> MIP Plugin Available/Unavailable

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Application	Med-	function	Setting		Follow Server
Minec	Live	Views	Available	÷	Ø
Functions	live	Cameras	Asailable	+	121
	live	Audia	Anildu		M
Timeline	live	Datpat	frontable	1	M
Espert	Livo 🚺	Event	Available	Ť	
Smart map	Live	MIP Plug ins	Available	Ť	
	Playbook	viaus	Available	-1	Ø
Joystick	Playtisek	Cameras	Available		21
Keyboard	Playback	Recording Search	Available		M
Access Control	Playback	Audio	/wateble	*	M
	Playbac 2	Smart Search	Avaibble	-	☑
Alarm	Playbook	MIP Plug Ins	Available		
imagus Overlay Settings	Setup	Views	Anddde	T	العا
imagus Sorvices Settings	setup	Wyden Overdev	from Labelan		M
	Selup	Dwelley Bullions	Assiste		м
Advanced	Sctup 3	Properties	Available		
Language	Setup	MIP Plug Ins	Available		Ø

19.6 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

pplication	Option	Setting		Follow Server
anes	Incoming audio	2 Show	-	
unctions	Outgoing audio	Sherw	Ŧ	
	Additional data	Shaw	Ŧ	
Timeline	Additional markers	Show		
Export	Bookmarks	Show		
Smart map	Motion indication	Show	*	
	All cameras timeline	Show		Ø
loystick	Playback	Skip gaps		Ø
Alarm Imagus Overlay Settings				
Access Control Alarm Imagus Overlay Settings Imagus Services Settings Advanced				

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



19.7 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.

Probability (%)

• A measure in the percentage of how likely a face belongs to a person. The default value is set at 80%

Faces

• The face boxes with eye locations.

Branding

• Display of Imagus Face Recognition Logo.

19.8 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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Settings	_		×
Application			
Panes			
Functions			
Timeline			
Export			
Smart map			
Search			
Joystick			
Keyboard			
Access Control			
Alarm			
Imagus Overlay Settings	Display Visible Face Count		
Imagus Services Settings	✓ Display Pixels Between Eyes ✓ Display Faces		
Advanced	 ✓ Display Branding ✓ Display Probability: 80 % 		
Help		CI	ose