

User Guide for People Analytics

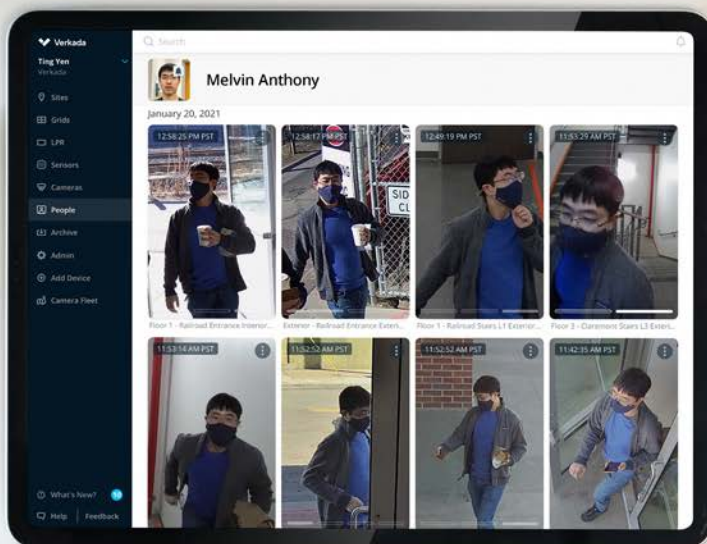


Overview

Verkada's People Analytics solution enhances our existing People Detection features with Face Search, Person Attributes, Person History, and Person of Interest alerts. Powered by Verkada's industry-leading edge-based processing and computer vision technology, these features give you the ability to identify and search for individuals in your camera footage, allowing you to find meaningful events and save time during critical investigations.

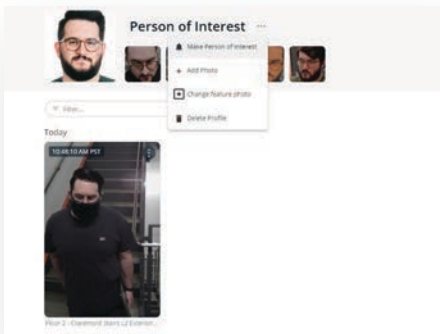
Utilizing Verkada's hybrid cloud approach, people analytics delivers high quality results with minimal bandwidth impact. Rest assured – all video, images, and data are encrypted at rest and in transit and stay within your Command Organization.

To use Verkada's People Analytics features, no additional software or hardware is needed. This guide will show you how to optimize People Analytics performance on your Verkada cameras.



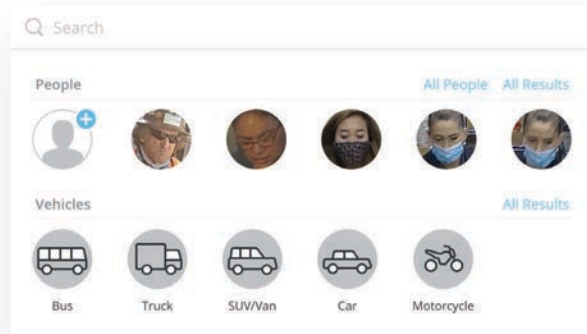
Verkada's People Analytics Key Features

What can you do with People Analytics? Once your camera is positioned correctly, explore all the use cases possible with this powerful toolkit.



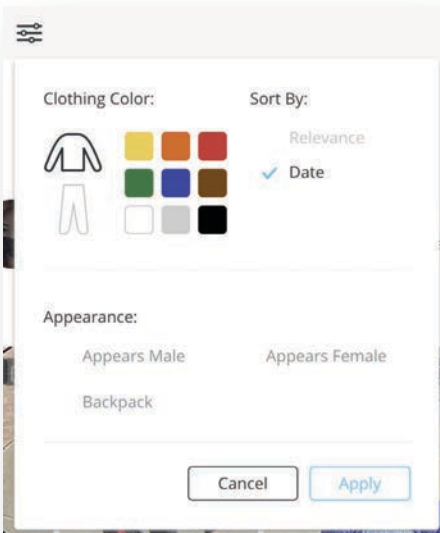
Person of Interest Alerts

Proactively set alerts for when a person is detected onsite who has a face that matches a preselected individual.



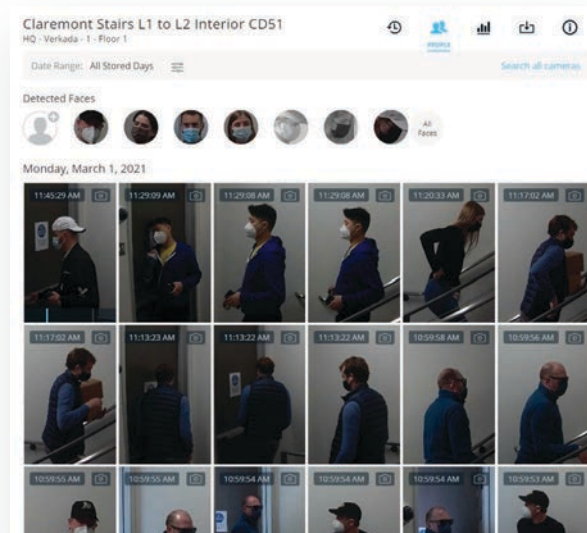
Face Search

Search across all your organization's cameras for people that have been detected as a match to an existing or uploaded face.



Person Attributes

Quickly search through your cameras to find people that match selected attributes, including clothing color, gender appearance, and more.



Person History

View all people that have been captured by your Verkada cameras to speed up investigations.

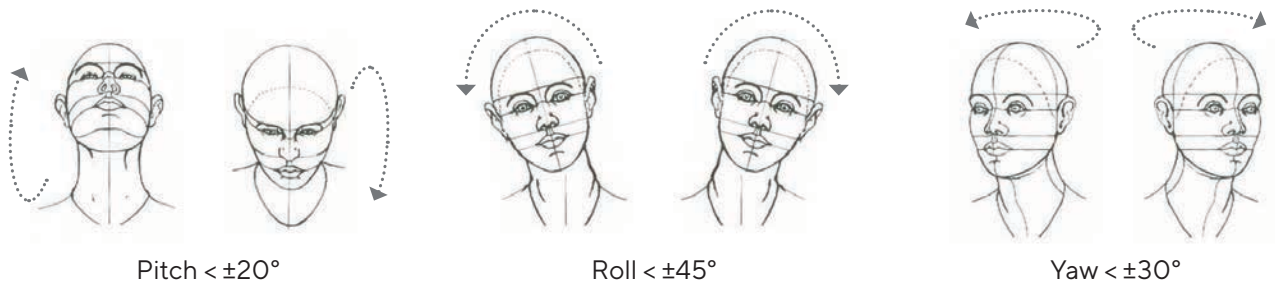
Optimizing Analytics Performance

Ensure your cameras are positioned according to the following guidelines to get the most consistent results with People Analytics features.

Head Angle

For optimal performance with Face Search and Person of Interest alerts, cameras should capture faces head-on, facing the camera, and as close to the camera as possible.

The angle of captured faces must be within the following range of values:



Good face angle



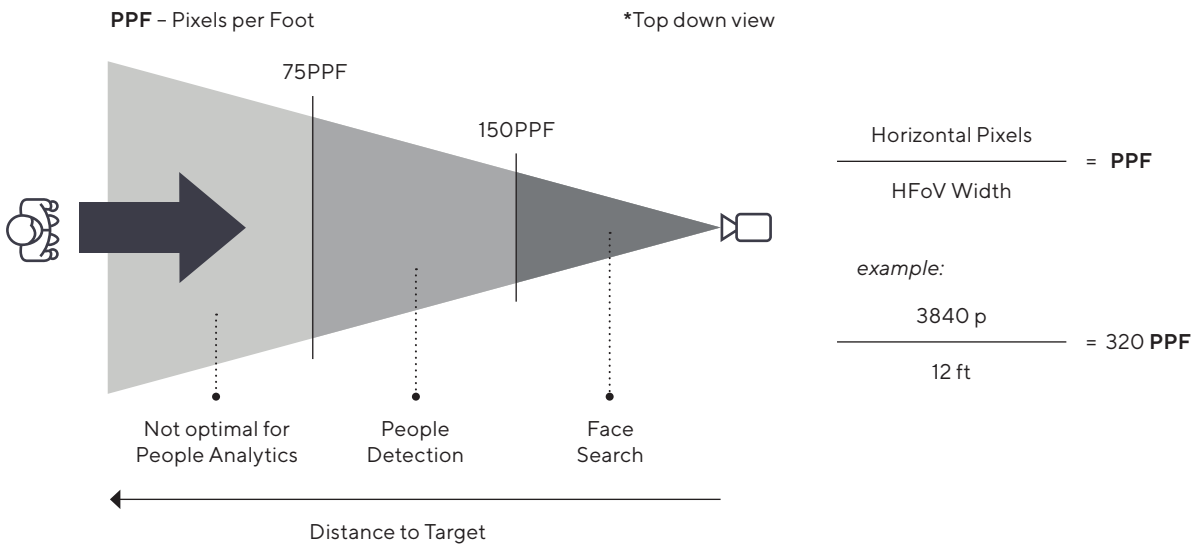
Poor face angle

Distance to Camera

People and face detection requires a minimum level of detail, expressed quantitatively as pixels per foot (PPF):

- PPF decreases with distance from the camera. The PPF at any given distance varies with the camera's field of view and the image resolution.
- A PPF of 75 or greater is recommended for People Recognition features like Person Attributes and Person History.
- A PPF of 150 or greater is recommended for Face Recognition features such as Face Search and Person of Interest alerts.

To calculate the PPF value at the distance you wish to detect people, divide the camera's horizontal pixel count (available in the camera's datasheet under Resolution) by the width in feet of the camera's horizontal field of view (HFoV) at that distance.



This image was taken from a CD61 with a resolution of 3840 x 2160, and the width of the horizontal field of view at the target distance is 12 feet. Using the PPF formula we find that we have a PPF value of 320 at the doorway, which is sufficient for all People Analytics features.

The table below shows the maximum recommended distances for People Recognition and Face Recognition on our camera models.

People Recognition
75 PPF Required
(Person History, Person Attributes)

Faces Recognition
150 PPF Required
(Face Search, Person of Interest)

Model	0% optical zoom	100% optical zoom	0% optical zoom	100% optical zoom	<i>feet</i>
CD31/E	15'	-	8'	-	
CD41/E	20'	-	10'	-	
CD51/E	19'	52'	9'	26'	
CD61/E	25'	70'	13'	35'	
CB51	21'	48'	10'	24'	
CB51-TE	51'	123'	25'	61'	
CB61	31'	67'	15'	34'	
CB61-TE	70'	170'	35'	85'	
CM41/E	20'	-	10'	-	
CM61	28'	-	14'	-	
D40	20'	-	10'	-	

Lighting

Lighting can impact People Analytics performance. Bright and even lighting will provide the most reliable and accurate results. Performance may suffer in low-light scenes as well as those with direct sunlight or high contrast. People Analytics generally performs best with a minimum light level of 250 lux, which can be measured with a standard luxmeter.



Good lighting (500 lux on subject)



Poor lighting (50 lux on subject)

Privacy

Verkada's People Analytics solution is built with privacy and security in mind. The people search and history results are always kept within your organization and are securely encrypted at rest and in transit.

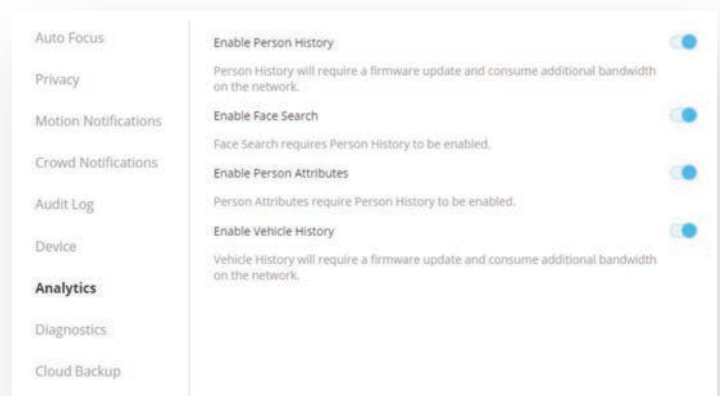
Verkada is committed to providing customers with full visibility into and control over their security systems. People Analytics features are disabled by default and must be enabled by an administrator with the appropriate role grants. Robust audit logs enable customers to track usage of and changes to their environment in order to ensure compliance with regulation and internal policies. If a more granular level of privacy is needed, cameras can also be configured with Privacy Zones to block certain regions of the scene from being recorded or used with People Analytics.

Enabling People Analytics Mode

All Verkada cameras perform basic people detection without biometrics out of the box. To enable People Analytics features that include biometrics, like Face Search, Person Attributes, Person History, and Face Search must be turned on by an Admin user.

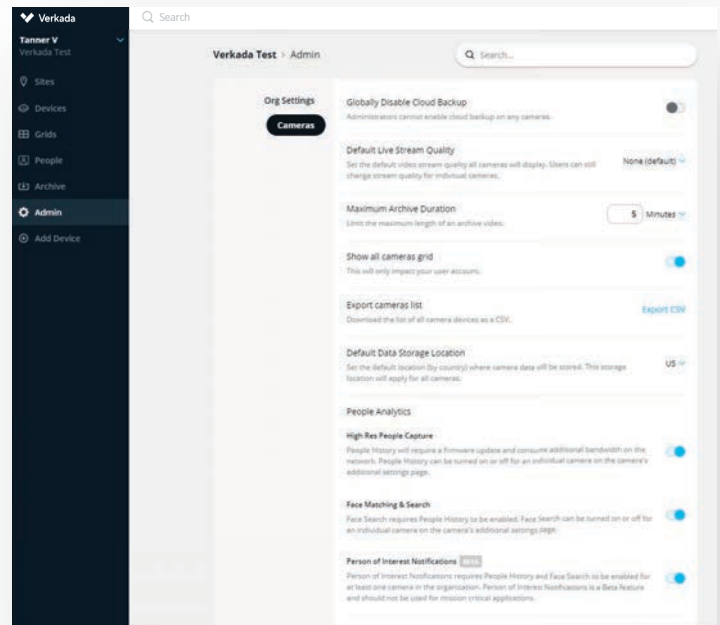
To enable people analytics on a per camera basis:

- Select a camera
- Navigate to the **Info** section
- Select **Settings**
- Choose the **Analytics** menu option
- Toggle the **Enable Person History** slider
- Toggle the **Face Search** slider



To enable people analytics on an org wide basis

- Select **Admin** on the sidebar
- Select **Cameras**
- Under People Analytics enable **High Res People Capture** and **Facial Recognition & Search**



Additional Questions?

Please contact your Verkada sales representative or email support@verkada.com.



About Verkada

Verkada brings the ease of use that consumer security solutions provide to the levels of scale and protection that businesses and organizations require.

By building high-end hardware on an intuitive, cloud-based software platform, modern enterprises are able to run safer, smarter buildings across all of their locations.

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