



Operator's Guide

Face Intellect 8.0-8.2 (english)

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1 Terms and definitions

1. The Guide – this document, titled *Face Intellect* Software Package: Operator's Guide.
2. The Software - *Face Intellect* software package.
3. DB – face database used for face recognition, also referred to as the Face Recognition Database.

2 Introduction

On this page:

- [The purpose and structure of the Guide](#)
- [Purpose of Face Intellect software](#)
- [Recommendations for using the Face Intellect software package](#)

2.1 The purpose and structure of the Guide

This Guide is an informational reference designed for users of the *Face Intellect* software package with "Operator" access rights.

The Guide contains the following material:

1. General description of the *Face Intellect* software package;
2. *Face Intellect* software operation;
3. Description of the *Face Intellect* user interface.

2.2 Purpose of Face Intellect software

Face Intellect software is designed for automated identification of people by comparing a captured face in a surveillance video frame with reference images for which a Face Recognition Database contains information. *Face Intellect* software provides the following functional capabilities:

1. recognizes human faces in a video frame;
2. registers facial biometric parameters;
3. compares a captured face displayed in a video frame with reference images stored within the "<Face Intellect installation directory\Bmp\person>" folder based on biometric parameters;
4. maintains a database of recognized faces;
5. creates a photo- and video archive;
6. searches for faces in the database using a photo.

2.3 Recommendations for using the Face Intellect software package

Face Intellect software is installed as an extension to the Intellect software package.

The following is recommended for correct application of *Face Intellect* software:

1. carefully follow the instructions;
2. use the Software only for its intended purpose;
3. do not use third party software on computers installed with *Face Intellect* unless the software is a component of the *Face Intellect* software package.

3 General description of the Face Intellect software

On this page:

- [Structure of the Face Intellect software package](#)
- [Face Detection software module functionality](#)
- [Face Recognition Server module functionality](#)
- [Face recognition and search program module functionality](#)

3.1 Structure of the Face Intellect software package

Face Intellect software includes the base version of the Intellect software package and additional software modules that directly perform face recognition functions.

Face Intellect includes the following software modules:

1. **Face Detection** system object;
2. **Face Recognition Server** system object;
3. **Face recognition and search** interface object.

3.2 Face Detection software module functionality

The **Face Detection** software module is designed to perform the following functions:

1. face detection in the video frame;
2. sending the captured face image to the face recognition server.

3.3 Face Recognition Server module functionality

The **Face Recognition Server** software module is designed to perform the following functions:

1. record a frame displaying a captured face;
2. register biometric parameters of a captured face;
3. recognize captured faces;
4. maintain a reference face database used for face recognition;
5. search for recognized faces in the database;
6. provide analytical data (including special [reports](#) generation in the Intellect Web Report System);
7. count number of passes.

3.4 Face recognition and search program module functionality

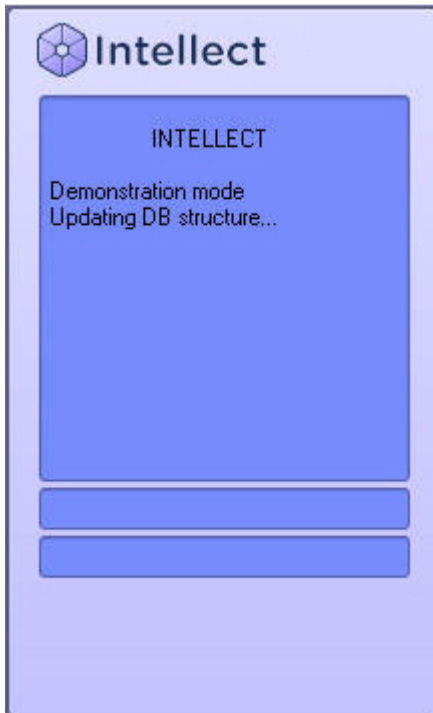
The **Face recognition and search** module is designed to perform the following functions::

1. Face search by image captured from video camera;
2. Face search by image loaded from a file;
3. Monitoring of captured faces in real-time mode.
4. Exporting the search results to the report file in **pdf** format.
5. Working with reference face databases;
6. Counting the number of passes;
7. Facial characteristics recognition with the appropriate license for the Tevian recognition module.

4 Face Intellect software operation

4.1 Launch and shutdown of the Software

Before starting work with the Software, it is recommended to check the operability of all system components: connections, video cameras, etc.




The Software can be launched in the following two ways:

1. Automatically. The software starts automatically after the operating system loads.
2. Manually. To start the Software manually, in the **Start** menu, select **Programs**, then **Intellect**, then **Client Workstation**, or use the corresponding shortcut on the **Desktop**.

Software startup may be password protected. In this case, enter your password to start the Software.

To shut down the Software, perform the following steps:

1. point the mouse cursor to the upper right corner of the screen. The program's main control panel will then appear;
2. click the  icon on the program's control panel;
3. select **Log off** in the menu that opens.

Program shutdown will begin, and a password will be required if one is set.

Note.

The Software can be configured to forbid shutdown. In that case, the **Log off** option will not be displayed in the menu.

4.2 Working with the Face recognition and search interface object


4.2.1 Monitoring of captured and recognized faces

To go to the monitoring mode of captured and recognized faces click the **Monitor** button in the **Face recognition and search** interface window.

The screenshot displays the 'Monitor' interface. At the top, there are buttons for 'Monitor', 'Search', 'Face DB', and 'Recognize file/folder'. Below these are 'Archive', 'Show faces: All', 'Filters', 'Follow new faces', and 'View' buttons. The main area is a table with columns: 'Captured face', 'Original from DB', 'Full name', 'Age', 'Gender', 'Camera', and 'Date/Time'. The table contains several rows of face data. A red bar at the top of the right-hand panel reads 'Attention! John Wick'. Below this, two side-by-side images of a man are shown with a '100%' similarity indicator. At the bottom of the right-hand panel, there is a 'Face DB' section with a 'Cameras' button and a table with columns: 'Image', 'Full name', 'Similarity level', 'Comment', and 'Date/Time'. This table shows a match for 'John Wick Department 3' with a '99.7%' similarity level and a date of '10-Feb-20 5:48:18 PM'.

Captured face	Original from DB	Full name	Age	Gender	Camera	Date/Time
		Block Jack Department 1 99.0 %	21	Male	Camera 1	11-Feb-20 10:37:31 AM
			34	Female	Camera 1	11-Feb-20 10:37:31 AM
		Smith Will Department 2 99.1 %	21	Male	Camera 1	11-Feb-20 10:37:31 AM
			18	Male	Camera 1	11-Feb-20 10:37:27 AM
		John Wick Department 3 99.7 %	24	Male	Camera 1	11-Feb-20 10:37:25 AM
			33	Male	Camera 1	11-Feb-20 10:37:24 AM
			48	Female	Camera 1	11-Feb-20 10:37:20 AM
			46	Female	Camera 1	11-Feb-20 10:37:18 AM

The following information is displayed in the information field of each captured face (1):

Column name	Description	Face Recognition module used
Captured face	<p>Captured face image</p> <p><i>Note 1. As you increase the width and height of this column, the image size also increases. The specified column size does not change even if the Columns auto width checkbox is set (see Configuring the permissions and additional settings).</i></p> <p><i>Note 2. Starting with Face-Intellect 7.3, the captured face image is not duplicated in the list of captured faces, but it is updated in the same cell while the tracker "sees" it. To change the mechanism of displaying faces, it is necessary to change the value of the Face.RecognizeFacesSeparately parameter to 1 (for details, see Registry keys reference guide).</i></p> <p><i>Note 3. If the Face Recognition Server works with a thermal camera (see Configuring the Face Recognition Server operation with thermal camera), the image will also display the face temperature in degrees Celsius.</i></p> 	All recognition modules
Original from DB	The image from the reference face DB, if the face was recognized	All recognition modules
Full name	Full name, if the face was recognized	All recognition modules
Name of face characteristic	<p>Selected additional face characteristics (see Configuring the additional face characteristics).</p> <p><i>Note. Face characteristics are not displayed if Face Intellect was updated from version 7.1. In this case, it is necessary to configure the displaying of additional face characteristics.</i></p>	Only Tevian, VideoIntellect 1.1 and VisionLabs
Camera	The camera which is a captured face source	All recognition modules

Column name	Description	Face Recognition module used
Date/Time	The date and time of the face capture by the camera	All recognition modules

The color of the information field of the recognized face may indicate the following:

- The level of similarity of captured face with the most corresponding face from the face recognition database. The conditional thresholds of similarity levels are set when configuring the **Face recognition and search** interface module (see [Configuring the color highlighting by face similarity](#)).
- The face belongs to a department for which an arbitrary color is set (see [Setting color highlighting of faces that belong to selected departments](#)).

If the **Follow new faces** checkbox is set, the list of faces is scrolled up to the top when a new face is captured even if some face is selected in it. To disable automatic list scrolling, unset the **Follow new faces** checkbox. You can also double-click the captured face to unset this checkbox. In this case the list is not scrolled up when new faces are captured.

Note

In order for the **Follow new faces** checkbox to be set automatically after a certain time, it is necessary to set the corresponding time in seconds in the **AutoFollowTimeSeconds** parameter of the `face_client.run.config` configuration file (for details, see [XML-file parameters reference guide](#)).

If the captured face was recognized, then in the upper right part of the captured faces monitoring panel (2), an alarm window is displayed with the following information:

- The title of the alarm window;

Note

The alarm window color and title can be changed (see [Alarm window title setting](#)).

- Full name of recognized person;
- The image with the captured face and the corresponding image from the face recognition database;

Note

If the Face Recognition Server works with a thermal camera (see [Configuring the Face Recognition Server operation with thermal camera](#)), the image will also display the face temperature in degrees Celsius.




- The similarity level as a percentage.

The lower right part of the captured faces monitoring panel (3) displays the following information:

- The **Face DB** section displays the information on the recognized face and contains the following information:

Column name	Description
Image	The recognized face image <i>Note. As you increase the width and height of this column, the image size also increases. The specified column size does not change even if the Columns auto width checkbox is set (see Configuring the permissions and additional settings)</i>
Full name	The full name of the recognized person
Similarity level	The similarity level between the recognized face and the face image
Comment	The comment
Date / Time	The date and time of the search

- The **Cameras** section displays the 10 recently captured faces that are similar to the selected face filtered by the specified filtering conditions (see [Filtering the recognized and unrecognized faces](#)). The field contains the following information:

Column name	Description
Image	The captured face image <i>Note 1. If the Face Recognition Server works with a thermal camera (see Configuring the Face Recognition Server operation with thermal camera), the image will also display the face temperature in degrees Celsius.</i> 
Similarity level	The similarity level between the captured face and the selected face

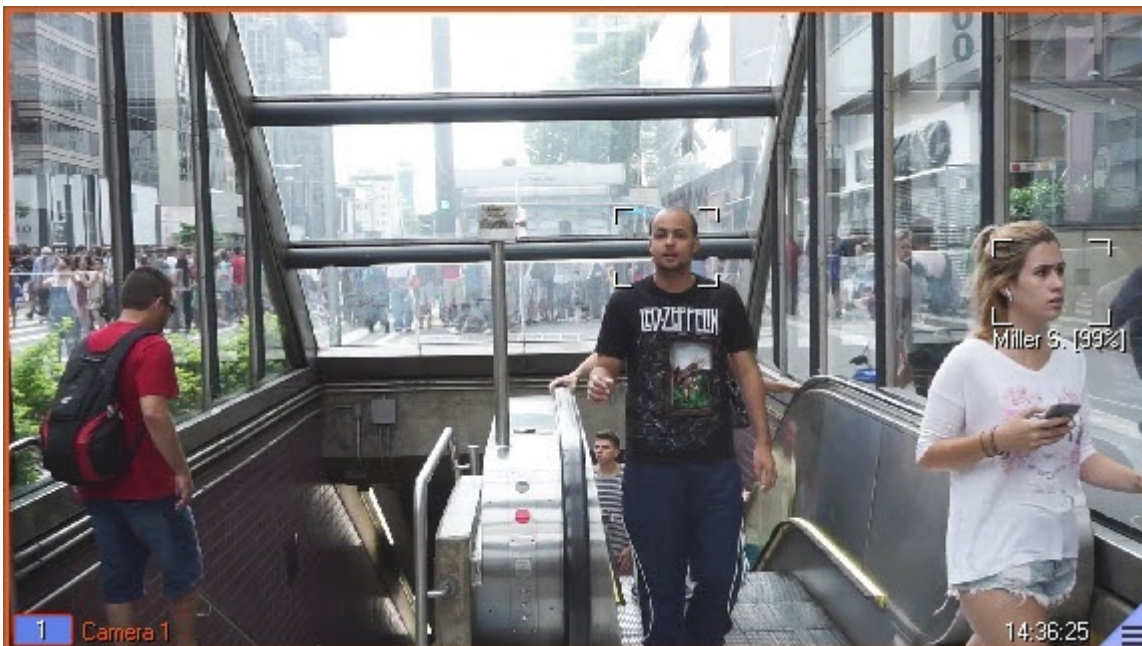
Column name	Description
Camera	The camera that captured the face
Date / Time	The date and time of the search

The **View** button (4) allows you to change the location of information panels 1-3 on the monitoring screen according to the preset.

Note

You can hide the **View** button. To do this, in the `face_client.run.config` configuration file, set the value of the `HideViewButton` parameter to **True** (for details, see [XML-file parameters reference guide](#)).

If the video from camera (used for face recognition) is transmitted to the **Monitor** interface object, then the full name is displayed below the face capture area (see [Configuring video display on Video Surveillance Monitor](#)).



Note

If the Face Recognition Server works in conjunction with a thermal camera, also see [Thermal camera operation](#).

Viewing information on recognized and unrecognized faces

You can view the information on recognized and unrecognized faces on the captured faces monitoring panel as follows:

1. Double left-click the captured face, which information you need to view **(1)**.
2. Select the required section by clicking on the appropriate button:
 - **Face DB (2)**;
 - **Cameras (3)**.
3. If the **Face DB** section **(2)** was selected, then the information on the recognized face received from the reference face database will be displayed in the lower right part of the captured faces monitoring panel **(5)**.

Note
If you double left-click the face which was not recognized, the **Face DB** section will be empty.

The screenshot displays the 'Captured faces monitoring panel' with a table of faces and a detailed view of a recognized face. The table has columns for 'Captured face', 'Original from DB', 'Full name', 'Age', 'Gender', 'Camera', and 'Date/Time'. The first row is highlighted, showing a face with a 99.1% similarity to 'Miller Sarah, Department 1'.

Captured face	Original from DB	Full name	Age	Gender	Camera	Date/Time
		Miller Sarah Department 1 99,1 %	21	Female	Camera 1	16.12.2019 15:18:14
			18	Male	Camera 1	16.12.2019 15:18:14
			20	Male	Camera 1	16.12.2019 15:18:08
			27	Male	Camera 1	16.12.2019 15:18:07
			31	Male	Camera 1	16.12.2019 15:18:07
			26	Female	Camera 1	16.12.2019 15:17:58
			30	Male	Camera 1	16.12.2019 15:17:54
			44	Female	Camera 1	16.12.2019 15:17:36

The detailed view on the right shows a '99%' similarity match for 'Miller Sarah' with a '99%' confidence score. Below this, the 'Face DB' section is selected, showing a list of similar faces with columns for 'Image', 'Similarity level', 'Camera', and 'Date/Time'.

Image	Similarity level	Camera	Date/Time
	99,3 %	Camera 1	13.12.2019 10:47:14
	99,4 %	Camera 1	13.12.2019 10:54:48
	99,4 %	Camera 1	13.12.2019 11:02:23

4. If the **Cameras** section **(3)** was selected, then 10 recently recognized faces that are similar to the selected person and filtered by the search filter specified in the **Filter** drop-down list (see [Starting the face search process](#)) will be displayed in the lower right part of the captured faces monitoring panel **(5)**.

Note
When the filter is changed, the information is automatically updated according to the selected filter.

5. To view the video at the time when the selected person appears, use one of the following ways:
 - Double left-click on the captured face (also applicable in the **Cameras** section in the lower right part of the captured faces monitoring panel);

Note

As a result, the moment you select a captured face (see step 1), you are automatically transferred to the video archive.

- Right-click on the captured face and select the **Video archive** menu item (also applicable in the **Cameras** section in the lower right part of the captured faces monitoring panel).

The image shows two screenshots of the Face Intellect software interface. The top screenshot displays the 'Captured faces' monitoring panel. At the top, there are buttons for 'Monitor', 'Search', 'Face DB', and 'Recognize file/folder'. Below these, there is an 'Archive' button, a 'Show faces:' dropdown menu set to 'All', and 'Filters' and 'Follow new faces' checkboxes. The main area is a table with columns: 'Captured face', 'Original from DB', 'Full name', 'Age', 'Gender', 'Camera', and 'Date/Time'. A context menu is open over the second row, with 'Video archive' circled in red. The bottom screenshot shows the 'Cameras' section. It has a 'Face DB' button and a 'Cameras' button. Below is a 'Filter:' dropdown set to 'Filter 1'. The main area is a table with columns: 'Image', 'Similarity level', 'Camera', and 'Date/Time'. A context menu is open over the second row, with 'Video archive' circled in red.

As a result, the video archive is displayed in the video archive playback monitor (see [Configuring the permissions and additional settings](#)) with a paused moment of the selected person appearing on the

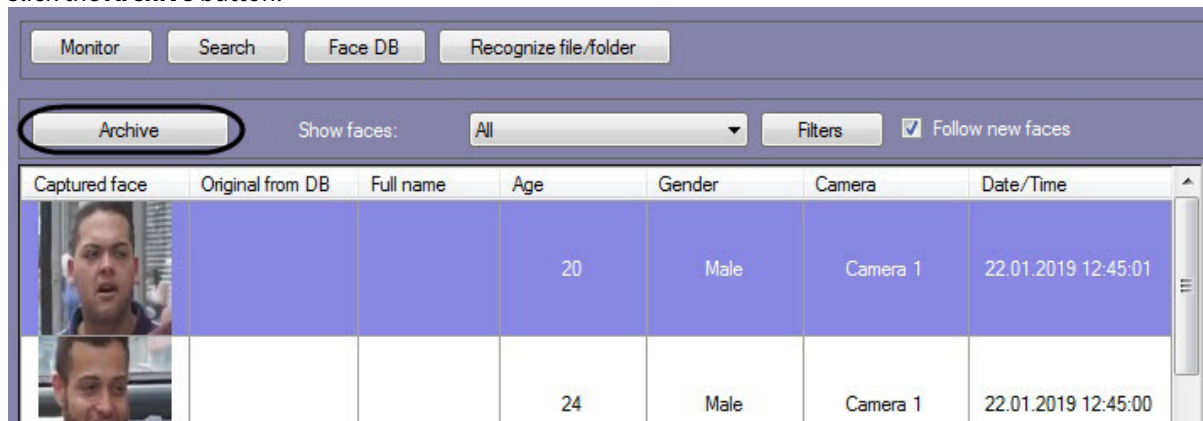
video (for more information about working with the video archive, see [Working with the archives](#)).



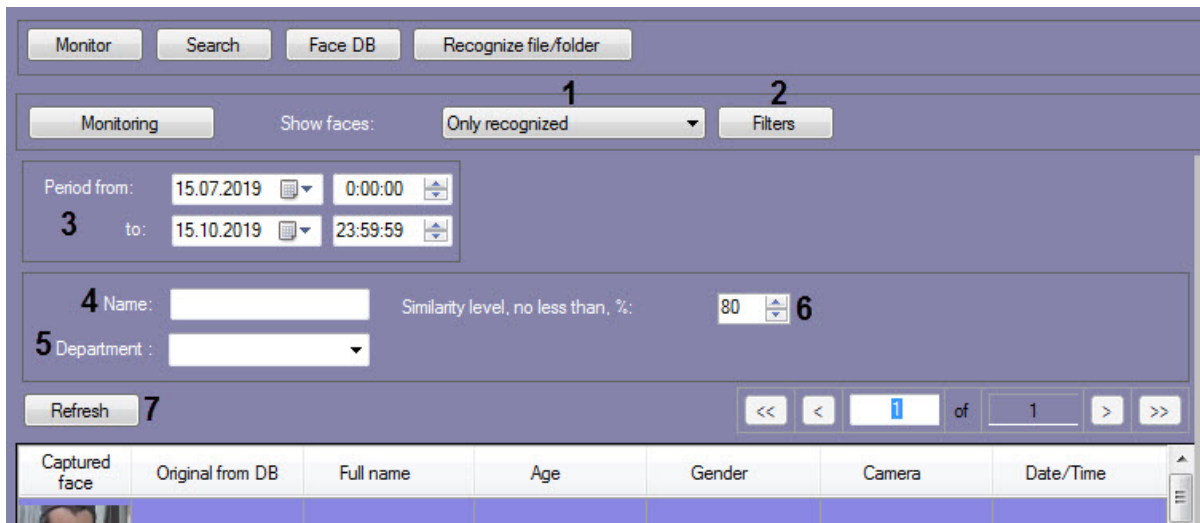
Filtering the recognized and unrecognized faces

It is possible to filter the recognized and unrecognized faces. To do this:

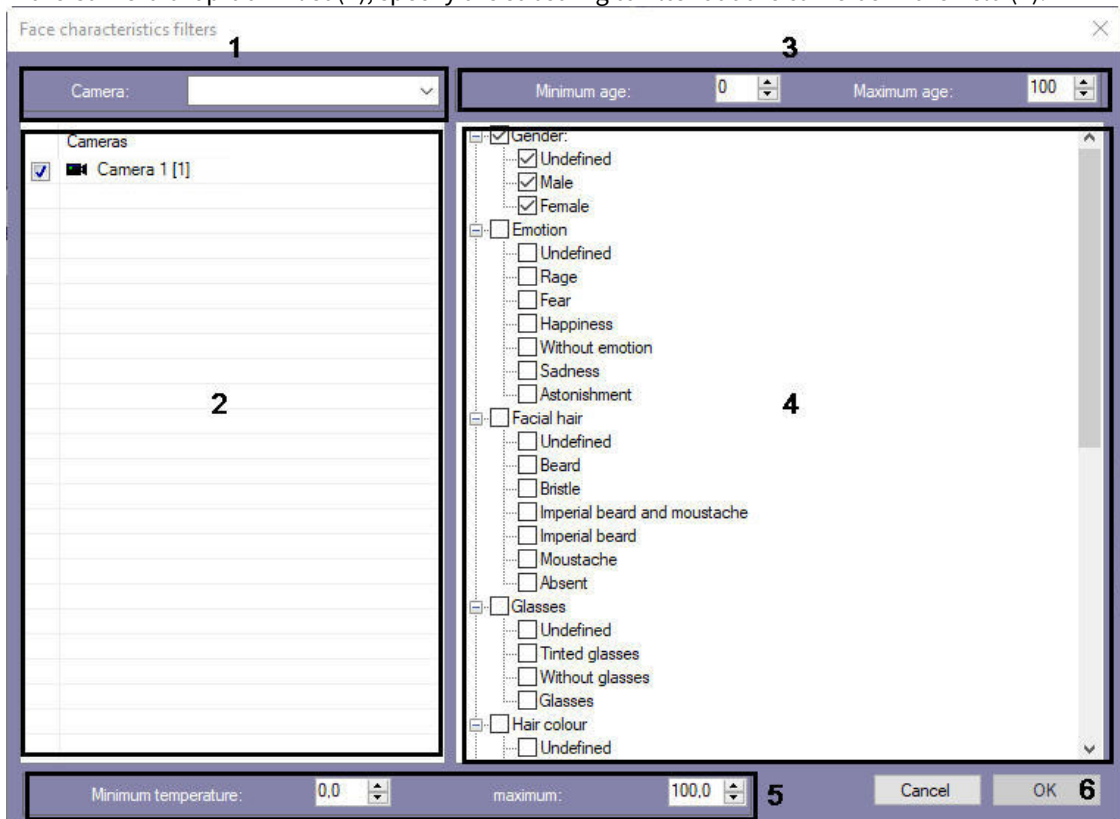
1. Click the **Archive** button.



2. In the **Show faces** drop-down list (**1**) select the required value:
 - **All**;
 - **Only recognized**;
 - **Only unrecognized**.



3. Click the **Filters** button (2) to specify the face characteristics filters:
 - a. In the **Camera** drop-down list (1), specify the substring to filter out the cameras in the field (2).



- b. In the **Minimum age** and **Maximum age** fields (3) specify the minimum and maximum age of persons to be displayed in the search results, respectively.
 - c. In the area (4), set the check boxes next to the corresponding face characteristics.

Note

Face characteristics (4) may not be displayed (see [Configuring the additional face characteristics](#)).

- d. In the **Minimum temperature** and **maximum** fields, specify the minimum and maximum face temperature, respectively (5).
- e. Click **OK** (6).
4. Enter the start and end of search period in the **Period from** and **to** fields correspondingly (3).
5. In the **Name** field, enter the name by which the search is to be performed (4).
6. In the **Department** drop-down list select the department by which the search is to be performed (5).
7. In the **Similarity level, no less than, %** field set the minimal similarity level between the reference face image and the captured face (6).
8. Click the **Refresh** button (7).

Note

The **Name**, **Department** and **Similarity level, no less than, %** fields are available only if the **Only recognized** value is selected in the **Show faces** drop-down list.

As a result, the faces with the specified filtering conditions will be displayed.

The screenshot displays the software interface with the following elements:

- Monitoring Panel:** Shows search filters including 'Show faces: Only recognized', 'Period from: 15.07.2019 0:00:00' to '15.10.2019 23:59:59', 'Name: Sarah', 'Department: [empty]', and 'Similarity level, no less than, %: 80'.
- Search Results Table:**

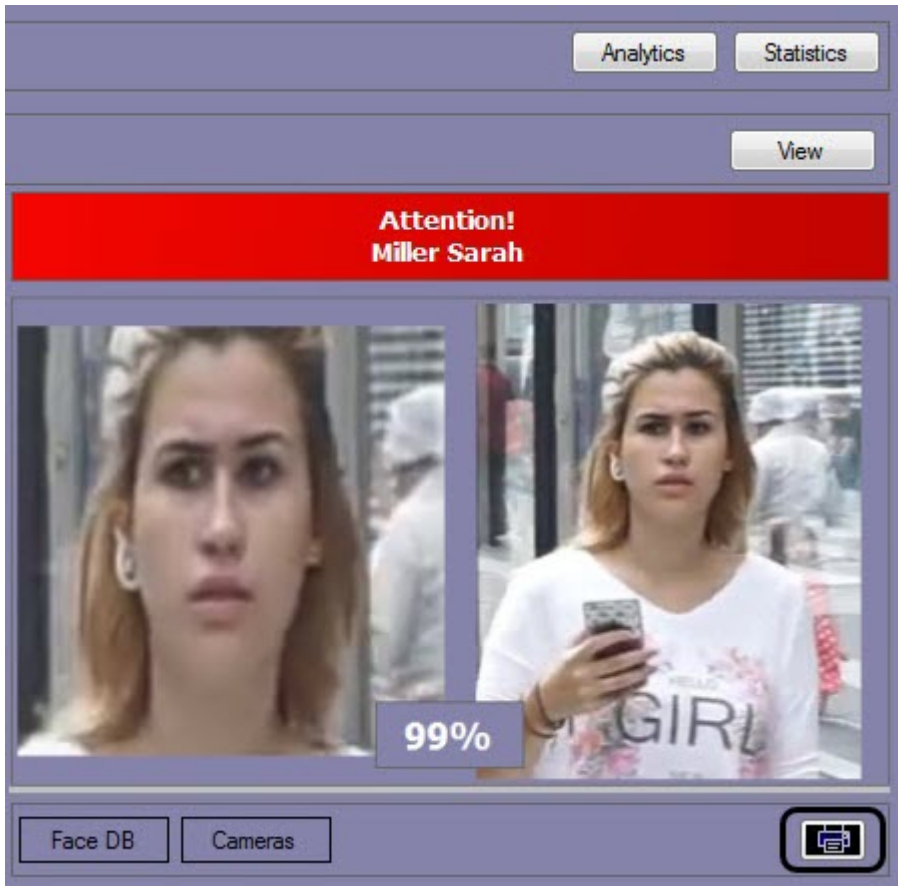
Captured Face	Original from DB	Full name	Age	Gender	Camera	Date/Time
		Miller Sarah Department 1 99.1 %	21	Female	Camera 1	15.10.2019 12:45:16
- Attention Panel:** A red banner reads 'Attention! Miller Sarah' above two images of Sarah Miller. A '99%' similarity indicator is overlaid on the images.
- Face DB Table:**

Image	Full name	Similarity level	Comment	Date/Time
	Miller Sarah Department 1	99.1 %		15.10.2019 12:39:34

Exporting the results of the recognized face search to report file

If the recognized faces filtering was performed (see [Filtering the recognized and unrecognized faces](#)), then the filter results can be exported to a file. To do this, click the  button on the informational panel of the recognized

face.



As a result, a report will be generated, which can then be saved to a file, or printed.


Face search report - Preview report

File View Navigate Document Help

100% 127%

Face search report


Shown sample



Age: 21
 Emotion: Astonishment
 Glasses: Without glasses
 Hair colour: Ginger
 Face concealment: Not closed
 Temperature: 0°C

Search date/time
 27-May-20 5:50:21 PM

Search results

Image	Similarity level	Full name	Date/Time
	99.19	Miller Sarah	27-May-20 5:35:39 PM

Page 1 of 1 Zoom 127%

Go to face search

It's possible to go to face search from the monitoring panel of the detected faces. To do this:

1. From the **Show faces** drop-down list (1) select the required value:
 - a. **All;**
 - b. **Only recognized;**
 - c. **Only unrecognized.**

The screenshot shows the software interface with a table of detected faces. The table has the following columns: Captured face, Original from DB, Full name, Age, Gender, Camera, and Date/Time. The second row is highlighted in blue, and a context menu is open over it, showing options: 2 Search, 3 Search by filter, Add to face DB / check, Video archive, and Show on map. The 'Show faces' dropdown is set to 'All' and 'Follow new faces' is checked.

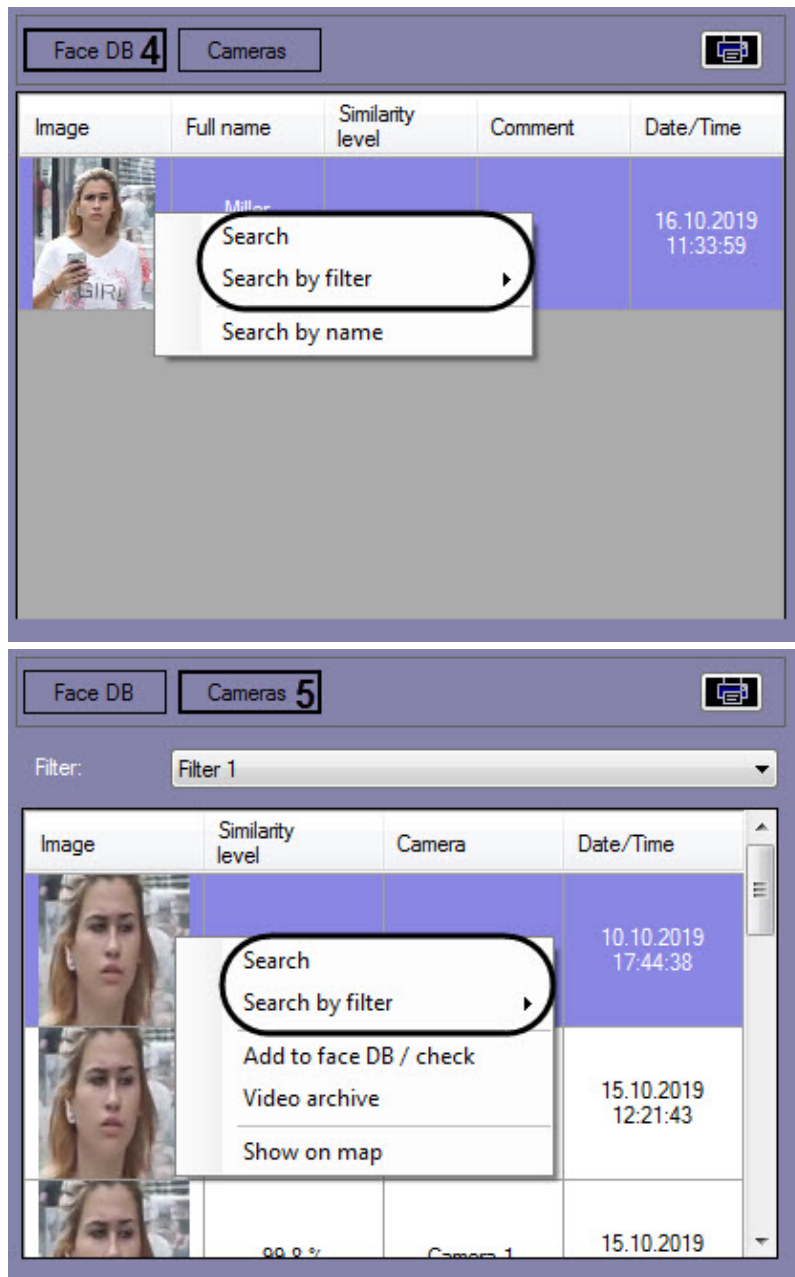
Captured face	Original from DB	Full name	Age	Gender	Camera	Date/Time
			25	Male	Camera 1	16.10.2019 11:48:52
				Male	Camera 1	16.10.2019 11:48:44
				Male	Camera 1	16.10.2019 11:48:41

2. From the list of detected faces select the image by which search will be performed.
3. Right-click the corresponding line in the list and select the **Search** from the menu (2) to search only by the image.
4. Right-click the corresponding line in the list and select the **Search by filter** from the menu (3) → "Filter name" to search the image using the specified filter.

Note

You can also go to the face search by right-clicking on the image in the **Face DB** (4) or **Cameras** (5) sections (see [Viewing information on recognized and unrecognized faces](#)) and selecting the corresponding item.

If the recognized face was selected, the **Search by name** will be available after clicking on the **Face DB** button (4). When you search a recognized person by name, the **Name** field is automatically filled in according to the data from the Reference face database.



As a result, the face search window will be opened (see [Face search](#)), and the search for the selected face will be automatically performed. The captured face image will be loaded as the image for search.

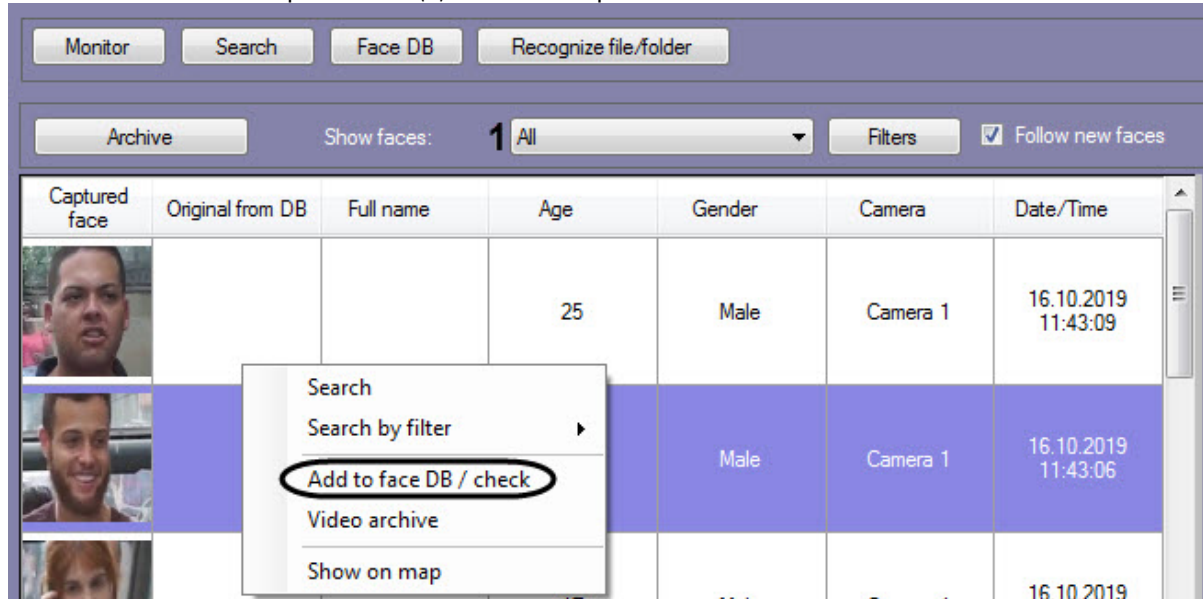
Note

If there are more than one captured faces on the image, the automatic face search will not be performed.

Add captured faces to the reference face database

It's possible to add a captured face from the monitoring panel to the reference face database. To do this:

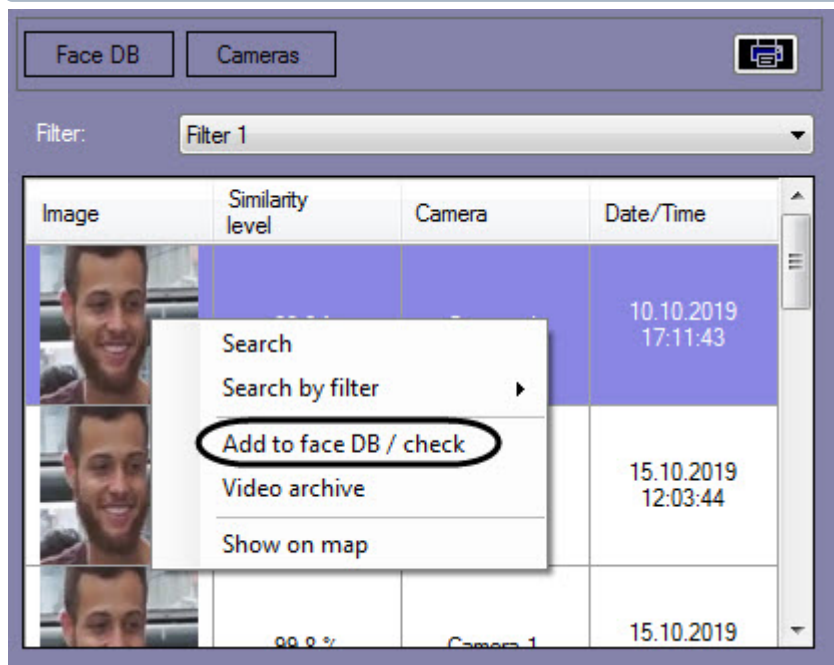
1. From the **Show faces** drop-down list (1) select the required value.



2. From the list of detected faces, select the image which is to be added to the reference face database. Right-click it and select the **Add to face DB/check** item (2) from the menu.

Note

You can also add the face to the reference face database by right-clicking on the image in the **Cameras** section in the lower right part of the captured faces monitoring panel and selecting the corresponding menu item.



As a result, the window for adding the detected face to the face database will be displayed. The process of adding the detected faces to the face database is described in the [Working with the reference face database](#) section.

Displaying the camera that captured the face on the map

To display the camera that captured the face on the map, right-click the captured image and select **Show on map** from the menu.

Note

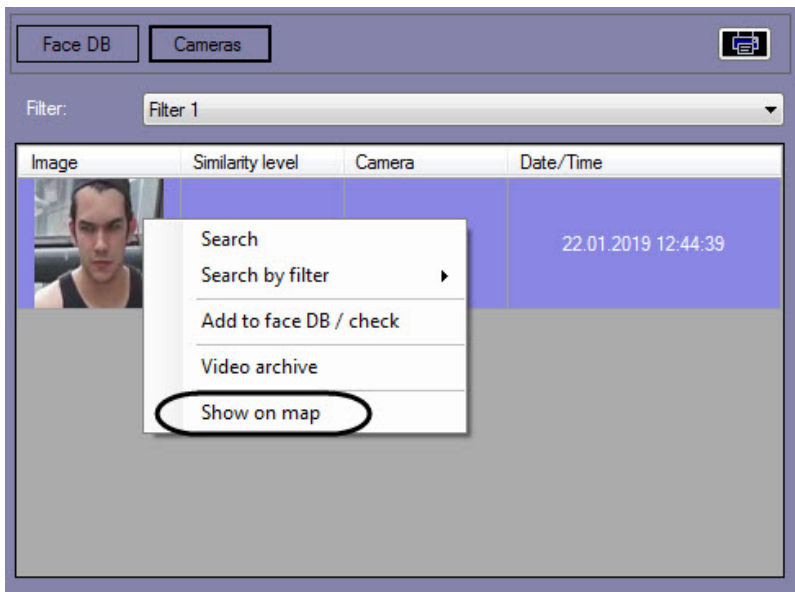
To enable the **Show on map** item display in the menu, it is necessary to specify a control map in the **Face recognition and search** interface object settings (see [Configuring the permissions and additional settings](#)).

The screenshot displays the 'Face Intellect' software interface. At the top, there are tabs for 'Monitor', 'Search', 'Face DB', and 'Recognize file/folder'. Below these are 'Analytics' and 'Statistics' buttons. A navigation bar includes 'Archive', 'Show faces: All', 'Filters', and 'Follow new faces' (checked). The main area is a table with columns: 'Captured face', 'Original from DB', 'Full name', 'Age', 'Gender', 'Camera', and 'Date/Time'. The table contains several rows of face images and their corresponding data. A context menu is open over the second row, with 'Show on map' circled in red. To the right of the table, there is a section titled 'No recognized data' with a large image of a man's face. Below this, there are tabs for 'Face DB' and 'Cameras', and a table with columns: 'Image', 'Full name', 'Similarity level', 'Comment', and 'Date/Time'.

Captured face	Original from DB	Full name	Age	Gender	Camera	Date/Time
			24	Male	Camera 1	22.01.2019 12:45:00
			24	Male	Camera 1	22.01.2019 12:44:54
			31	Male	Camera 1	22.01.2019 12:44:49
			45	Female	Camera 1	22.01.2019 12:44:48
			42	Female	Camera 1	22.01.2019 12:44:46
			24	Male	Camera 1	22.01.2019 12:44:39
			19	Male	Camera 1	22.01.2019 12:44:24
			16	Male	Camera 1	22.01.2019 12:44:18

Note

You can also display the camera that captured the face on the map by right-clicking on the image in the **Cameras** section in the lower right part of the captured faces monitoring panel and selecting the corresponding menu item.



As a result, the camera that captured the selected face will be displayed in the **Map** interface window.

Enabling the Simple mode of captured and recognized faces monitoring

Simple mode of monitoring is designed to view the captured and recognized faces in real time without the possibility of switching to another mode and changing the appearance of the interface window.

When the Simple mode is enabled, the upper part of the interface window is hidden, and such operations as working with the reference face database, face searching in the video archive, and other operations with buttons at the top become unavailable. The sizes of all elements, including the column size, remain the same as before the Simple mode was enabled.

Note

Since the upper part of the interface window is hidden in Simple mode, it is recommended to enable the automatic setting of the **Follow new faces** checkbox (see [Monitoring of captured and recognized faces](#)).

Captured face	Original from DB	Full name	Age	Gender	Camera	Date/Time
			20	Male	Camera 1	16.10.2019 11:58:18
			30	Male	Camera 1	16.10.2019 11:58:01
		Miller Sarah Department 1 99.2 %	22	Female	Camera 1	16.10.2019 11:57:56
			19	Male	Camera 1	16.10.2019 11:57:32

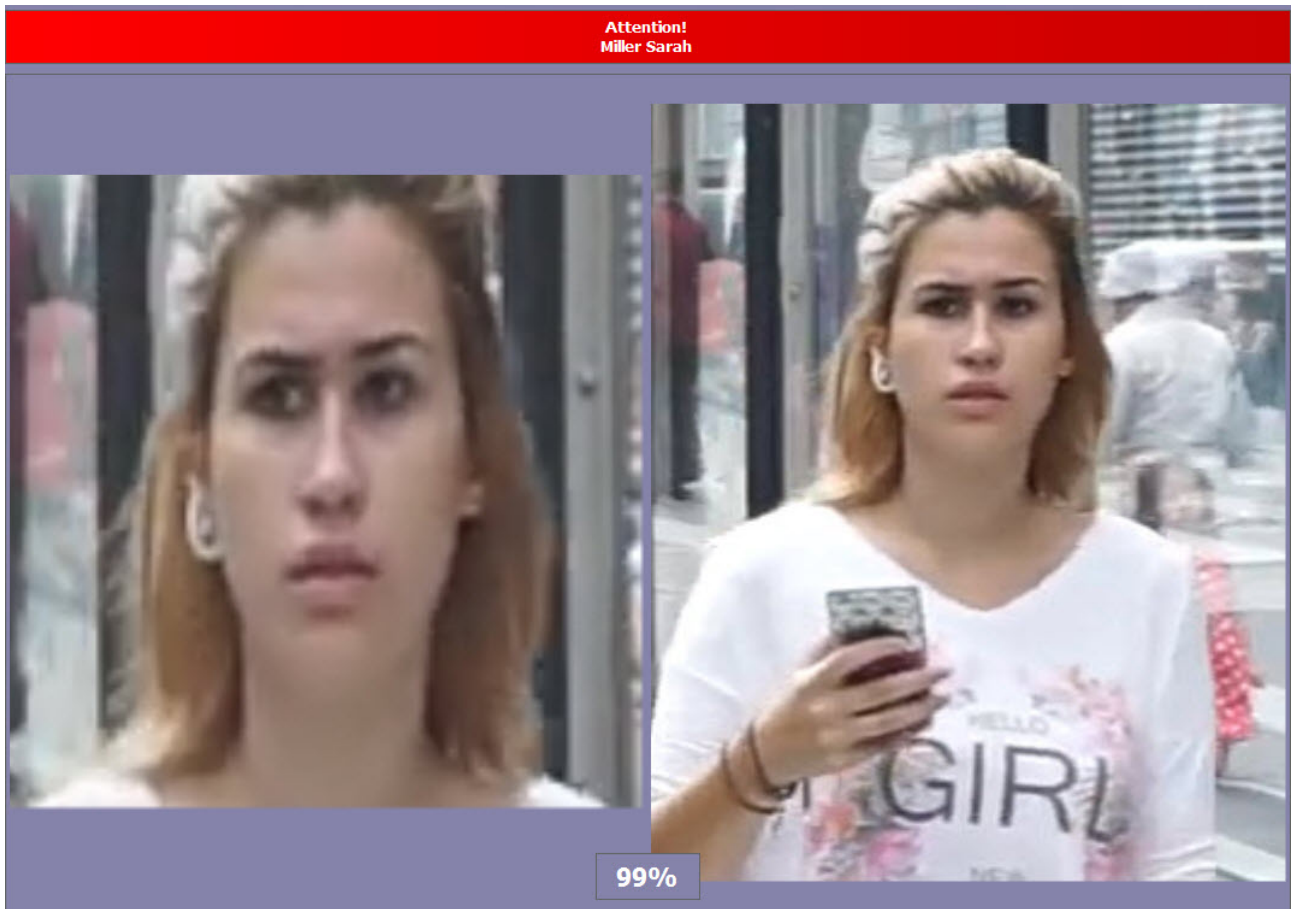
**Attention!
Miller Sarah**

99%

Filter: Filter 1

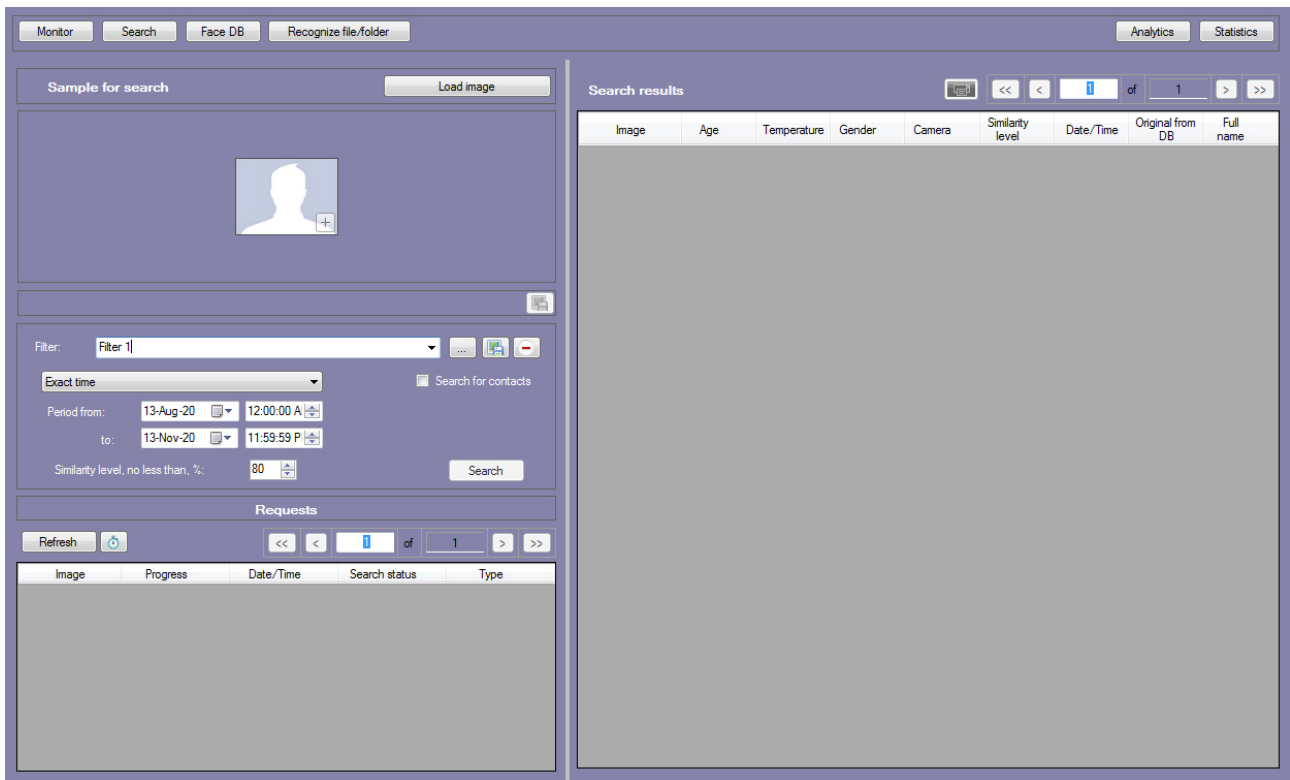
Image	Similarity level	Camera	Date/Time
	99.7 %	Camera 1	10.10.2019 17:48:25
	99.8 %	Camera 1	15.10.2019 12:56:37
	99.8 %	Camera 1	15.10.2019 13:11:45
	99.8 %	Camera 1	15.10.2019 12:15:22

Double-click on the recognized face area to expand and minimize it.



4.2.2 Face search

To go to face search click the **Search** button in the **Face recognition and search** interface window. As a result the window for face search in video archive by photo will open.



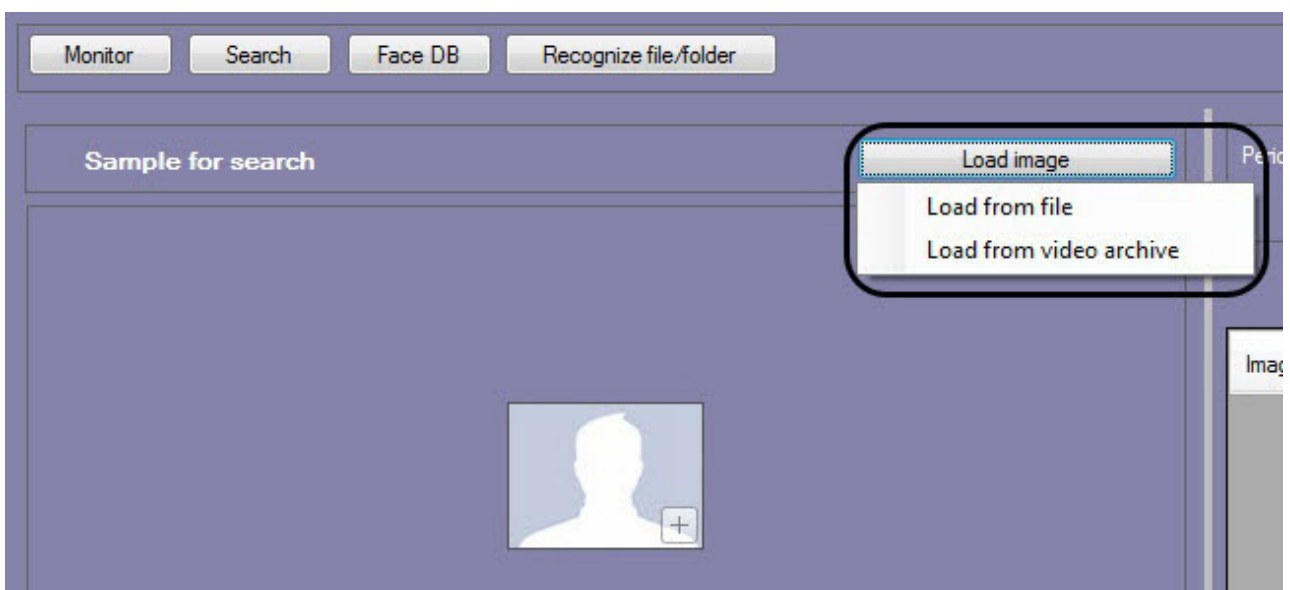
Loading an image for search

The image for search can be selected in two ways:

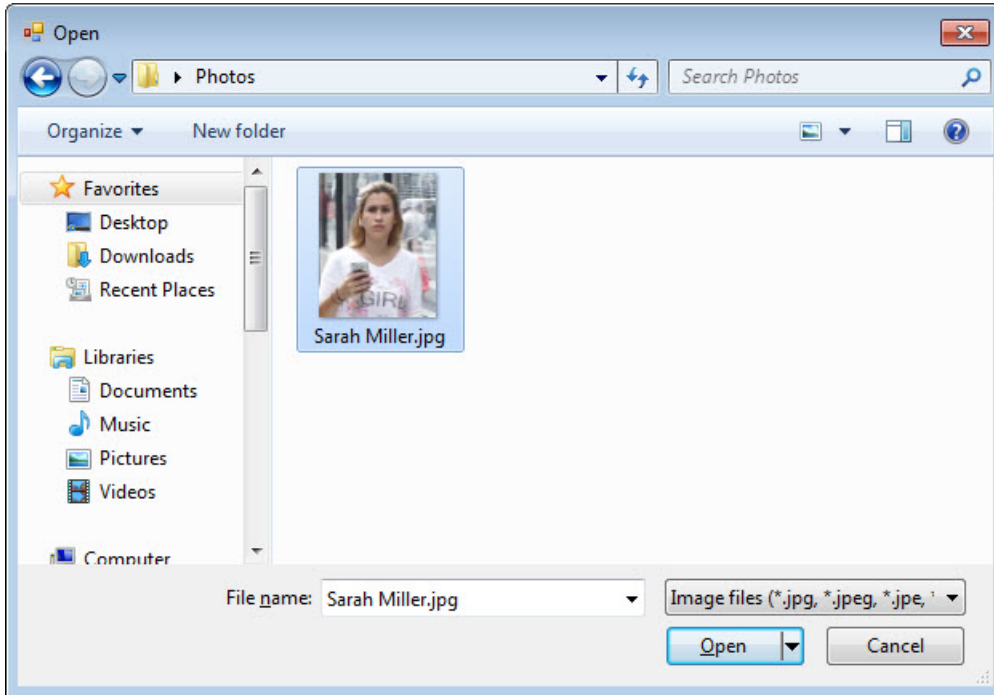
1. By uploading a file with the image.
2. By capturing the image from a video archive.

Uploading image from a file

To upload an image from a file, click the **Load image** button and select the **Load from file** value from the list.

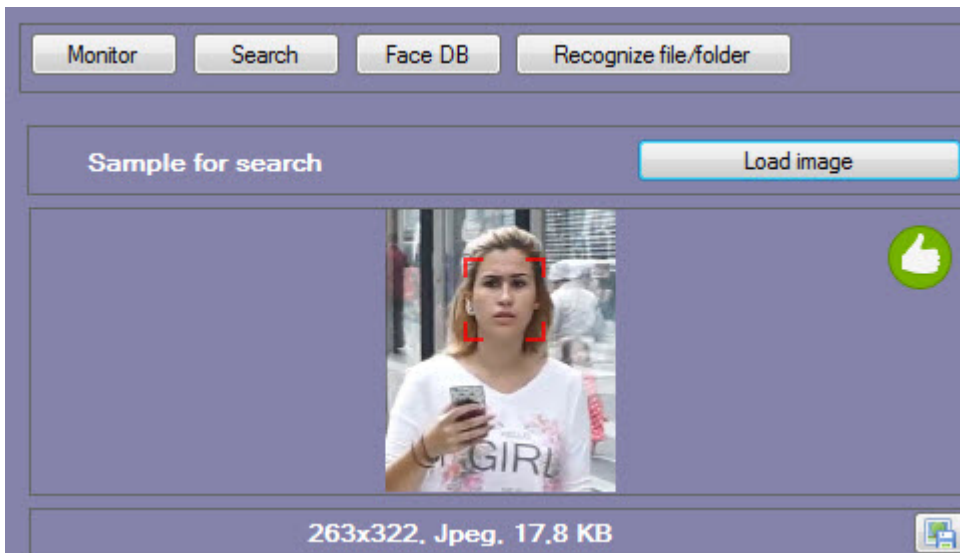


Standard window of files selection will open. Select the required file with image and click the **Open** button.

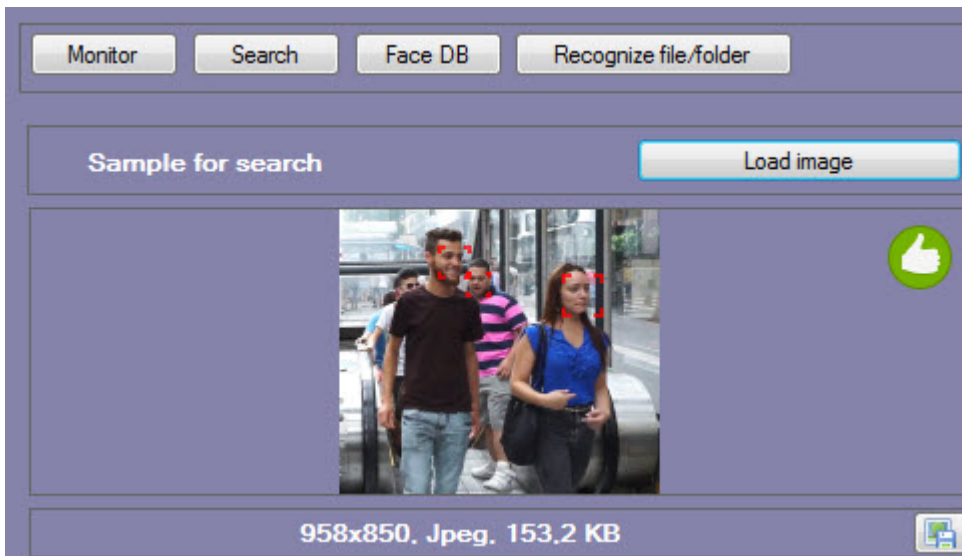
**Note**

The following image formats are supported for loading: JPG, JPEG, JPE, JFIF, PNG, GIF, BMP.

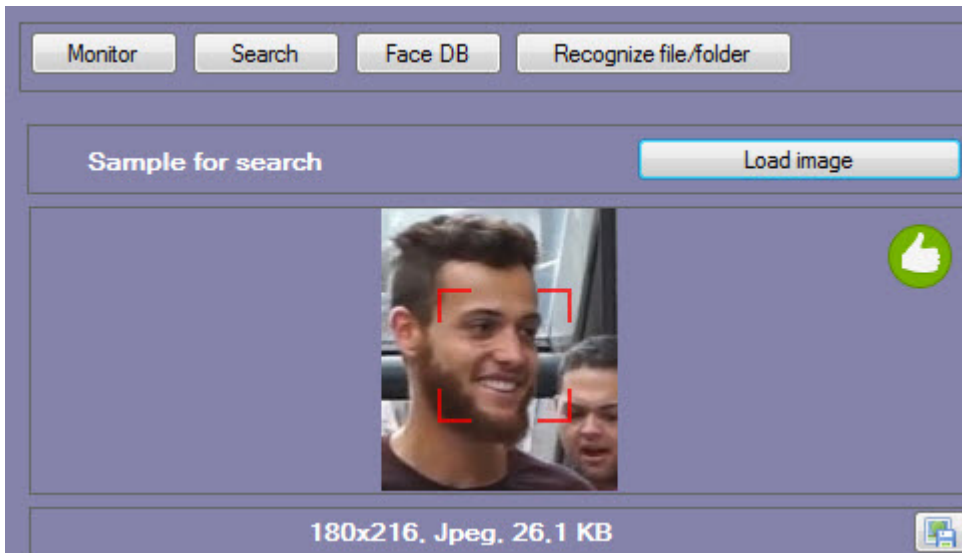
As a result an image from the selected file will display in the **Sample for search** field on the panel of specifying search conditions.



Several faces can be captured on the sample for search.

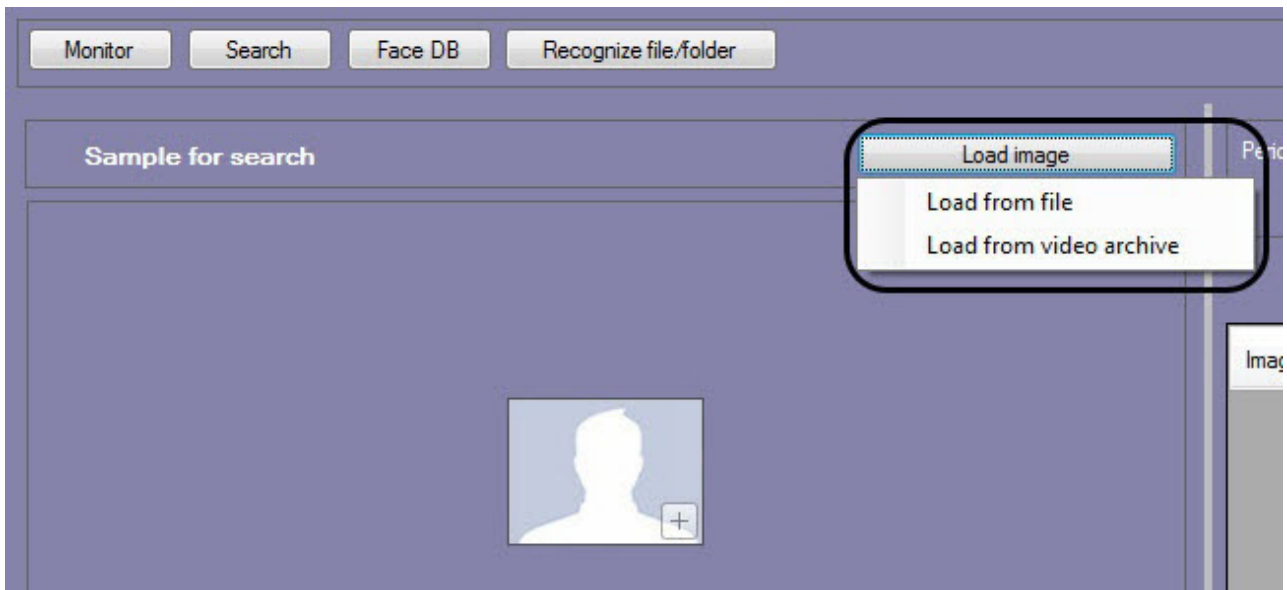


In this case, left-click on the face which is required for the search.



Uploading image from video archive

To upload an image from the video archive, click the **Load image** button and select the **Load from video archive** value from the list.



Window of capturing the image from the video archive will open.







1. Select video camera from video archive in which it's necessary to capture the image (1).



2. Select required video. To go to video records click left mouse button on the corresponding time marker (2).

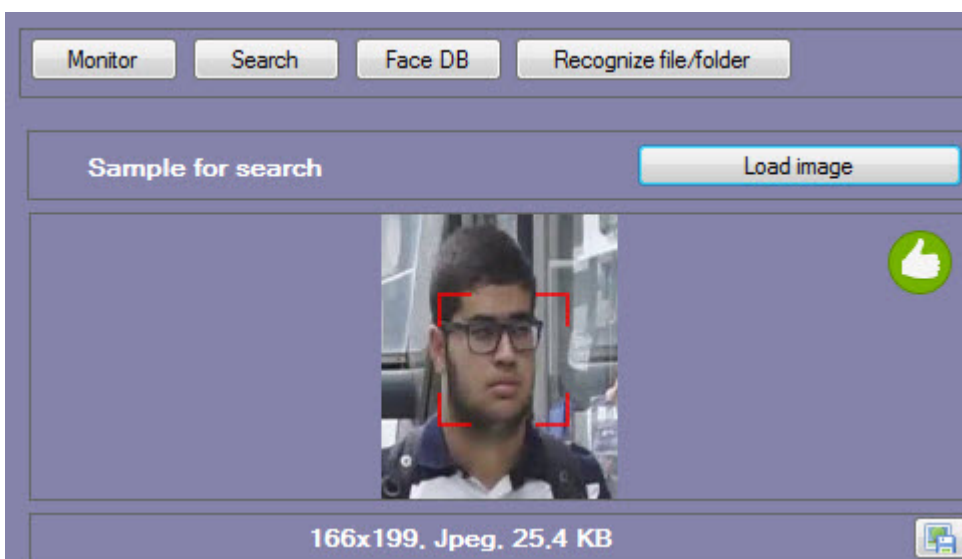
3. Select required video frame. Use playback control board for video frame selection (3).

Note.

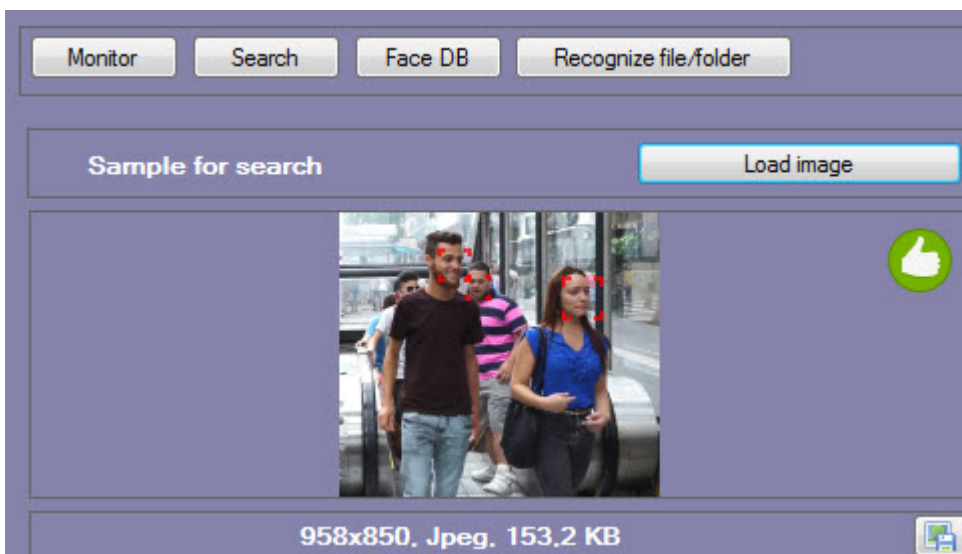
 button is for starting playback of selected video recording,  button stops playback.
 and  buttons are used for going to video recording back and forth in playback mode
 and also for paging frames in pause mode. To go to pause mode  button is used,  button is used for restarting playback.

4. Click the **OK** button (4).

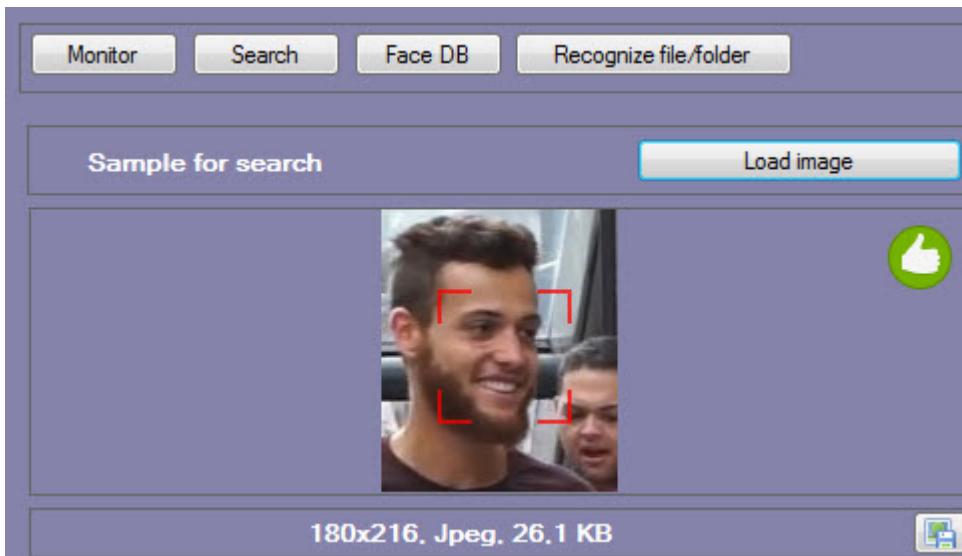
As a result the selected area is displayed in the **Sample for search** field on setting search conditions panel.



Several faces can be captured on the sample for search.



In this case, left-click the face which is required for the search.



Uploading image from the video archive is complete.

Starting the face search process

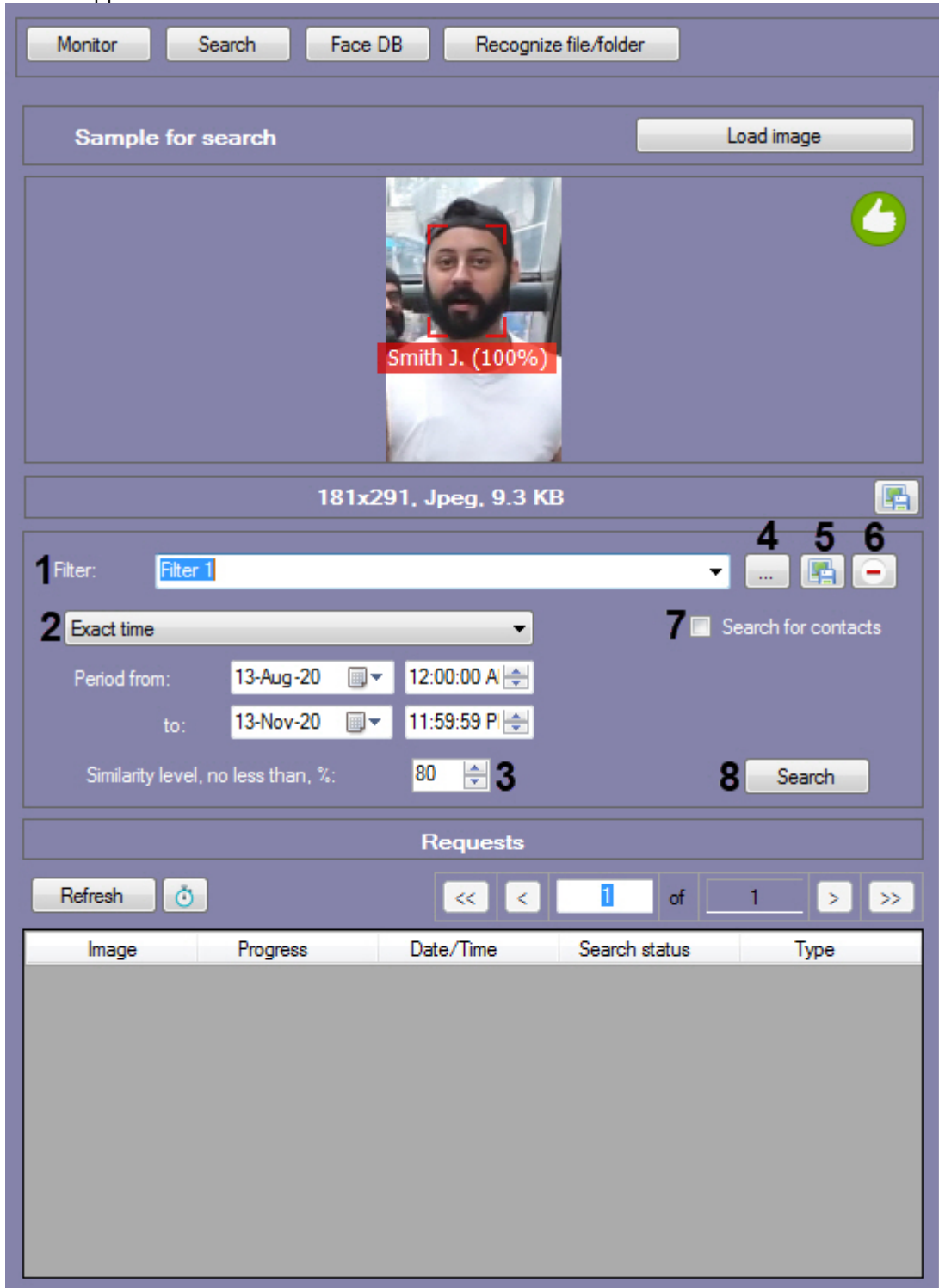
To search faces, do the following:

1. Upload an image for search (see [Loading an image for search](#)).

Note

The uploaded image is automatically verified with all faces in the reference face database and, if there is a match, then the name of the corresponding person and its similarity degree in percent are displayed on top of the uploaded image.

- From the **Filter** drop-down list (1) select the existing face search filter or enter an arbitrary filter name if the filter is supposed to be saved.



- From the (2) drop-down list, select the required type of search interval:

- **Exact time** - in the **Period from:** and **to:** fields specify the beginning and end of the search interval in the DD.MM.YY HH:MM:SS format (5).

Note

The specified time period is not saved when the filter is saved.


- **Recently** - in the **Last:** field specify the time period from the current time to the specified time (5). The following time units are available: **Minutes, Hours, Days, Weeks, Months.**

- In the **Similarity level, no less than, %** field (3), set the minimal similarity level between the reference face image and the captured face.
- Click the button (4) to specify the face characteristics:
 - In the **Camera** field (1), specify the substring to filter out the cameras in the **Cameras** area (2).

- In the **Minimum age** and **Maximum age** fields (3) specify the minimum and maximum age of persons to be displayed in the search results, respectively.
- In the area (4), set the check boxes next to the corresponding face characteristics.

Note

Face characteristics (4) may not be displayed (see [Configuring the additional face characteristics](#)).

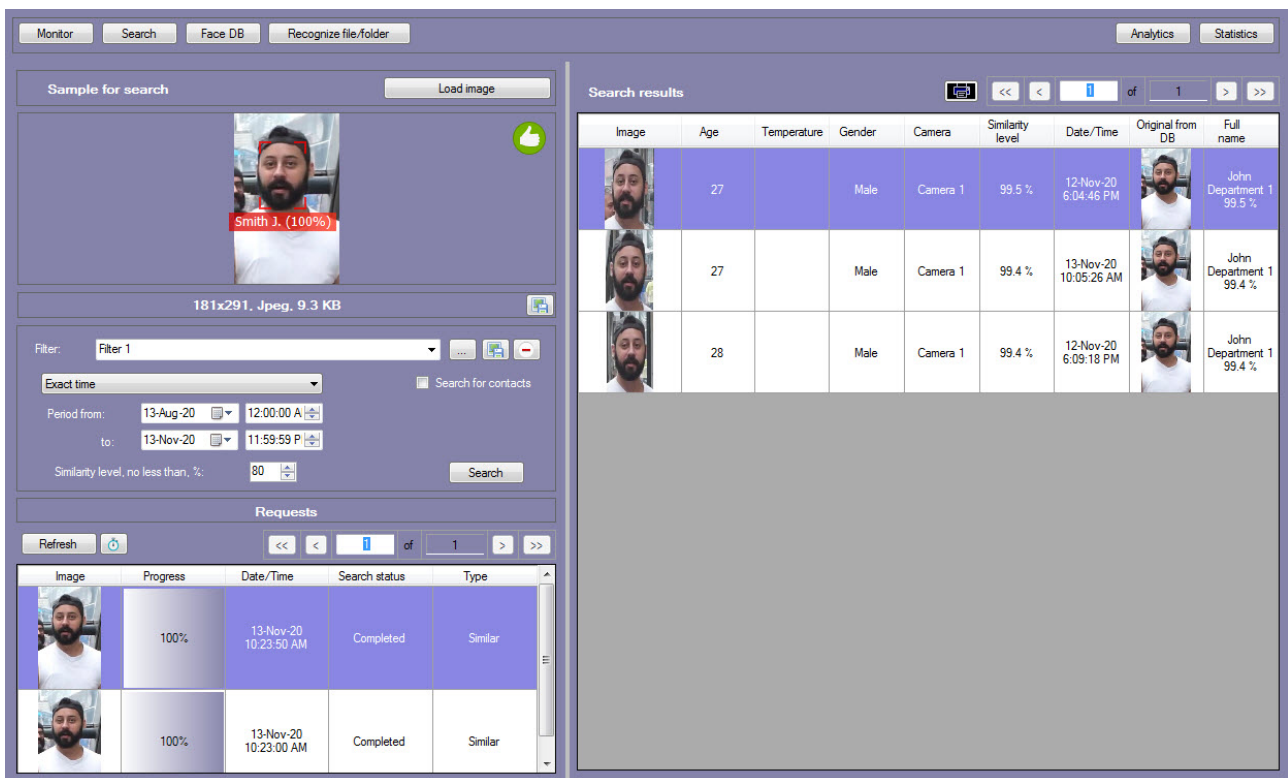
- d. In the **Minimum temperature** and **maximum** fields, specify the minimum and maximum face temperature, respectively (5).
 - e. Click **OK** (6).
6. Click the  button (5) to save this filter for the future use.

Note

To remove a filter, select it from the **Filter** drop-down list (1) and click the  button (6).

- 7. Set the **Search for contacts** checkbox (7) if it is necessary to find people who have been in contact with this person. The time, within which it is necessary to search for contacts, is set on the settings panel of the **Face Recognition Server** object (see [Configuring the contact time with persons](#)).
- 8. Click the **Search** button (8).

As a result, the selected face will be searched.



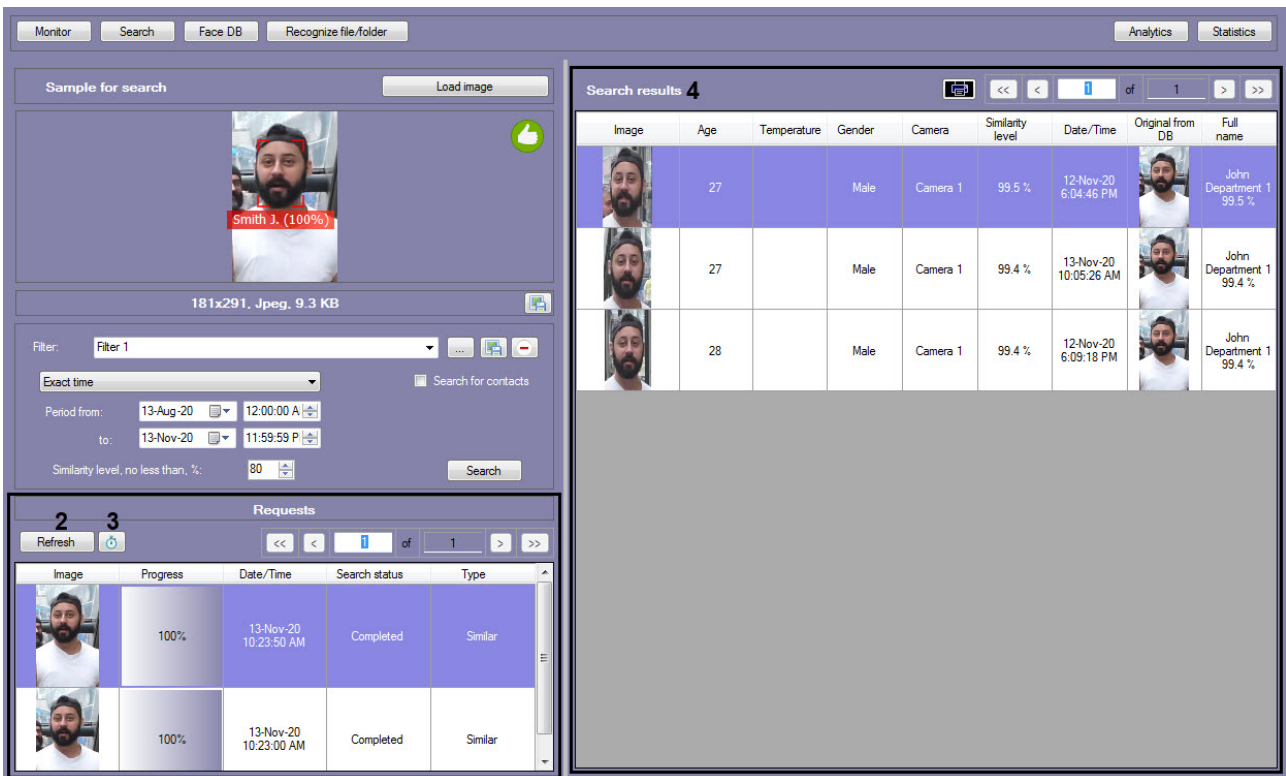
The screenshot displays the 'Face recognition and search' interface. On the left, a 'Sample for search' section shows a face image of a man with a beard, labeled 'Smith J. (100%)'. Below it, a filter configuration panel is visible, showing 'Filter 1' selected, 'Exact time' set to '13-Aug-20' to '13-Nov-20', and 'Similarity level, no less than, %' set to '80'. A 'Search' button is present. Below the filter panel is a 'Requests' table with two rows showing search progress and status.

The main 'Search results' section on the right contains a table with the following data:

Image	Age	Temperature	Gender	Camera	Similarity level	Date/Time	Original from DB	Full name
	27		Male	Camera 1	99.5 %	12-Nov-20 6:04:46 PM		John Department 1 99.5 %
	27		Male	Camera 1	99.4 %	13-Nov-20 10:05:26 AM		John Department 1 99.4 %
	28		Male	Camera 1	99.4 %	12-Nov-20 6:09:18 PM		John Department 1 99.4 %



Viewing face search results

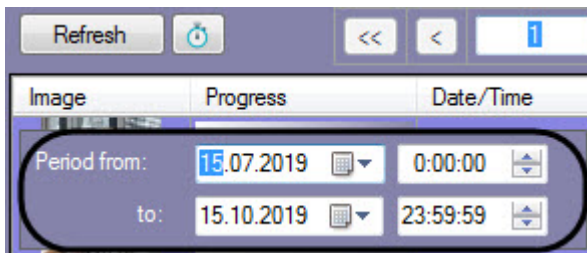
Search results are displayed in the **Face recognition and search** interface window after the search is performed (see [Starting the face search process](#)).



The list of all search requests is displayed in the **Requests** section (1). The following information is displayed for each record:

Column name	Description	Face Recognition module used
Image	The image for search <i>Note. As you increase the width and height of this column, the image size also increases. The specified column size does not change even if the Automatic column width checkbox is set (see Configuring the permissions and additional settings)</i>	All recognition modules
Progress	The progress of the search completion	All recognition modules
Date/Time	The date and time of the search request completion	All recognition modules
Search status	The status of the search request	All recognition modules





In order to view the search requests and their results for a certain period of time, click the  button (2) and on the panel that opens specify the beginning and end of the time interval in the **Period from:** and **to:** fields, respectively, and click the  button (3).



The search results of the selected request are displayed in the **Search results** section (4). The following information is displayed for each record:

Column name	Description	Face Recognition module used
Image	<p>The face image from the video record</p> <p><i>Note. As you increase the width and height of this column, the image size also increases. The specified column size does not change even if the Automatic column width checkbox is set (see Configuring the permissions and additional settings)</i></p> <p><i>Note 2. In case of an emergency shutdown of the FACE-Intellect server, some images of faces may be damaged and displayed as X. To hide such results, it is necessary to change the value of the HideResultsWithoutImages parameter to True (see XML-file parameters reference guide)</i></p>	All recognition modules
Name of face characteristic	Selected face characteristics (see Configuring the additional face characteristics)	Only Tevian, VideoIntellect 1.1 and VisionLabs
Camera	The camera which is a video record source	All recognition modules
Similarity level	The similarity level between the reference face image and the captured face from the video record	All recognition modules
Date/Time	The date and time of the search	All recognition modules

To place a face image from the **Search results** section in the **Sample for search** window, double left-click the corresponding search result.

Search results									
Image	Age	Temperature	Gender	Camera	Similarity level	Date/Time	Original from DB	Full name	
			Male	Camera 1	99.5 %	12-Nov-20 6:04:46 PM		John Department 1 99.5 %	
	27		Male	Camera 1	99.4 %	13-Nov-20 10:05:26 AM		John Department 1 99.4 %	





To perform the search using the image from the **Search results** section, right-click the corresponding image and select **Search** from the menu (1).

To view the video record from moment when the captured face appears, use one of the following ways:

- Double left-click on the corresponding face search result;
- Right-click the corresponding face search result and select **Video archive** from the menu (2). After this the window for video record viewing will open (for details, see [Working with the archives](#)).

To display the camera that captured the face on the map, right-click the corresponding image and select **Show on map** from the menu (3).

Note

To go to the previous and next page use  and  buttons correspondingly. To go to the first page of search results use the  button. To go to the end page of search results click the  button.

Exporting face search results to a report file

To export search results to a report file in the PDF format, do the following:

1. From the list of requests (1) select the request by results of which the report is to be created.

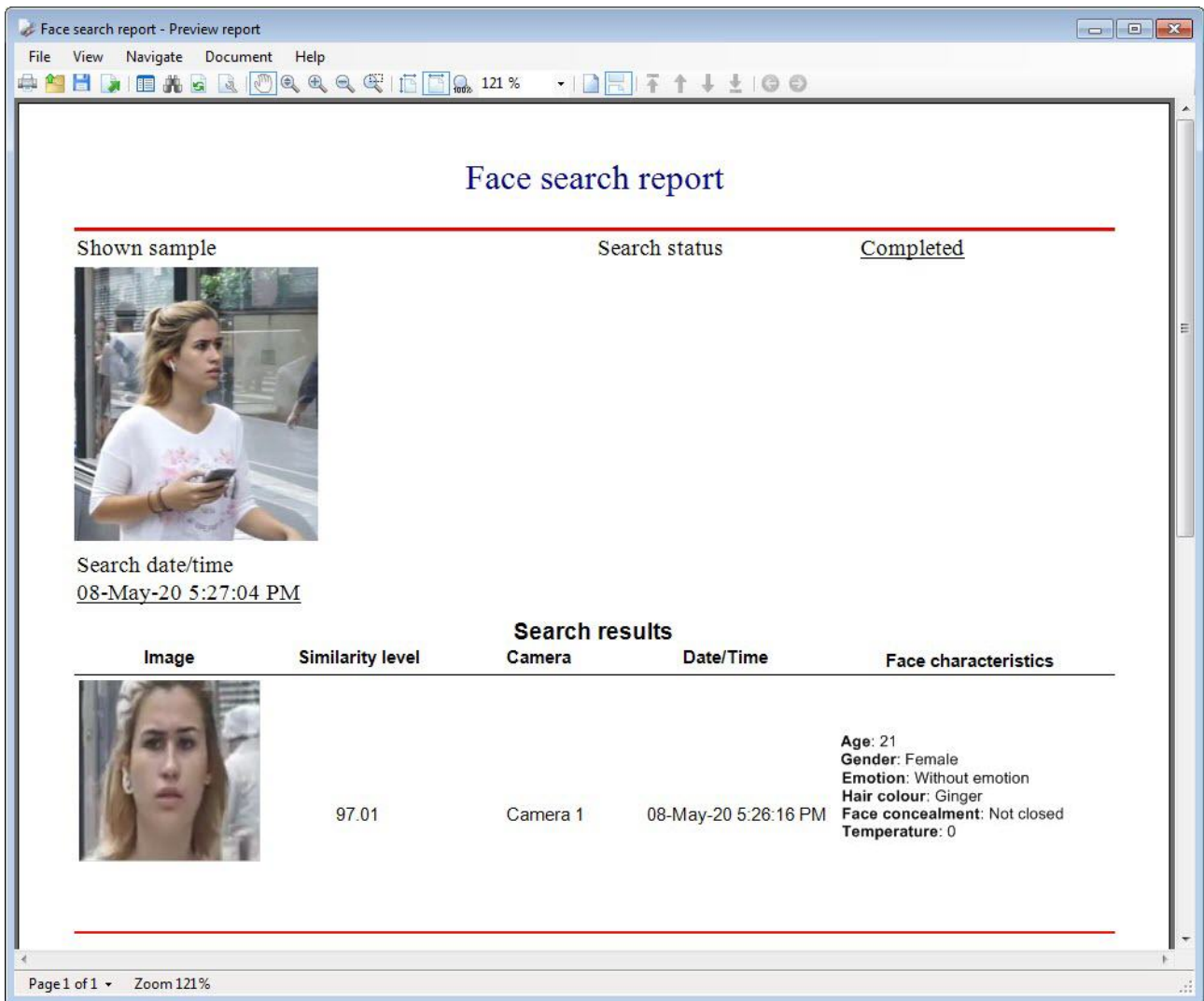
The screenshot displays the Face Intellect software interface. On the left, the 'Sample for search' section shows a face image of a man with a beard, identified as 'Smith J. (100%)'. Below this is a 'Filter' section with 'Filter 1' selected, and a 'Requests' section with a table of search requests. A red box labeled '1' highlights the first request in the 'Requests' table. On the right, the 'Search results' section shows a table with columns: Image, Age, Temperature, Gender, Camera, Similarity level, Date/Time, Original from DB, and Full name. The table contains three rows of search results for the same man, with similarity levels of 99.5%, 99.4%, and 99.4%.

Image	Age	Temperature	Gender	Camera	Similarity level	Date/Time	Original from DB	Full name
	27		Male	Camera 1	99.5 %	12-Nov-20 6:04:46 PM		John Department 1 99.5 %
	27		Male	Camera 1	99.4 %	13-Nov-20 10:05:26 AM		John Department 1 99.4 %
	28		Male	Camera 1	99.4 %	12-Nov-20 6:05:18 PM		John Department 1 99.4 %

Image	Progress	Date/Time	Search status	Type
	100%	13-Nov-20 10:23:50 AM	Completed	Similar
	100%	13-Nov-20 10:23:00 AM	Completed	Similar

2. Click the  button (2).

As a result the report by results of the selected search request will be generated.



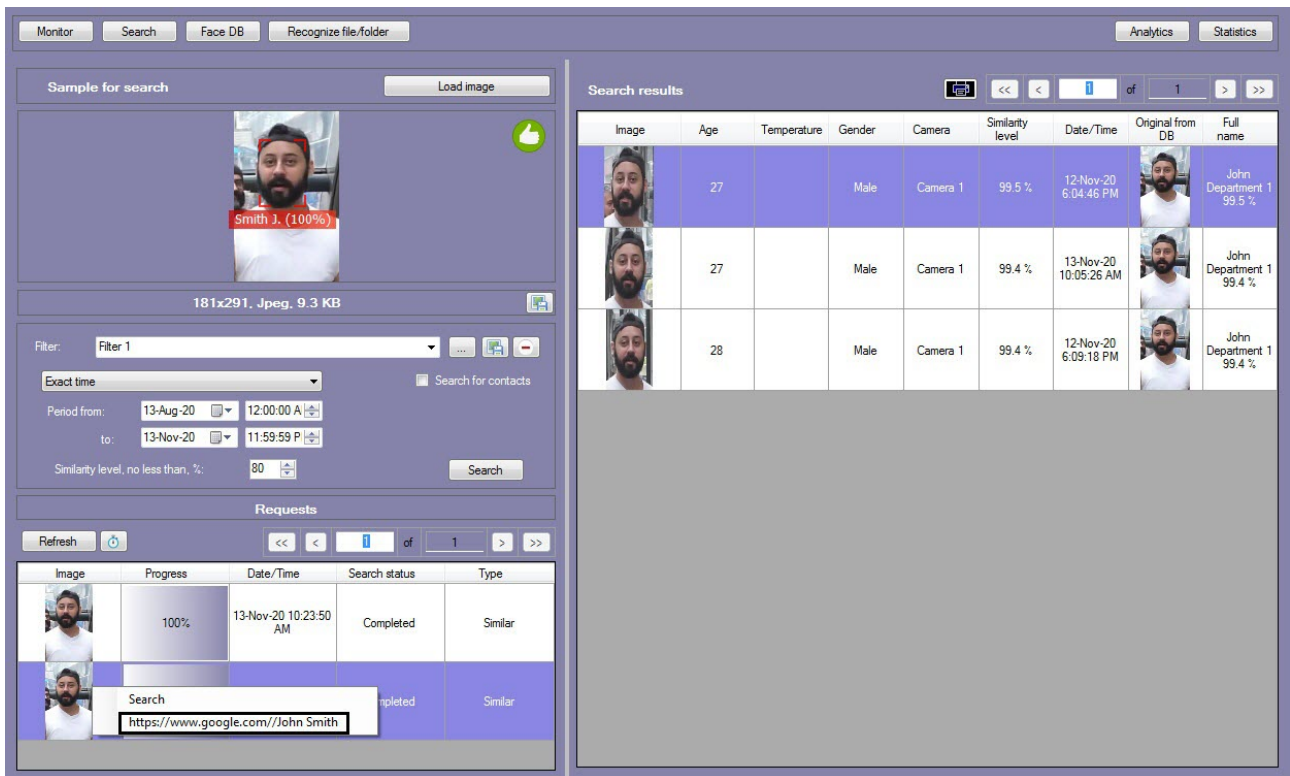
Exporting search results to report file is completed.

Web page opening upon a face search request

It is possible to open a Web page upon a face search request. To do this, right-click the corresponding search request and select the link to go to the web-page.

Note.

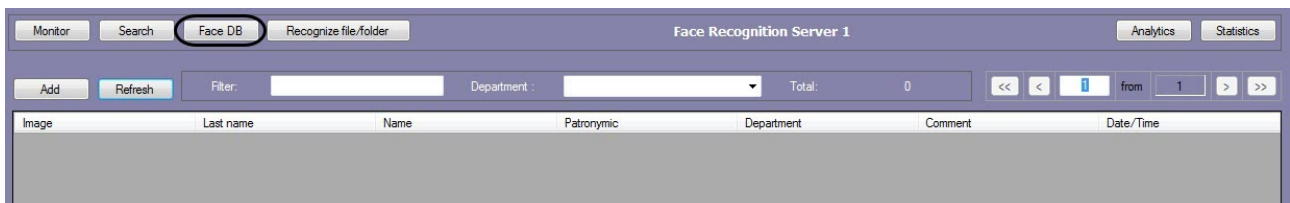
Opening a Web page upon a face search request is possible only for search by image loaded from file. Also, the Web page that opens should be specified on the settings panel of the **Face recognition and search** interface object (see [Configuring the permissions and additional settings](#)).



As a result the specified link will be opened in the browser.

4.2.3 Working with the reference face database

To go to the reference face database, click the **Face DB** button in the **Face recognition and search** interface window.



The information on faces in the reference face database is displayed in the columns:

Column name	Description
Image	Reference face image
Last name	The last name of the person on the image
Name	The first name of the person on the image
Patronymic	The patronymic name of the person on the image
Department	The department of the person on the image

Column name	Description
Comment	The comment
Date/Time	Date and time of adding a face to the reference face DB

Working with the reference face database is also possible with the help of the *Access Manager* module which is a part of *ACFA Intellect* (see [Access Manager Module Settings and Operation Guide](#)). *Face Intellect* interacts with the *Access Manager* module by means of the *Face synchronization* module (see [Appendix 6. Face synchronization module](#)).

The *Face synchronization* module allows to do the following:

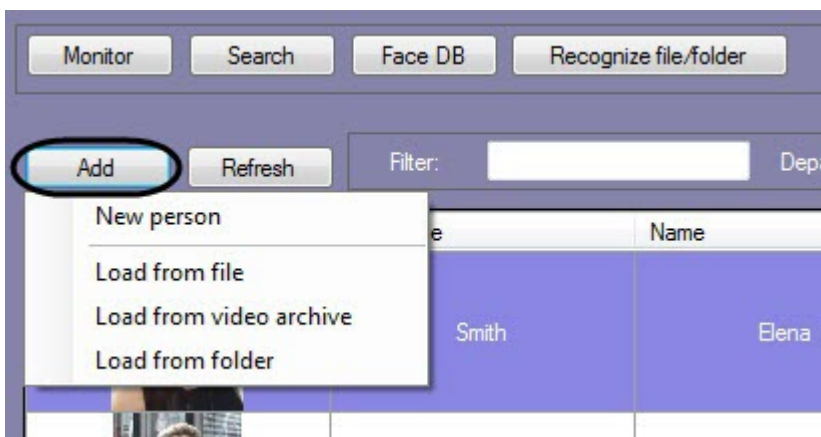
1. Create a face in the reference face database automatically, when a photo is assigned to a user in the *Access Manager* module.
2. Change the image of the face in the reference face database automatically, when a user's photo is changed in the *Access Manager* module.
3. Delete a face from the reference face database automatically, when a user's photo is deleted from the *Access Manager* module.

Attention!

When creating a user in *Intellect* through **Face recognition and search** interface object (see [Adding images to the reference face database](#)), the correct synchronization of faces is not guaranteed.

Selecting a way to upload an image to the reference face database

To upload an image to the reference face database, click the **Add** button and select one of the ways of uploading an image.

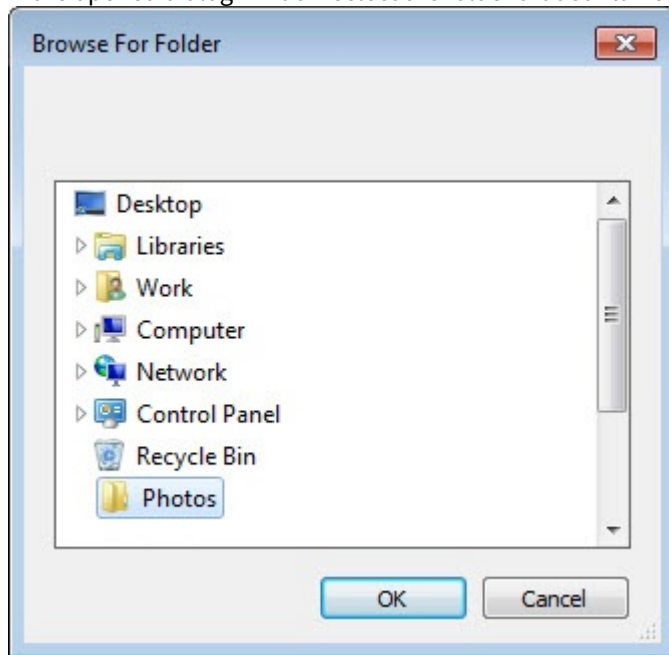


There are following ways to upload the images:

1. **Load from file.**
The process of uploading an image from the file to the reference face database is similar to uploading an image from the file for search (see [Uploading image from a file](#)).
2. **Load from video archive.**
The process of uploading an image from the video archive to the reference face database is similar to uploading an image from the video archive for search (see [Uploading image from video archive](#)).

3. Load from folder.

In the opened dialog window select the folder that contains the required images and click **OK**.



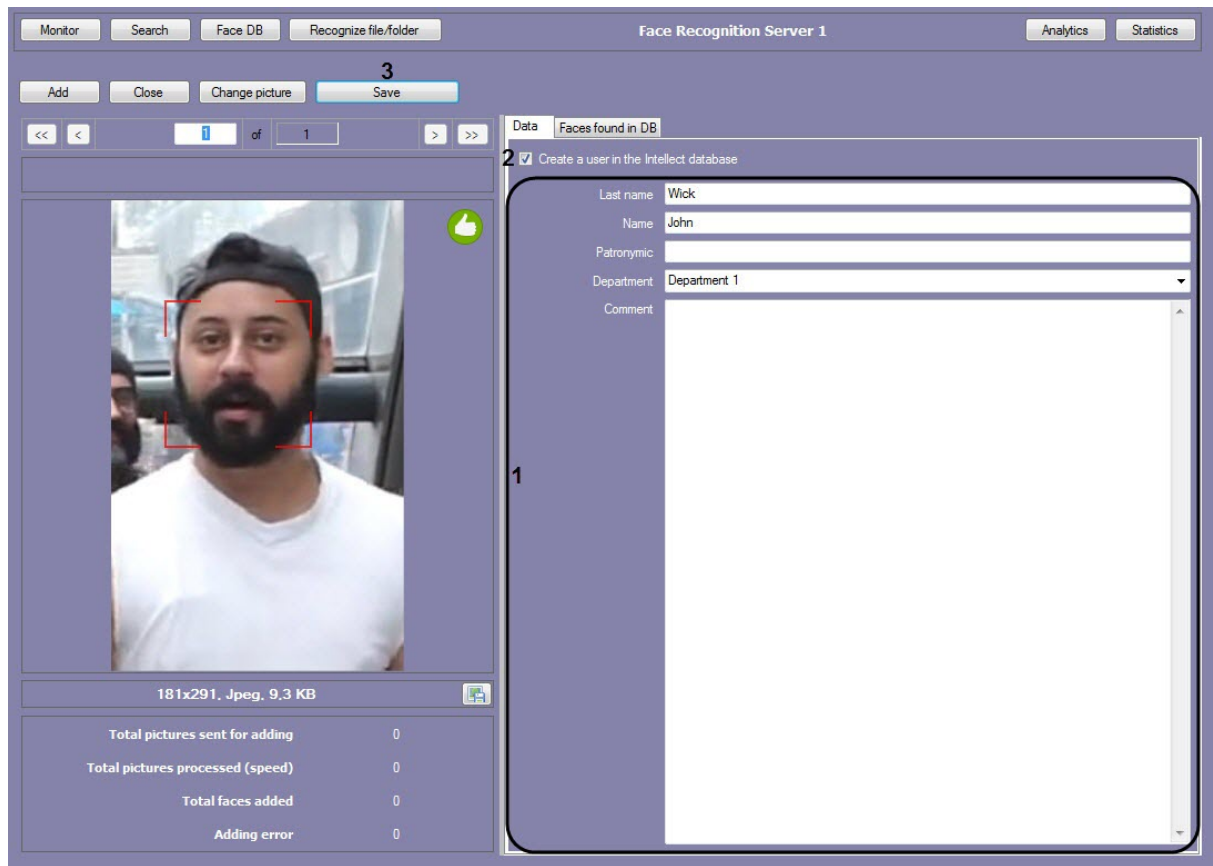
Adding images to the reference face database

Important!

Images uploaded to the reference face database should meet some requirements (see [Requirements for images uploaded to the reference face database](#)).


To add an image to the reference face database, do the following:

1. Upload an image in the preferred way (see [Selecting a way to upload an image to the reference face database](#)) or add the captured face image (see [Add captured faces to the reference face database](#)).



To the right of the image, the  or  icons are displayed.

The  icon means that the captured face can be added to the DB.

When the  icon is displayed, the **Save** button (3) is disabled and the captured face cannot be added to the DB. This may be caused by one of the following reasons:

- The reference face database editing is not enabled (see [Configuring the permissions and additional settings](#)).
- The recognition module is not activated (see [Activation of the recognition modules in Face Intellect](#)).
- There is no connection to the Face recognition server.

2. Specify the required data about the face in the **Last name, Name, Patronymic, Department** and **Comment** fields (1).

Note

If the image was added to the reference face database using the **Load from file** or **Load from folder** way, the data about the person is generated automatically: the values of the **Last name, Name, Patronymic** and **Department** fields are taken from the name of the uploaded file. The following characters can be used as a separator: a period, a comma, a space symbol, a low line.

The format of the file name should be in on of the following formats:

- last name.name.patronymic.department.any following text will be ignored.image format
- last name,name,patronymic,department,any following text will be ignored.image format
- last name name patronymic department any following text will be ignored.image format
- last name_name_patronymic_department_any following text will be ignored.image format

Supported file formats: JPG, JPEG, JPE, JFIF, PNG, GIF and BMP.

Attention!

In case the **Load from folder** method was selected, the **Allow creating departments** checkbox is not set (see [Configuring the permissions and additional settings](#)), and a non-existent department is specified in the file names, then the faces will be added to the currently selected department.

- To create the user in the *Intellect* database, check the corresponding box (2). The visibility of the **Create a user in the Intellect database** checkbox depends on the settings of the **Face recognition and search** object – see [Configuring the permissions and additional settings](#).

Note

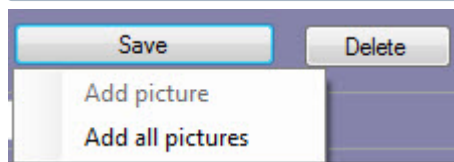
By default, if the checkbox is not set, then the **Person_ID = 0** parameter value is assigned to all faces when adding them to the reference face database. This may result in incorrect operation of scripts which use this database field. In order to hide the **Create a user in the Intellect database** checkbox and assign a unique **Person_ID** to each face when adding it to the reference face database, it is necessary to set the **True** value for the **HideCheckBoxIntellectPerson** parameter (see [XML-file parameters reference guide](#)).

- Click the **Save** button (3) to accept the addition of the image to the reference face database.

Note

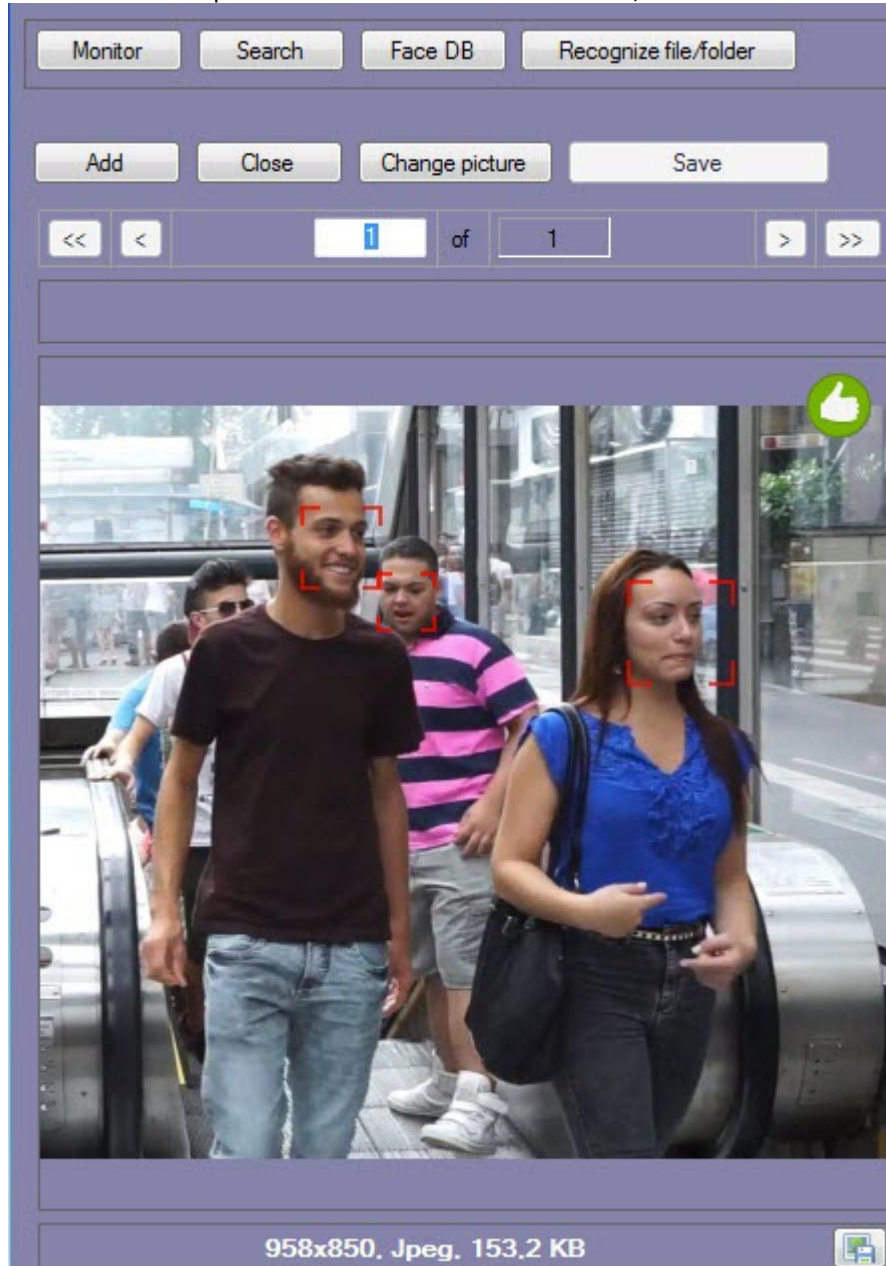
If the image was added to the reference face database using the **Load from folder** way, then after clicking the **Save** button, the menu will be displayed. In this menu, select one of the following:

- **Add picture** – to add only the current image;
- **Add all pictures** – to automatically add all images in the folder.



If there are several faces on the added image, they are framed with a red frame and the **Save** button is

disabled. To add a person to the reference face database, left-click on one of the framed faces.

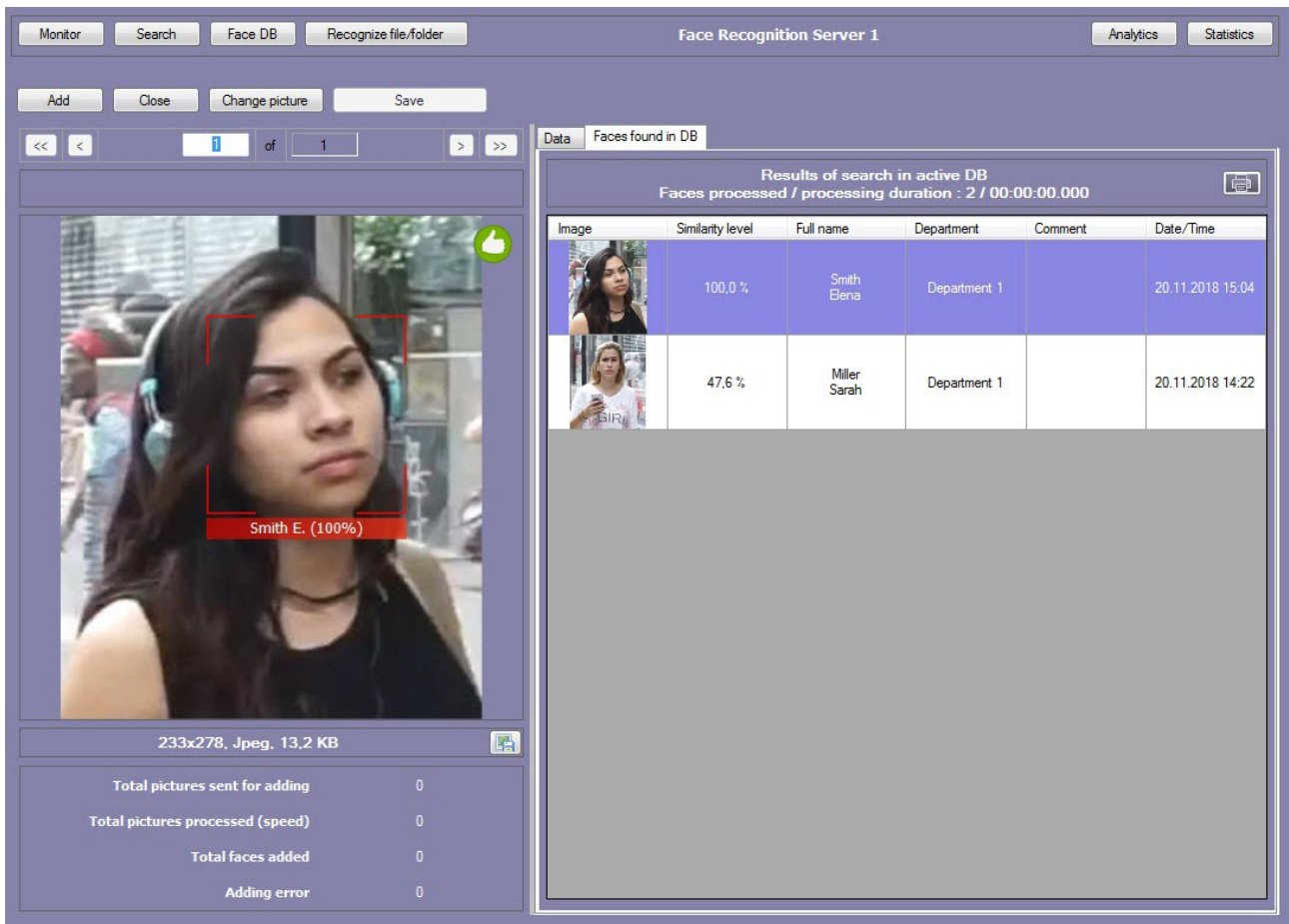


Important!

If you automatically add face images from the folder, it is necessary that every image contains only one face. If there are 2 or more faces in the image, or the face was not recognized due to the poor image quality, it will be skipped. It is possible to automatically move skipped images to a specific folder. To do this, specify the path to this folder in the *face_client.run.config* configuration file in the **ProblemImages** parameter (see [XML-file parameters reference guide](#)).

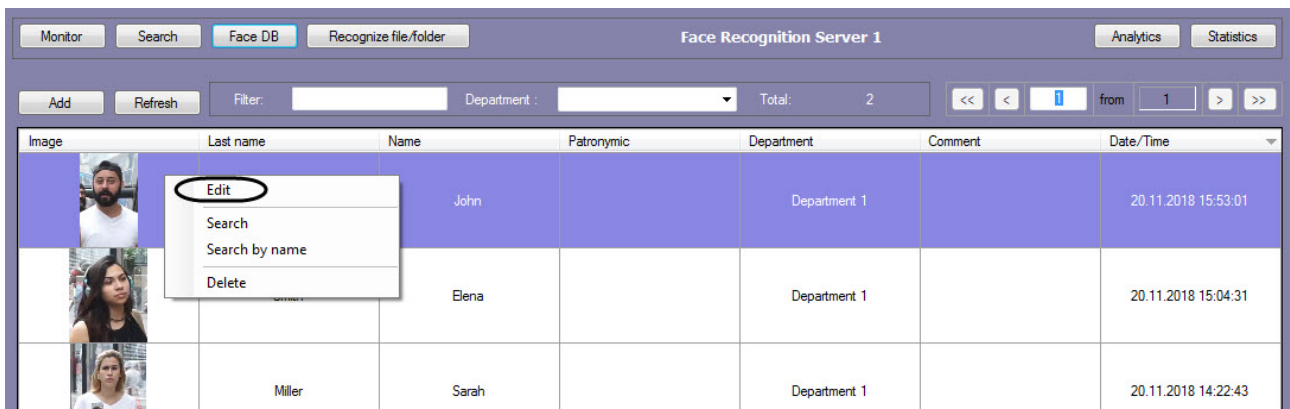
Column name	Description	Recognition module used
Image	Recognized face image	All recognition modules
Similarity level	The similarity level of the added image in comparison to the one existing in the reference face database. <i>Note. If the value of similarity level for image is more than the Minimum similarity for identification parameter value, then the percentage of similarity and the name of the corresponding person from the database will be displayed next to the image.</i>	All recognition modules
Full name	First, last and middle name	All recognition modules
Department	Department to which the face is related	All recognition modules
Comment	Comments and notes	All recognition modules
Date/time	Date and time of face addition to the reference face database	All recognition modules

All images added to the reference face database are also listed on the **Faces found in DB** tab, which contains the following information:

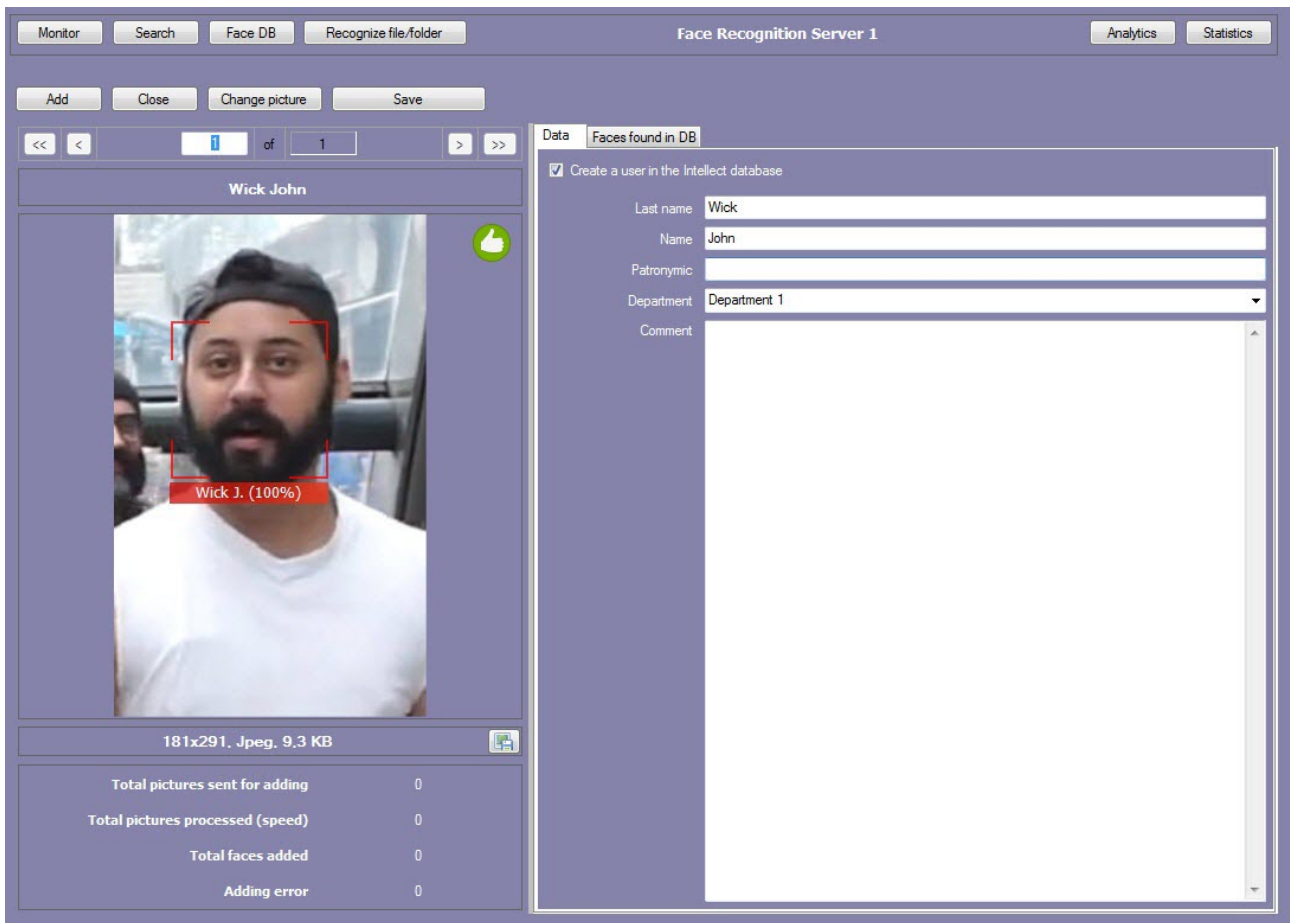


User editing

To edit the users added to the face database, right-click the selected user in the list and select the **Edit** value.



As a result, the user editor will open.

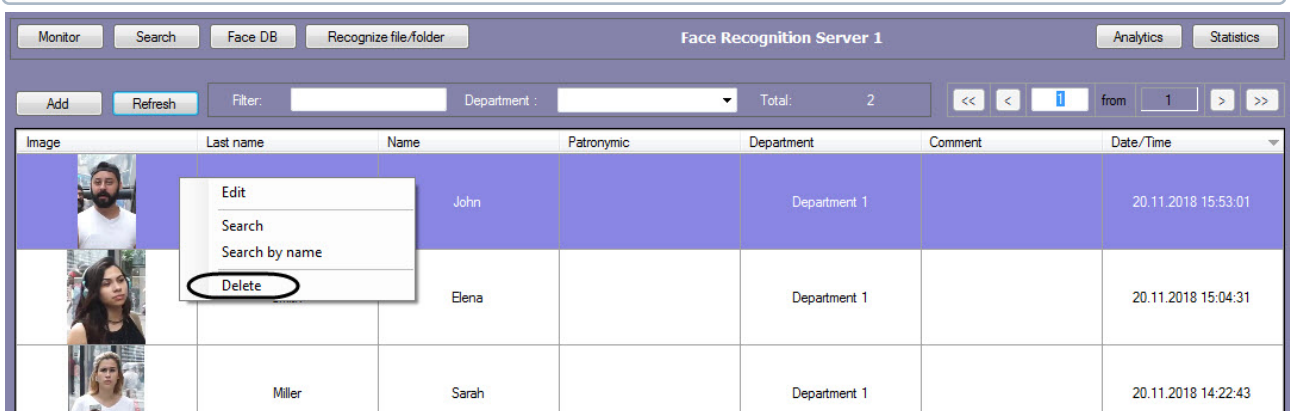


Deleting the faces and clearing the database

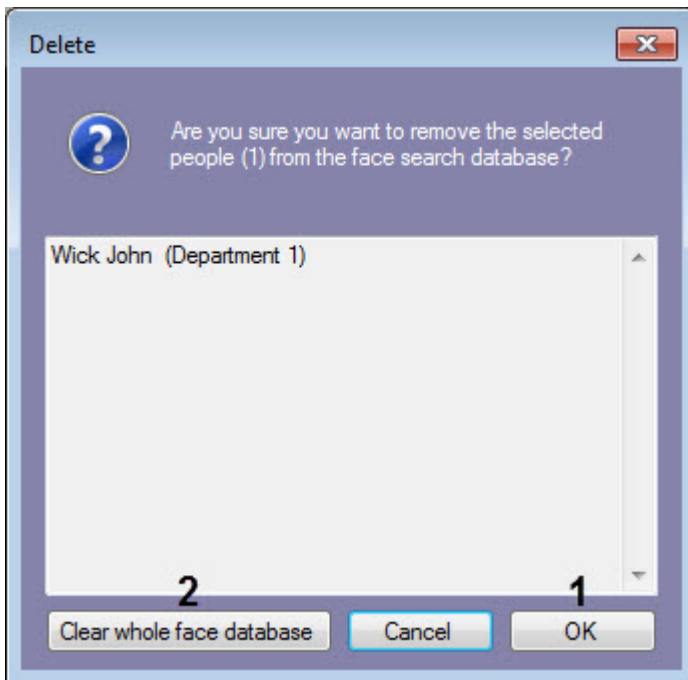
To delete the faces from the reference face database, right-click the selected image from the list and select **Delete** from the menu.

Note

Several faces can be selected and deleted at once.



In the **Delete** dialog window, click **OK (1)** to confirm the selected face deletion.



To delete all faces from the reference face database, click the **Clear whole face database** button (2).

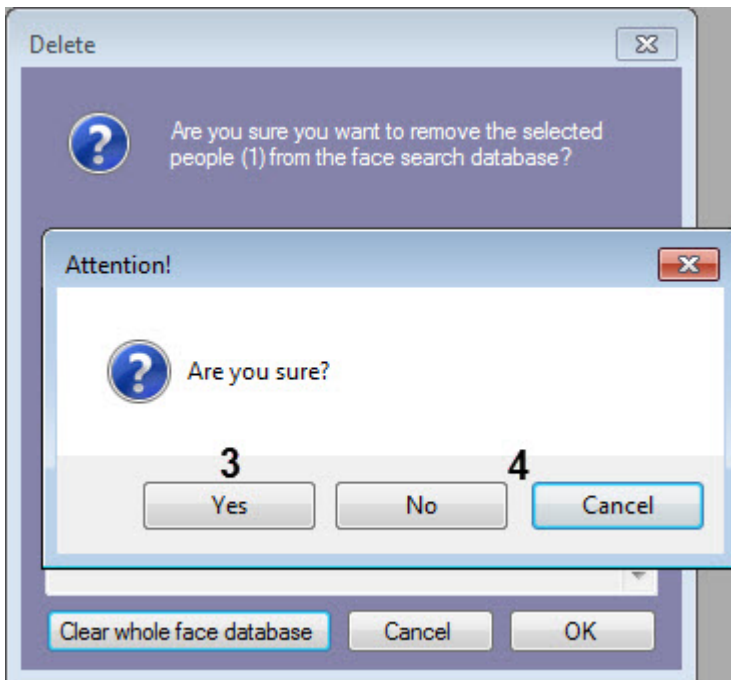
Note

The **Clear whole face database** button (2) is displayed only if there are several pages of faces in the database.

When you click the **Clear whole face database** button (2), the new **Attention!** dialog window will open.

To confirm the deletion of all faces from the reference face database, click **Yes** (3).

To discard the deletion of all faces from the reference face database, click **No** or **Cancel** (4).

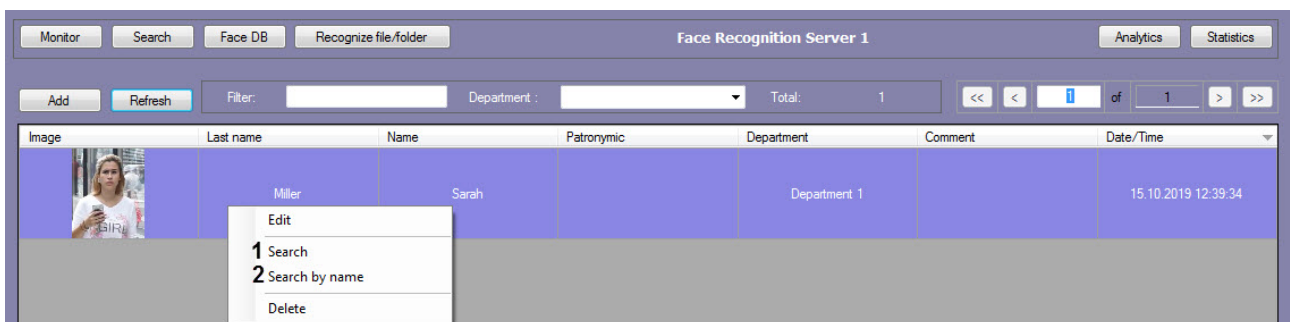


Attention!

If a user was created when a face was added to the reference face database (see [Configuring the permissions and additional settings](#)), then the user will be also deleted when the face is deleted from the reference face database. The department to which the user was added, will not be deleted.

Running the face search

To search for captured faces in the database, right-click the selected user in the list and select **Search (1)**.



As a result, the face search window will be opened (see [Face search](#)), and the search for the selected face will be automatically performed. The captured face image will be loaded as the image for search.

Note

If there are 2 or more captured faces on the image, the automatic face search will not be performed.

To search by the name of user, right-click the selected user and select **Search by name (2)**. This process is described in the [Filtering the recognized and unrecognized faces](#) section.





Filtering of the reference face images displayed on the screen

You can filter the reference faces displayed on the screen by name, comments and departments.

- To filter the faces by full name and comments, enter the appropriate substring in the **Filter** field (1).
- To filter the faces by department, enter the appropriate substring in the **Department** field (2) (or select the department from the drop-down list).

To apply the filter, click the **Refresh** button (3).


The screenshot shows the 'Face Recognition Server 1' interface. At the top, there are buttons for 'Monitor', 'Search', 'Face DB', and 'Recognize file/folder'. On the right, there are 'Analytics' and 'Statistics' buttons. Below these, there is a navigation bar with 'Add' and 'Refresh' buttons. The 'Refresh' button is highlighted with a '3' above it. To the right of the 'Refresh' button is a 'Filter' input field containing the number '1', a 'Department' dropdown menu set to '2', and a 'Total' field showing '4'. There are also navigation arrows and a 'from' field set to '1'. Below the navigation bar is a table with the following columns: Image, Last name, Name, Patronymic, Department, Comment, and Date/Time. The table contains four rows of data:

Image	Last name	Name	Patronymic	Department	Comment	Date/Time
	Bieber	Justin		Department 2		20.11.2018 16:07:13
	Wick	John		Department 1		20.11.2018 15:53:01
	Smith	Elena		Department 1		20.11.2018 15:04:31
	Miller	Sarah		Department 1		20.11.2018 14:22:43

Note

In the **Total** field (4), the total number of reference face images that satisfy the specified filters is displayed.

The screenshot shows the 'Face Recognition Server 1' interface after filtering. The 'Filter' field is empty, and the 'Department' dropdown is set to 'Department 2'. The 'Total' field now shows '1' with a '4' next to it, indicating the total number of faces before filtering. The table now only contains one row of data:

Image	Last name	Name	Patronymic	Department	Comment	Date/Time
	Bieber	Justin		Department 2		20.11.2018 16:07:13

4.2.4 Displaying the statistics

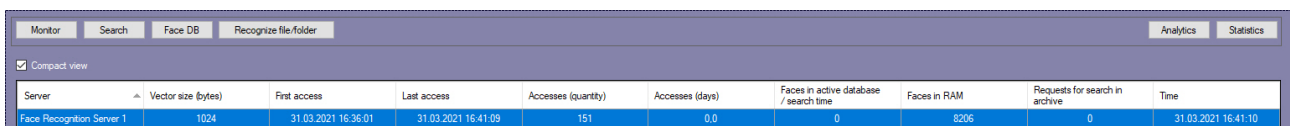
In the **Face recognition and search** interface window it is possible to view the statistics for each face recognition server. Click the **Statistics** button to display the statistics data.

The following statistics for each face recognition server will be displayed: the name and the version of the recognition module, the vector size in bytes, the number of faces in the RAM, the first and last access time, the total number of accesses, etc.



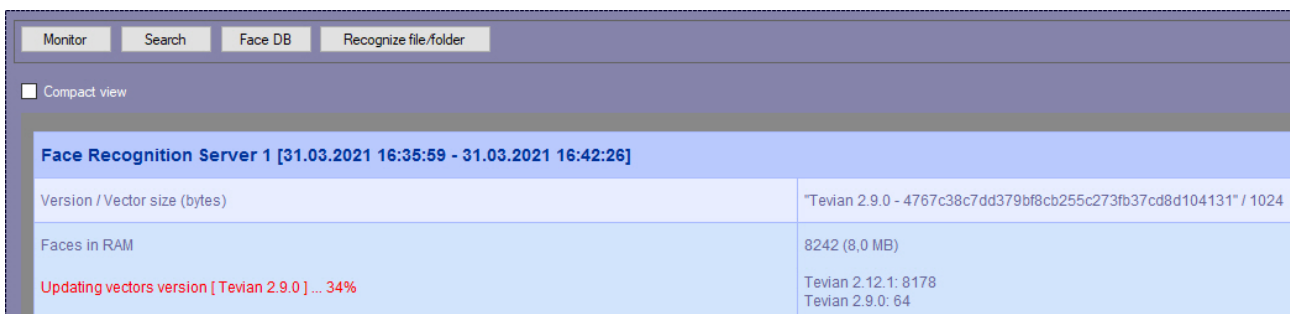
Face Recognition Server 1 [31.03.2021 16:35:59 - 31.03.2021 16:39:50]	
Version / Vector size (bytes)	"Tevian 2.12.1 - d0ffc345264bad0873b157a350411ea3cb8ccc2" / 1024
Faces in RAM	8169 (8,0 MB) Tevian 2.12.1: 8169
First access	31.03.2021 16:36:01
Last access	31.03.2021 16:39:50
Accesses (number) / (days)	114 / 0,0
Faces in active database / search time	0 (0 b) / 00:00:00.0000
Duration of online protocols update	00:00:00.159
Used memory	424,0 MB
Number of CPU cores used / available in total	6 / 6
Number of examples of recognizers / face captures	1 / 1
Requests for search in archive	0
SQL DB size	5,23 MB
Initial size of protocols / loading time	8068 (7,9 MB) / 00:00:00
Initial size of active database / loading time	0 (0 b) / 00:00:00
State	Active

To view the statistics in compact view, set the **Compact view** checkbox.



Server	Vector size (bytes)	First access	Last access	Accesses (quantity)	Accesses (days)	Faces in active database / search time	Faces in RAM	Requests for search in archive	Time
Face Recognition Server 1	1024	31.03.2021 16:36:01	31.03.2021 16:41:09	151	0,0	0	8206	0	31.03.2021 16:41:10

If the re-generation of biometric vectors is started (see [Switching between the face recognition modules and SDK versions](#)), then the current process will be displayed in the **Faces in RAM** field.



Face Recognition Server 1 [31.03.2021 16:35:59 - 31.03.2021 16:42:26]	
Version / Vector size (bytes)	"Tevian 2.9.0 - 4767c38c7dd379bf8cb255c273fb37cd8d104131" / 1024
Faces in RAM	8242 (8,0 MB) Tevian 2.12.1: 8178 Tevian 2.9.0: 64
Updating vectors version [Tevian 2.9.0] ... 34%	

4.2.5 Viewing the analytics

To view the analytical data of the **Face recognition and search** interface module click the **Analytics** button.



Note

Analytical data are generated by the Visitor counting channel. If this channel was not activated at system setup, the **Analytics** button is disabled (see [Activation of the recognition modules in Face Intellect](#)).

The display of analytical data is configured as follows:

1. In the **Period from** and **to** fields (1) specify the time period for which the analytical data is to be displayed.

Attention!

- It is not recommended to specify a period of more than 7 days, as this can cause an error in the analytics generation.
- The grouping of similar faces should be enabled to generate analytical data (see [Configuring the grouping of similar faces](#)).

The screenshot shows the Analytics interface with the following elements:

- Filters (1-7):**
 - 1: Period from: 16.09.2019 0:00:00 to: 16.10.2019 23:59:59
 - 2: Show faces: All
 - 3: Accesses (min): 1, Accesses (max): 10000
 - 4: Similarity, %: 80
 - 5: Filters, 6: Refresh, 7: Print
- Summary (8):**
 - Unique faces: 56
 - Faces in DB: 1 (1.8%)
 - Unknown faces: 55 (98.2%)
 - Males: 37 (66.1%)
 - Females: 19 (33.9%)
 - Faces processed / processing duration: 4327 / 00:00:00
- Bar Chart (9):** Horizontal bar chart showing access counts for different age groups (16-63) for Males (orange) and Females (yellow).
- Table (10):** Table of recognized faces with columns: Image, Gender, Age, Accesses, Original from DB, Full name, First access, Last access.
- Image Grid (11):** Grid of face images corresponding to the table rows.

Image	Gender	Age	Accesses	Original from DB	Full name	First access	Last access
	Female	21	9			15.10.2019 13:41:07	16.10.2019 11:37:22
	Female	56	7			15.10.2019 12:04:32	16.10.2019 11:47:42
	Male	48	28			10.10.2019 17:34:52	16.10.2019 12:01:41
	Male	26	32			10.10.2019 17:34:43	16.10.2019 12:01:33
	Female	29	29			10.10.2019 17:19:37	16.10.2019 11:39:40

2. From the **Show faces** drop-down list select faces which should be displayed in the list: recognized, unrecognized or all (2).
3. In the **Accesses (min)** and **Accesses (max)** fields specify the values corresponding to minimum and maximum number of person passes (3).
4. In the **Similarity, %** field (4) specify the similarity percent between the captured face and the reference image. If this value is exceeded, the face will be considered as recognized.

Note

The **Similarity, %** field can be hidden if the grouping of similar faces is enabled (see [Configuring the grouping of similar faces](#)).

5. Click the **Filters** button (5) to specify the face characteristics filters:
 - a. In the **Camera** drop-down list (1), specify the substring to filter out the cameras to be displayed in the **Camera** field (2).

The screenshot shows the 'Face characteristics filters' dialog box. It has a title bar with a close button. The main area is split into two panes. The left pane, labeled '1', has a 'Camera:' dropdown and a list of cameras with checkboxes, labeled '2'. The right pane, labeled '3', has 'Minimum age:' and 'Maximum age:' fields. Below these is a tree view of face characteristics, labeled '4', with checkboxes for various categories like Gender, Emotion, Facial hair, Glasses, and Hair colour. At the bottom, there are 'Minimum temperature:' and 'maximum:' fields, labeled '5', and 'Cancel' and 'OK' buttons, labeled '6'.

- b. In the **Minimum age** and **Maximum age** fields (3) specify the minimum and maximum age of persons to be displayed in the search results, respectively.
 - c. In the area (4), set the checkboxes next to the corresponding face characteristics.


Note

Face characteristics (4) may not be displayed (see [Configuring the additional face characteristics](#)).

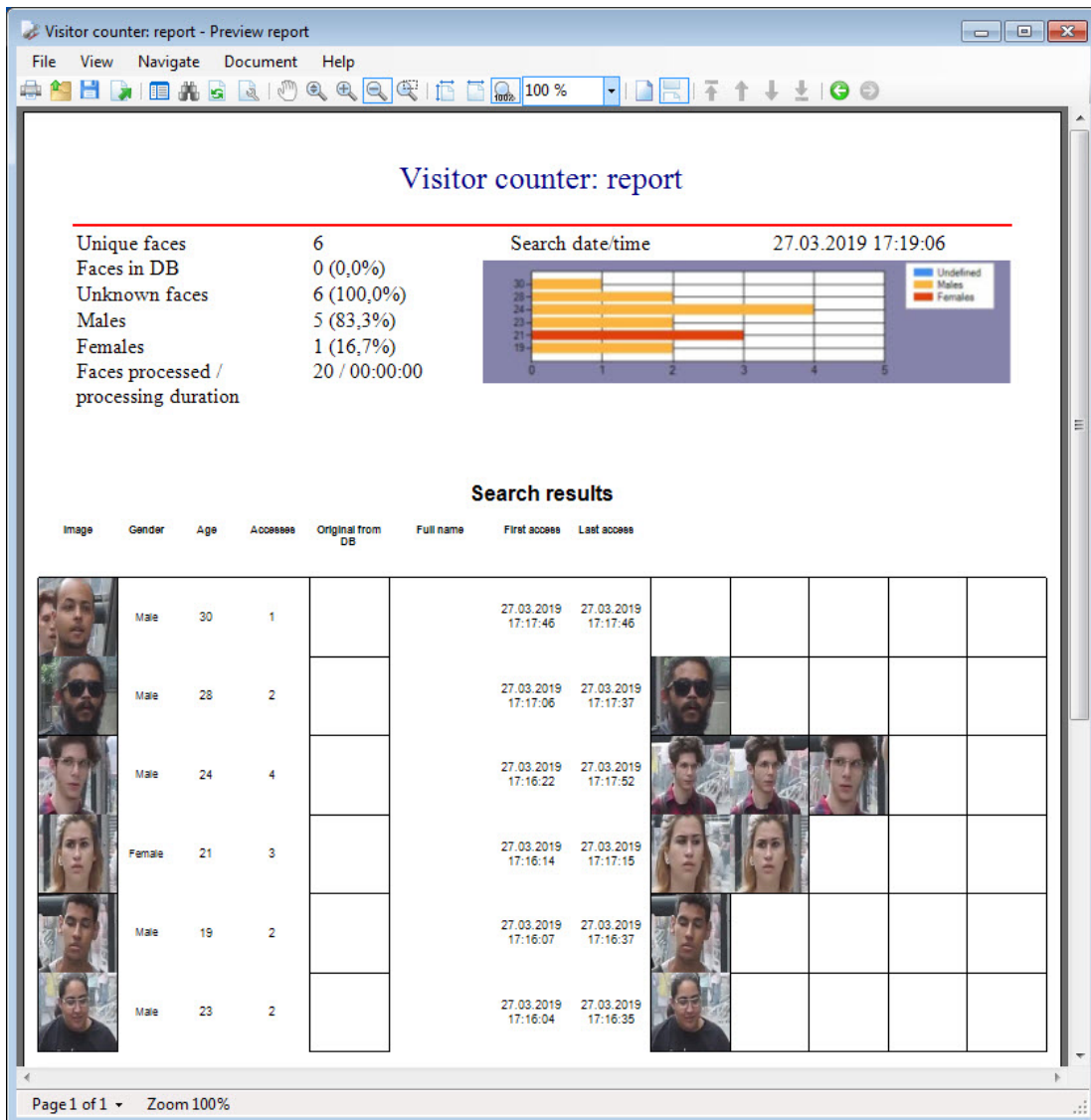
- d. In the **Minimum temperature** and **maximum** fields, specify the minimum and maximum face temperature, respectively (5).
 - e. Click the **OK** button (6).
6. Click the **Refresh** button (6) to refresh the analytics.

Note

If a large number of unique faces is stored in the database, then refreshing the analytics may take a long time. If the **Operation has timed out** error occurs while the analytics is being refreshed, then it is necessary to increase the value of the **AnalyticTimeout** parameter in the **face_client.run.config** configuration file (for details, see the [XML-file parameters reference guide](#)).

- Click the  button (7) to generate a report on the displayed analytical data. This report can be printed, saved to an rsd or xml file, or exported to PDF.

Note
 You can also generate a report on gender analytics in the *Intellect Web Report System* (see [Gender analytics report](#)).

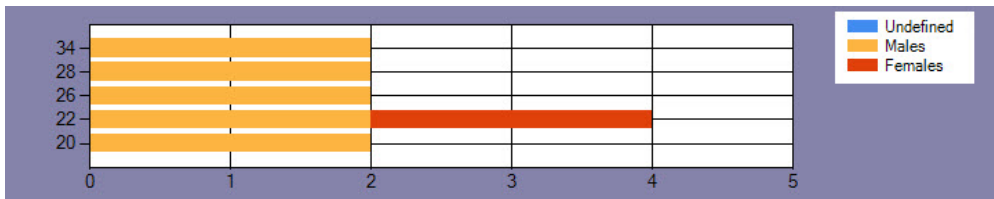


Note

To limit the number of rows (unique faces) in the generated report, it is necessary to change the value of the **CounterRowCount** parameter in the **face_client.run.config** configuration file (for details, see [XML-file parameters reference guide](#)).

In the section (8) the general analytical data about the captured faces is displayed.

In the diagram (9) the horizontal axis shows the total number of passes. The vertical axis shows the age of the captured faces. For example, the diagram below shows that two males and two females of age 22 passed through twice, which is 4 passes in total.



Note

The **Undefined** gender is displayed in case the **Face characteristics recognition channel** was not activated by the time of the face capture (see [Activation of the recognition modules in Face Intellect](#)).

In the table (10) in the **Image** column the unique faces are displayed. Their quantity is equal to the **Unique faces** value shown in the section (8). The sum of the unique faces and the number of all their passes equals to the **Faces processed** value shown in section (8). In the area (11), the images of the last five passages of faces similar to the unique faces from the table (10) are displayed.

To perform the search by the image, right-click the corresponding image and select **Search** from the menu (1). As a result, you will be redirected to the face search (see [Face search](#)), and the selected face will be automatically searched, and the captured face will be loaded as the search image.

To view the moment when the found face appears on the video, right-click the corresponding image and select **Video archive -> <Date and time>** (2). As a result, a video archive with a paused video will be displayed in the monitor for video archive playback (see [Configuring the permissions and additional settings](#)) (for details about working with video archives, see [Working with the archives](#)).

To display the camera that captured the face on the map, right-click the corresponding image and select **Show on map** from the menu (3).

Processing is completed.

Image	Gender	Age	Accesses	Original from DB	Full name	First access	Last access						
	Male	48	28			10.10.2019 17:34:52	16.10.2019 12:01:41						
	Male	26	32			10.10.2019 17:34:43	16.10.2019 12:01:33						
	Female	29	29			10.10.2019 17:19:37	16.10.2019 11:39:40						
	Male	63	46			10.10.2019 17:15:55	16.10.2019 11:59:19						
	Male	26	54			10.10.2019 17:13:51	16.10.2019 12:03:20						

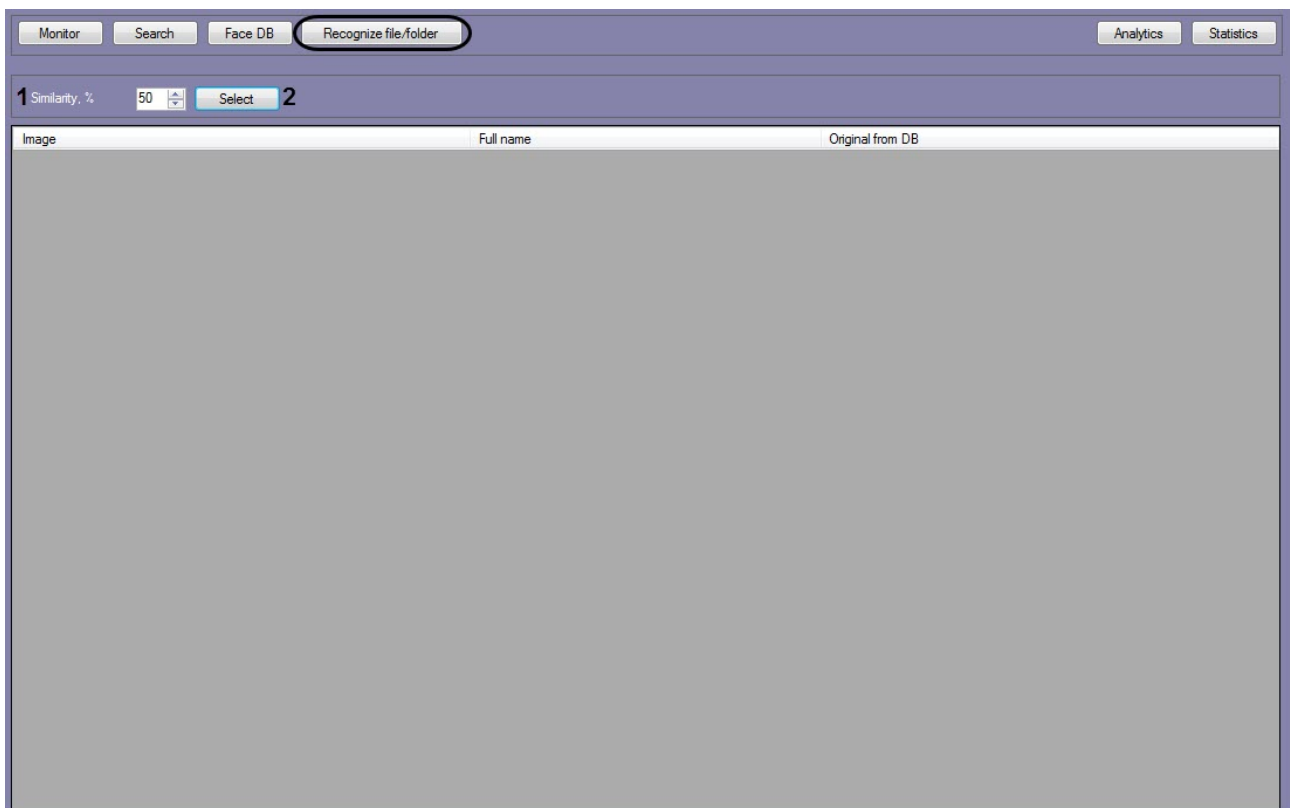
1 Search

2 Video archive -> [16.10.2019 11:39:40]

3 Show on map

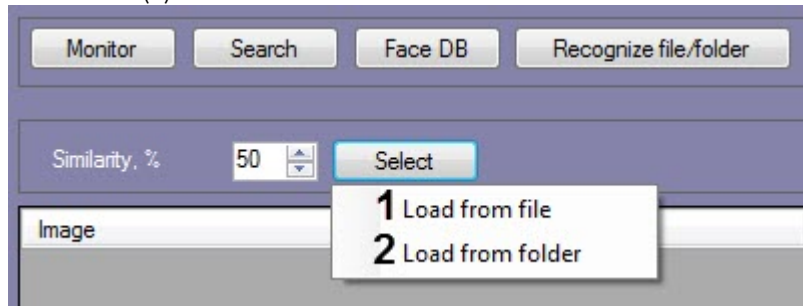
4.2.6 Searching by images in the reference face database

To perform the search by images in the reference face database, click the **Recognize file/folder** button in the **Face recognition and search** window and do the following:

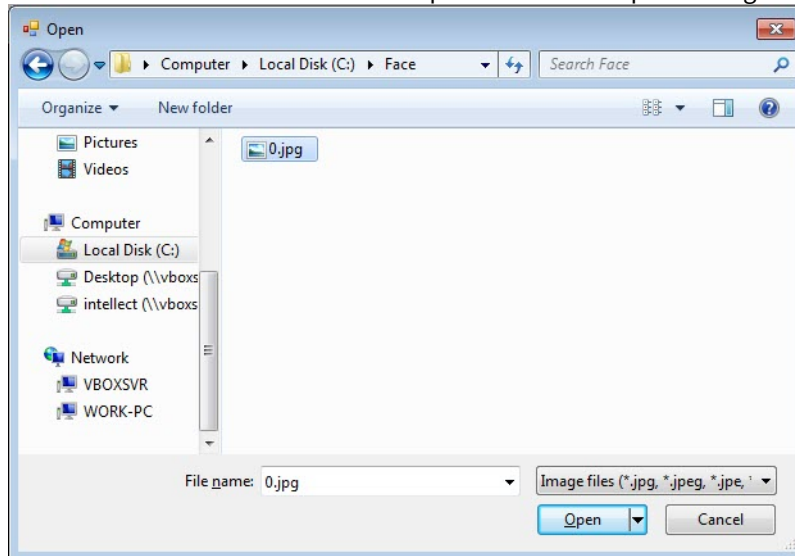


1. In the **Similarity, %** field (1) specify the similarity level between the recognized images and the faces from the reference database in percent.

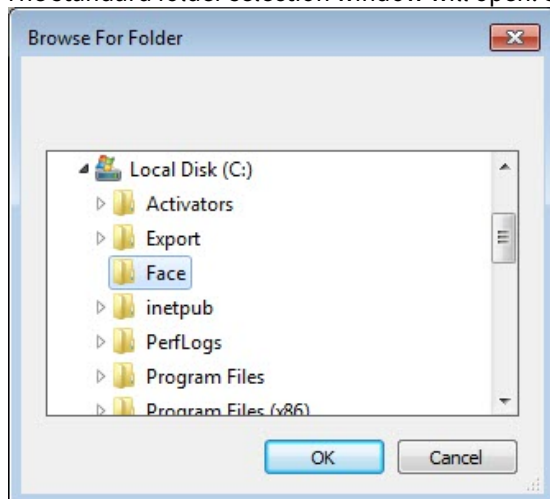
2. Click **Select (2)**.



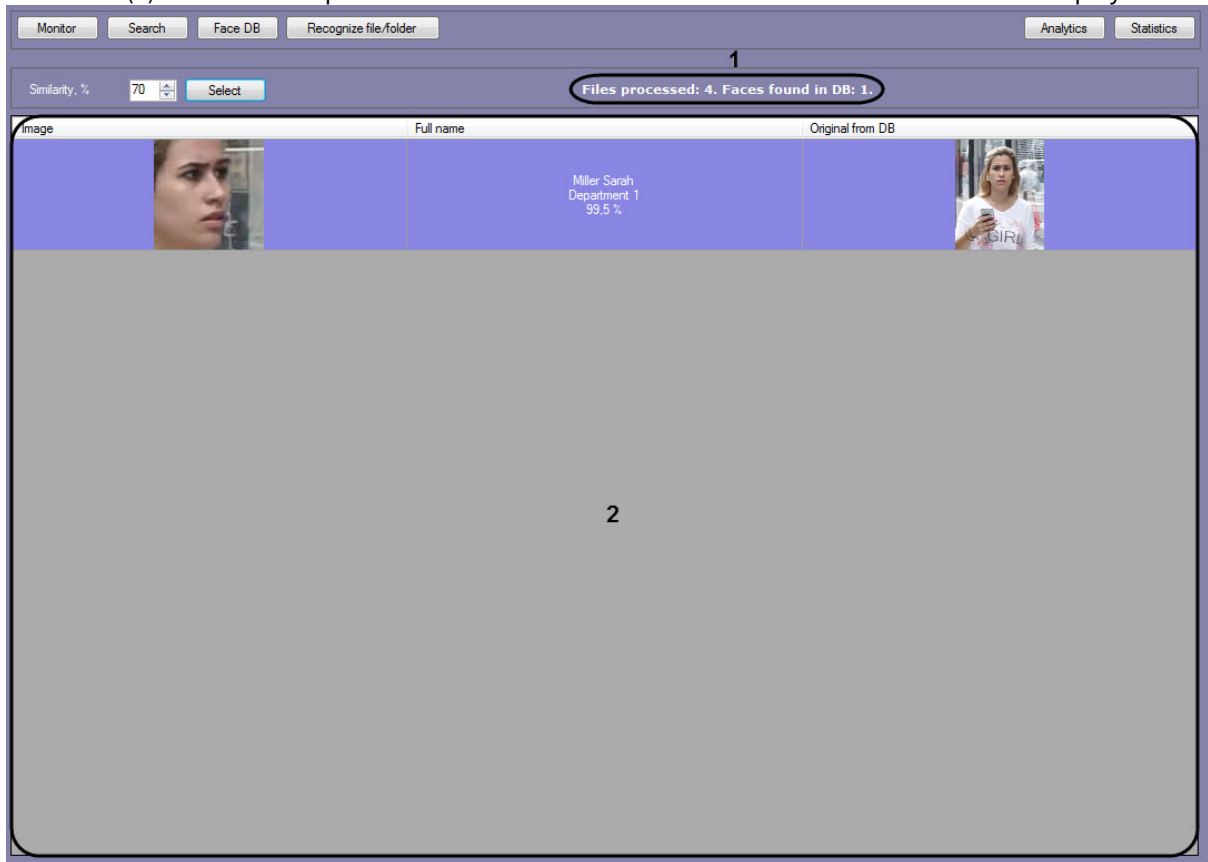
3. From the drop-down menu select **Load from file (1)** to search by only one image. A standard file selection window will open. Select the required image file and click **Open**.



4. Select **Load from folder (2)** if you want to search by multiple images. The standard folder selection window will open. Select the required image folder and click **OK**.



5. In the field (1) the number of processed files and the number of faces found in the database is displayed.



6. The image search results in the reference face database is displayed in the columns of the field (2):

Column name	Description	Recognition module used
Image	The image loaded for search	All
Full name	The full name from the reference database	All
Original from DB	The photograph from the reference database (see Working with the reference face database)	All

Note
 If no images in the reference database match the image loaded for search, then no data is displayed in the field (2).

The search by images in the reference face database is completed.

4.2.7 Transferring images to an external system

It is possible to transfer images to an external system by sending an HTTP POST request. To enable the images transfer to an external system, this feature should be pre-activated (see [Configuring the images transfer to an external system](#)).

To transfer images to an external system, on the **Monitor**, **Search**, or **Face DB** tab, right-click the required image and select the **Send to external system** option.

Note

In the HTTP POST request, the **imageBase64** json parameter which contains the specified image is automatically added as the parameter.

The screenshot displays the software interface with the following components:

- Top Navigation:** Monitor, Search, Face DB, Recognize file/folder, Analytics, Statistics.
- Filters:** Archive, Show faces: All, Filters, Follow new faces, View.
- Main Table:**

Captured face	Original from DB	Full name	Age	Gender	Camera	Date/Time
			37	Male	Camera 1	16.10.2019 12:12:23
			19	Male	Camera 1	16.10.2019 12:12:23
			42	Female	Camera 1	16.10.2019 12:12:18
			22	Male	Camera 1	16.10.2019 12:12:12
			19	Male	Camera 1	16.10.2019 12:12:00
			20	Male	Camera 1	16.10.2019 12:11:33
			31	Male	Camera 1	16.10.2019 12:11:31
			25	Male	Camera 1	16.10.2019 12:11:31
- Context Menu (over Face 2):**
 - Search
 - Search by filter
 - Add to face DB / check
 - Video archive
 - Show on map
 - Send to external system** (highlighted)
- Right Panel:**
 - Header: No recognized data
 - Image:
 - Buttons: Face DB, Cameras
 - Filter: Filter 1
 - Table:

Image	Similarity level	Camera	Date/Time
	99.8 %	Camera 1	10.10.2019 17:19:10
	99.8 %	Camera 1	15.10.2019 11:56:03
	99.8 %	Camera 1	15.10.2019

Note

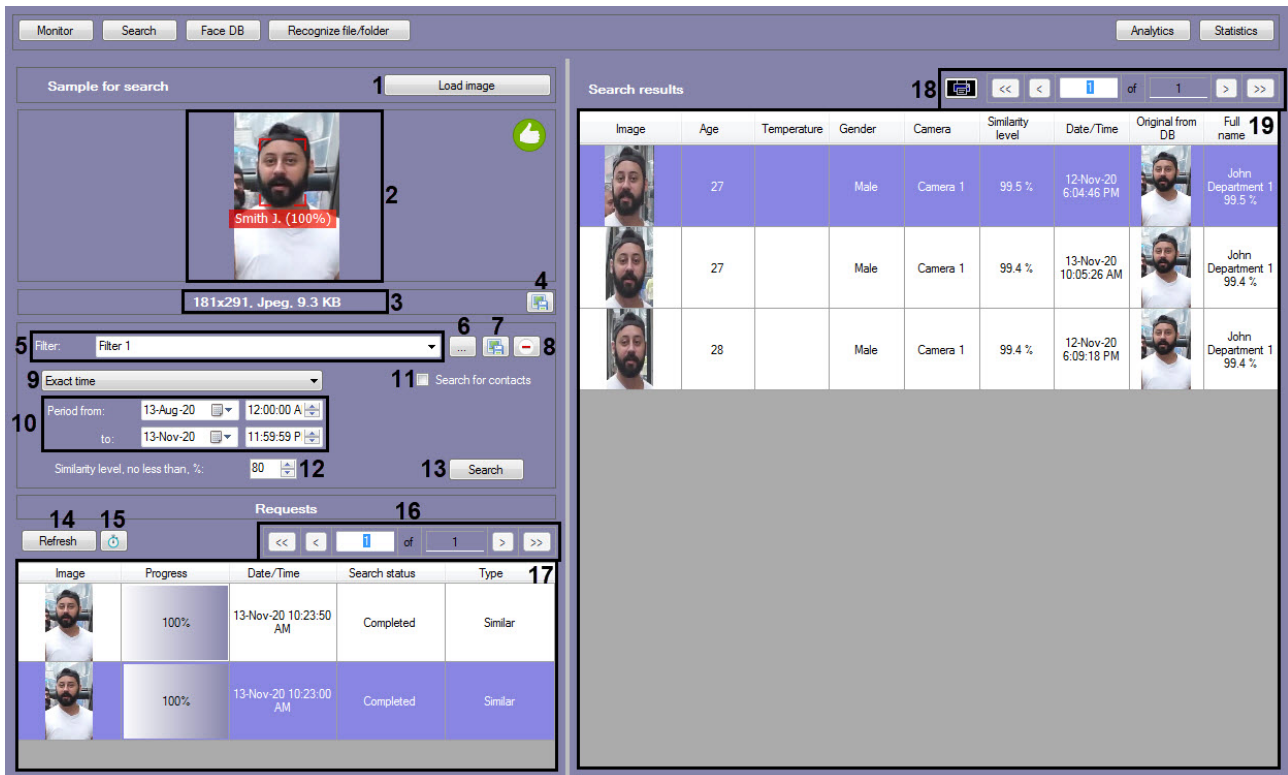
Image transfer is performed asynchronously and without visual confirmation.

5 Description of the Face Intellect user interface

5.1 The Face recognition and search window interface

5.1.1 The Face Search window

The following figure shows the **Face search** window interface:



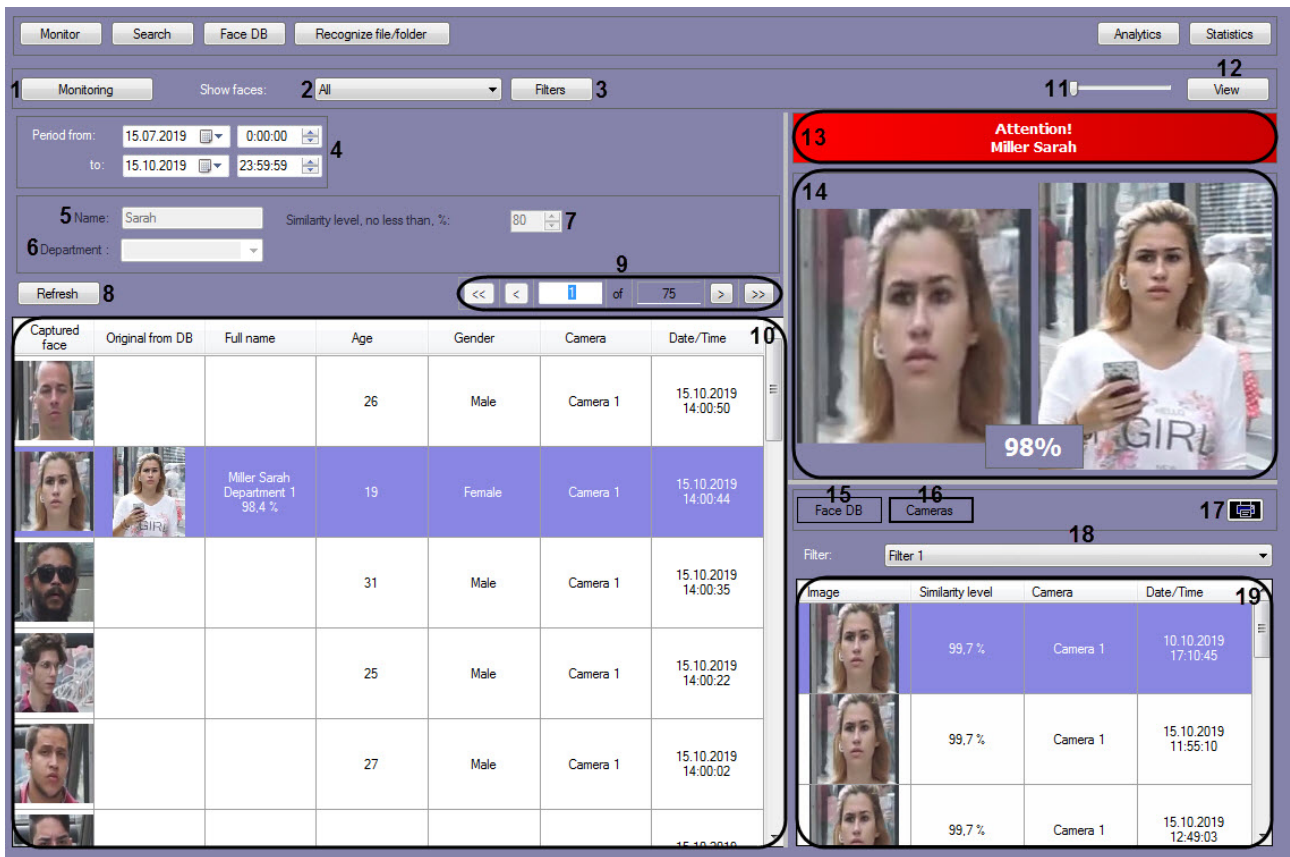
The components of the **Face search** interface are described in the following table.

Number of component	Comments
1	The Load image button (image loading for search)
2	The field for displaying the loaded image
3	The loaded image parameters
4	The button for saving the image
5	The field for specifying the new filter name or selecting a previously saved filter
6	The field for specifying the filter

Number of component	Comments
7	The button for saving the specified filter
8	The button for removing the selected filter
9	The list for selecting the search period type
10	The elements for setting the time interval for face search. The depend on the selected search period type.
11	The Search for contacts checkbox for searching people who have been in contact with the specified person within the specified time period
12	Field for setting a minimal similarity level
13	The Search button for searching for the selected face
14	The Refresh button for refreshing the list of search queries
15	The elements for setting the date and time for the beginning and end of the time interval for search results displaying
16	Elements for navigation through search requests
17	Field for displaying the search requests The following columns are displayed: <ul style="list-style-type: none"> • Image; • Progress; • Date/Time; • Search status.
18	Elements for navigation through search results
19	Field for displaying the search results The following columns are displayed: <ul style="list-style-type: none"> • Image; • Names of the face characteristics (see Configuring the additional face characteristics); • Camera; • Similarity level; • Date/Time.

5.1.2 The Monitoring of captured and recognized faces window

The following figure shows the **Monitoring of captured and recognized faces** window interface:



The components of the **Monitoring of captured and recognized faces** interface are described in the following table.

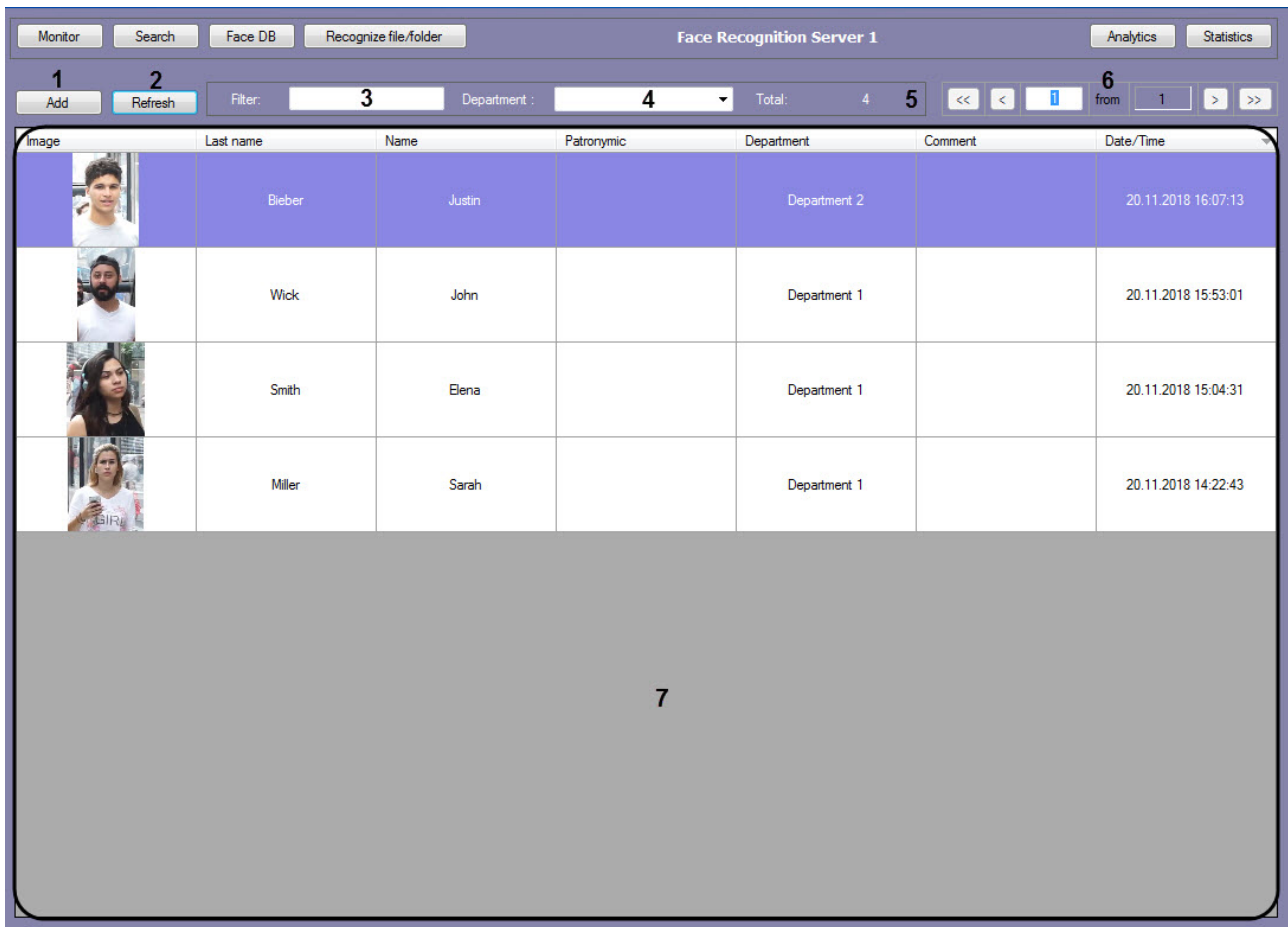
Number of component	Comments
1	The Monitoring button
2	Show faces drop-down list to select the captured persons display option: All , Only recognized , Only unrecognized
3	The Filters button for filtering by cameras and additional face characteristics
4	Elements for setting the start and end date and time of the time interval for face search
5	The field for entering the name of a recognized person <i>Note. The field is editable if the Only recognized option is selected in the Show faces drop-down list.</i>

Number of component	Comments
6	The field for selecting the department of a recognized person <i>Note. The field is editable if the Only recognized option is selected in the Show faces drop-down list.</i>
7	The field for setting the minimal similarity level <i>Note. The field is editable if the Only recognized option is selected in the Show faces drop-down list.</i>
8	The Refresh button for updating the displayed data
9	Elements for navigation through captured faces
10	Filtered list of captured faces The following columns are displayed: <ul style="list-style-type: none"> • Captured face; • Original from DB; • Full name; • Names of the face characteristics (see Configuring the additional face characteristics); • Camera; • Date/Time.
11	Element for adjustment of line height in the list of captured faces
12	The View button for configuring the view of the monitoring window
13	The field for displaying the full name of the recognized person
14	Photos of the captured face and the reference image, the information on which is stored in the face database
15	The Face DB button for displaying in the area (19) the information on the selected recognized face
16	The Cameras button for displaying in the area (19) the ten last captured faces according to the selected search filter (18)
17	The Print button for exporting the filtered data to a report file
18	A drop-down list for selecting the search filter (see The Face Search window)

Number of component	Comments
19	<p>The area for displaying search results with the specified filtering conditions.</p> <p>When the Face DB section is selected using the Face DB button (15), the following columns are displayed:</p> <ul style="list-style-type: none"> • Image; • Full name; • Similarity level; • Comment; • Date/Time. <p>When the Cameras section is selected using the Cameras button (16), the following columns are displayed:</p> <ul style="list-style-type: none"> • Image; • Similarity level; • Camera; • Date/Time.

5.1.3 The Face database window

The following figure shows the **Face database** window interface:



The components of the **Face database** interface are described in the following table.

Element number	Description
1	The Add button for adding the images to the reference face images database.
2	The Refresh button for refreshing the list of added reference images.
3	The Filter field for adding the text to filter by name and comments.
4	The Department field for adding the text to filter by the department.
5	The Total field for displaying the total number of reference images that satisfy the specified filters.
6	Navigation elements.

Element number	Description
7	<p>The list of reference images that satisfy the specified filters.</p> <p>The following columns are displayed:</p> <ul style="list-style-type: none"> • Image; • Last name; • First name; • Patronymic; • Department; • Comment; • Date/Time.

5.1.4 The Analytics window

The following figure shows the **Analytics** window interface:



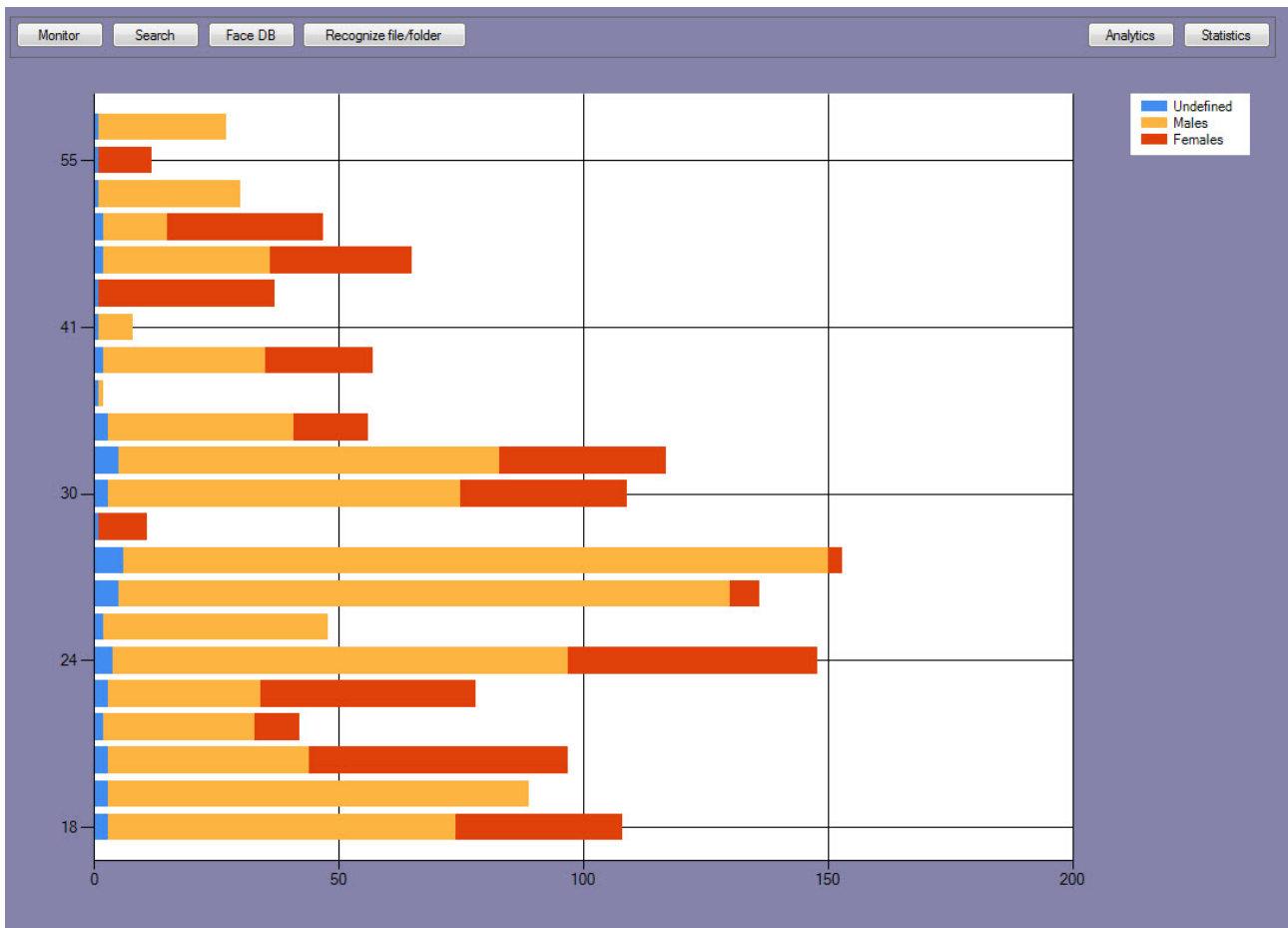
The components of the **Analytics** interface are described in the following table.

Component number	Comments
1	The elements for specifying the time period of the analysis.

Component number	Comments
2	A drop-down list for face filtering: All, Only recognized, Only unrecognized.
3	The elements for specifying the minimum and maximum number of passes of a person.
4	A field for specifying the similarity level between the captured face and the reference face in percent. If the specified value is exceeded, the person is considered as recognized.
5	A button for specifying the filter.
6	A button for updating the displayed data.
7	A button for exporting the displayed analytical data to the report file.
8	The information panel for displaying the general data on all faces.
9	The diagram: the horizontal axis shows the total number of passes; the vertical axis shows the age of the detected faces.
10	The Image column displays the unique faces. Their quantity corresponds to the Unique faces parameter displayed in the section (8).
11	The area displayed the duplicates of the unique faces.

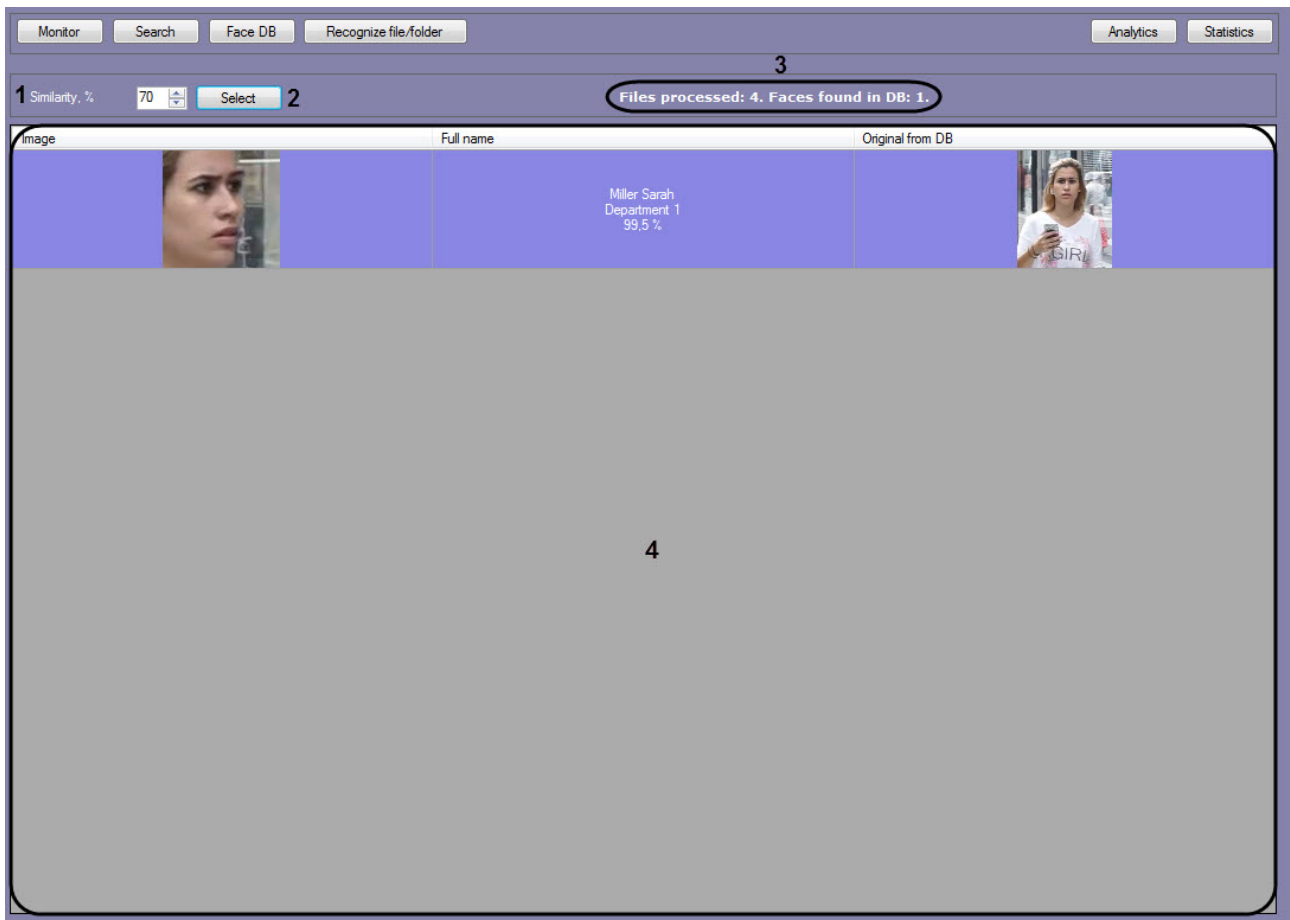
Note

Double left-click the diagram (9) to zoom it in, and double right-click it to zoom it out.



5.1.5 The Recognize file/folder window

The following figure shows the **Recognize file/folder** window interface:



The components of the **Recognize file/folder** interface are described in the following table.

Component number	Comments
1	The Similarity, % field for specifying the similarity level between the captured face and the reference image in percent.
2	The Select button for loading the image file or image folder for the search.
3	The field for displaying the number of the processed files and the number of faces found in the reference database.
4	The field for displaying the image search results in the reference face database. The following columns are displayed: <ul style="list-style-type: none"> • Image • Full name • Original from DB