

ONCAM C-SERIES TECHNOLOGY FOCUS

C O M P R E S S I O N

StreamLite
StreamLite +

Oncam's image quality,
compressed without compromise.



INTRODUCTION

Once a security operator uses and/or records footage, they must consider how that video is being stored, since this is critical for dependability and cost.

Whenever an incident occurs, knowing that surveillance cameras can deliver the images needed is paramount: organizations cannot afford to miss out due to improperly stored footage or blurry images. Maintaining usable footage is critical for enhancing safety efforts and protecting people and property. However, storing and transmitting large amounts of high resolution data on a network can be costly.

Oncam's StreamLite technology lowers video bandwidth and storage needs by an average of **50% or more**, so users can maintain Oncam's market leading image quality without compromising on the details that matter.

In addition, in scenes with low motion StreamLite uses further techniques to reduce the bit rate of the encoded stream by over 90% with minimal additional impact on the final image quality compared to standard compression.

StreamLite is an advanced real time adaptive video encoder enhancement technology that is applied to both **H.264 and H.265**. It uses smart dynamic object & motion-based algorithms, to analyze the video stream on the fly and identify what's really important. The desired level of image quality defined by the user is then applied to the areas that matter while less important areas can be compressed to deliver significant bandwidth savings. StreamLite offers advanced users an industry leading level of control to tune the compression and analytics it uses for their specific environment.

For integrated VMS / NVR partners, a further 20% compression can be gained when StreamLite is enhanced to StreamLite+, incorporating the advanced capabilities of Oncam's **ColorMap compression**.

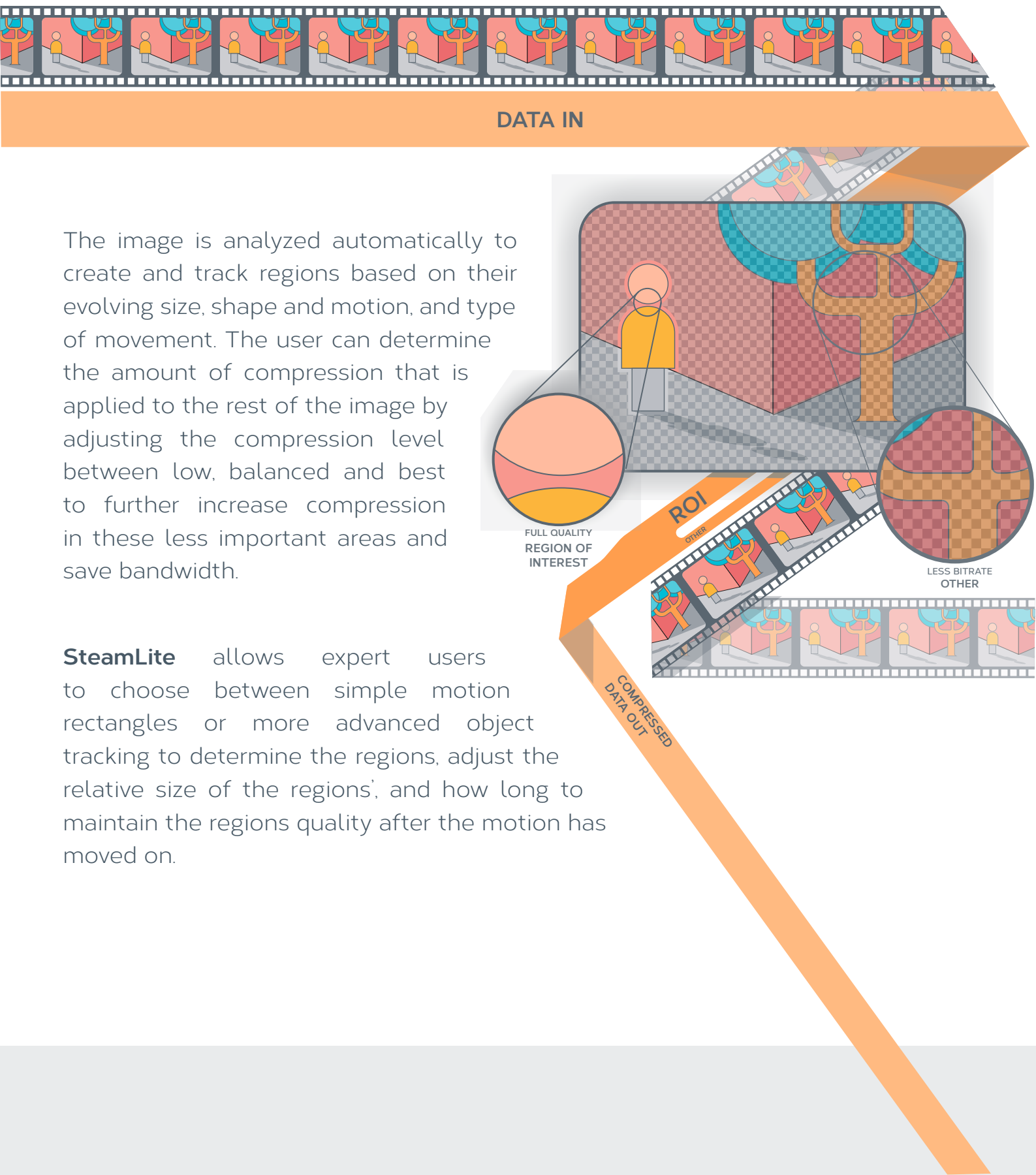
By acting only on unperceivable colors in the scene, it can lead to additional bandwidth savings on top of traditional compression technologies.

Designed to impact colors rather than motion, it provides results even in scenes with high activity and motion.

StreamLite Compression Options		
	StreamLite	StreamLite +
Dynamic ROI	YES	YES
Dynamic GOP	YES	YES
Dynamic FPS	YES	YES
ColorMap	NO	YES

DYNAMIC ROI

With **Dynamic Regions of Interest (ROI)**, only relevant parts of the scene are streamed and recorded at full quality while other areas are more compressed. This adaptive algorithm maintains the desired level of image quality inside the region of interest while reducing the quality outside of it.



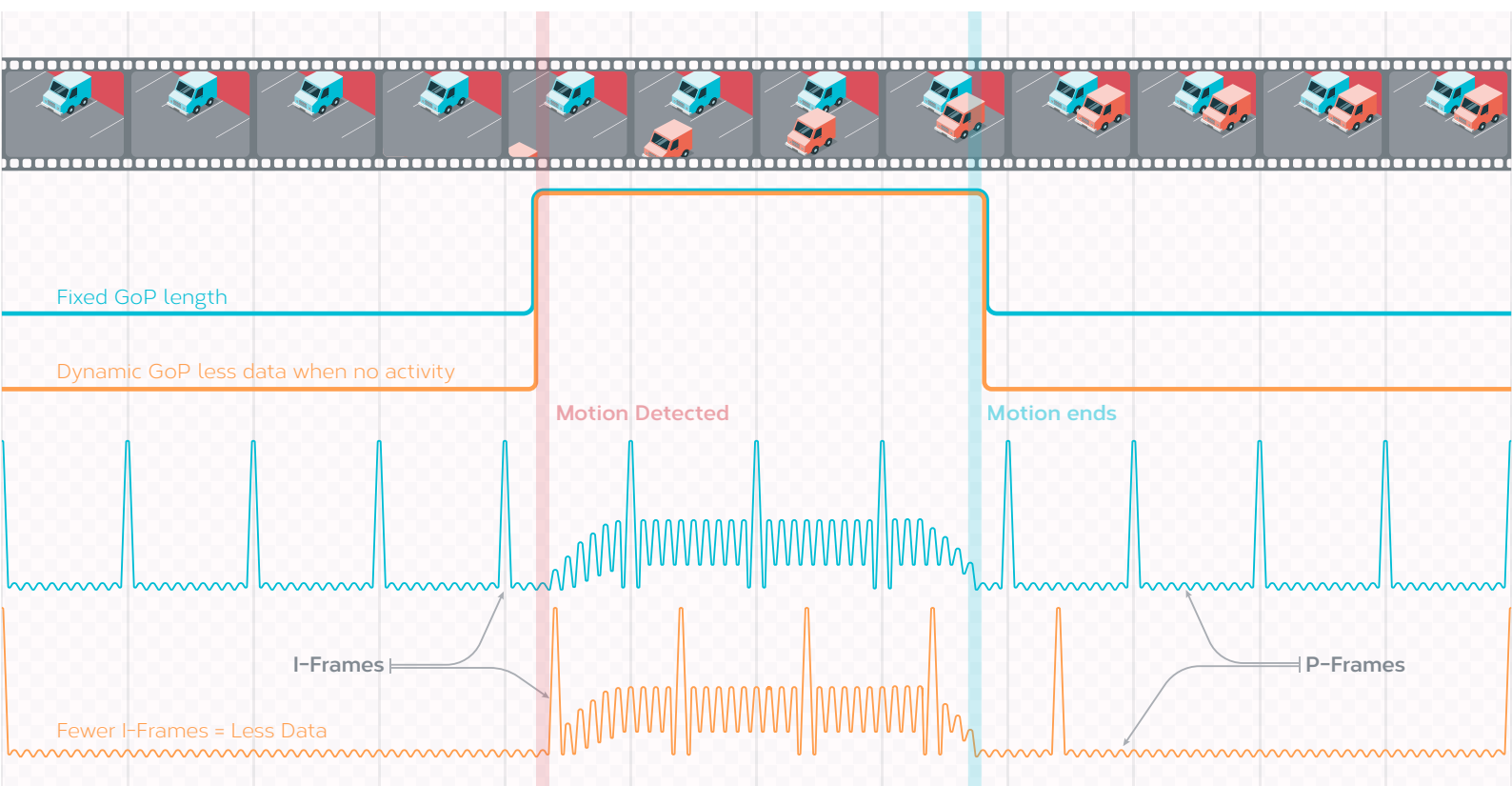
The image is analyzed automatically to create and track regions based on their evolving size, shape and motion, and type of movement. The user can determine the amount of compression that is applied to the rest of the image by adjusting the compression level between low, balanced and best to further increase compression in these less important areas and save bandwidth.

SteamLite allows expert users to choose between simple motion rectangles or more advanced object tracking to determine the regions, adjust the relative size of the regions, and how long to maintain the regions quality after the motion has moved on.

DYNAMIC GOP

The video stream (H.264 & H.265) consists of I-frames and P-frames. I-frames are large self-contained frames that contain all image data in one frame, while P-frames are smaller in size as they only contain motion information that has changed from previous frames.

A group of Pictures (GoP) is a set of one I-frame and the following P-frames – **Dynamic GoP** refers to varying the number of P-frames between each I-frame and thus the length of the GoP, streaming less I-frames uses less bandwidth.

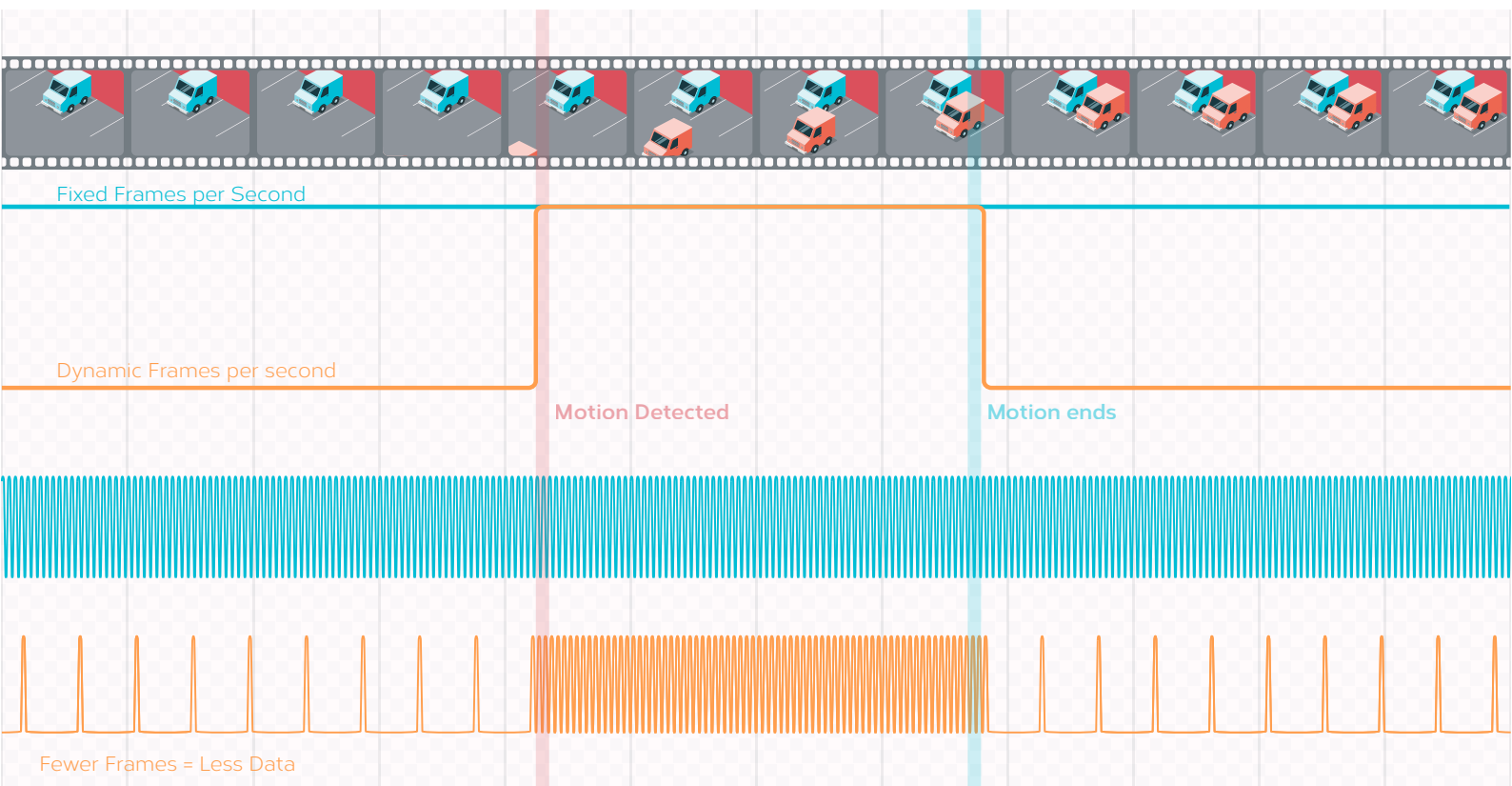


Oncam's Dynamic GoP will send fewer I-frames (up to a user defined limit) when there is little or no motion in the scene, as videos with limited motion require less I-frames to maintain the image clarity as each P-frame contains only minor changes. Dynamic GoP uses Oncam's advanced motion algorithms and gives the expert user the ability to choose between simple motion percentage, motion rectangles or tracked objects to determine when the motion threshold is passed and the GoP length is returned to normal. Returning to a short GoP length during activity worthy of investigation allows for smooth video investigation in the VMS.

DYNAMIC FPS

When there is little or no motion in the scene, streaming and storing data at full frame rate can often add little value.

Dynamic FPS (Frames per Second) reduces the frame rate down to a user defined minimum when there is little or no motion in the scene, to minimize the amount of data encoded and transmitted. The video stream is analyzed in real time at full frame rate with the unnecessary frames removed from the transmitted stream.

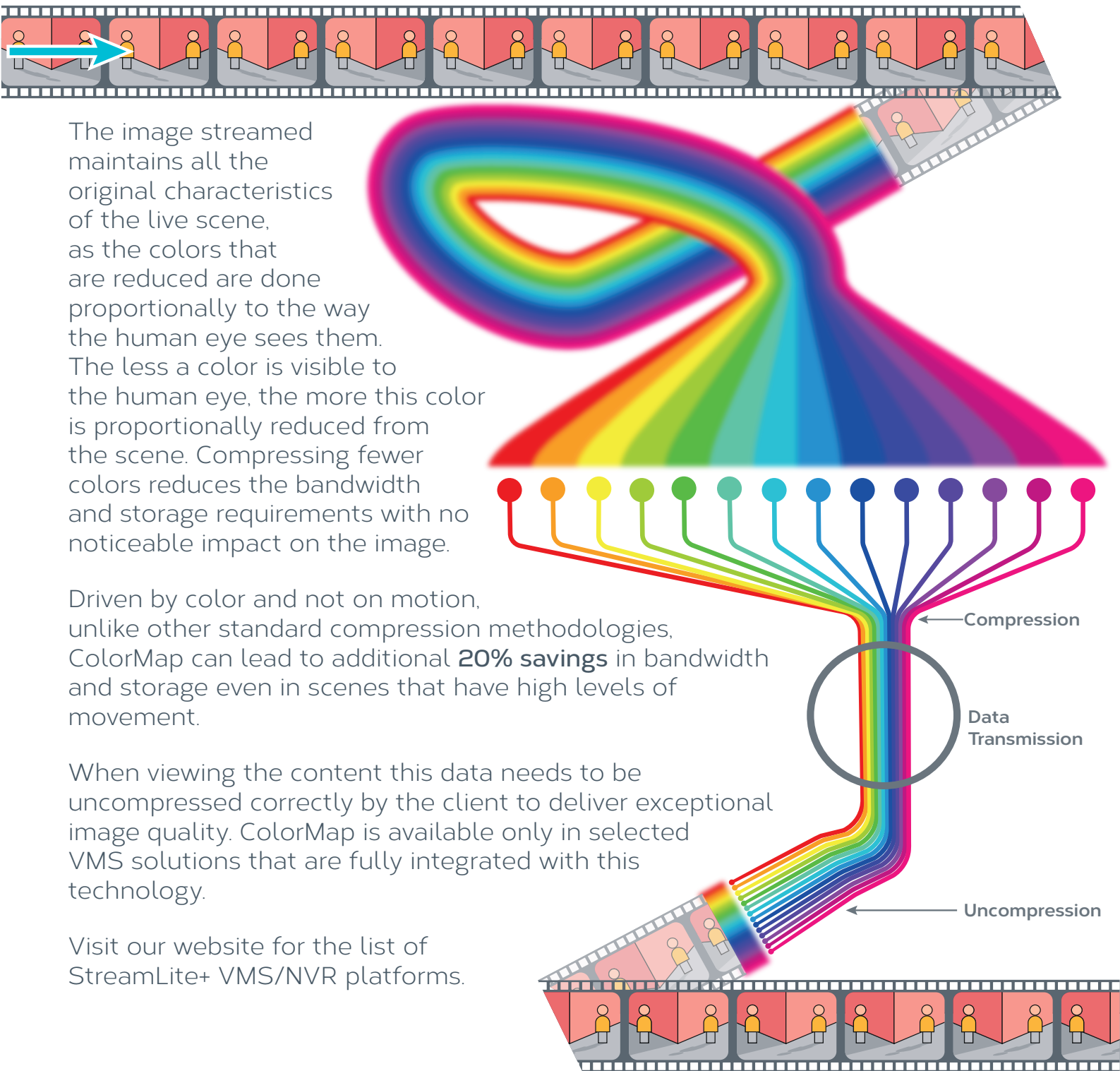


This adaptive algorithm varies the FPS based on the amount of motion in the scene and then instantly reverts to the original frame rate settings upon detecting motion, in order to ensure no loss of information.

Dynamic FPS uses Oncam's advanced motion algorithms but also gives the advanced user the ability to choose between simple motion percentage, motion rectangles or tracked objects to determine when the motion threshold is passed, and the FPS is returned to normal.

COLORMAP

The human eye perceives different colors as more and less important in the spectrum. **ColorMap** analyzes colors in the scene and compresses the hues in the color palette in an unnoticeable way, by reducing colors from a scene that are not a priority to the human eye.



ABOUT US

Oncam is a global independent manufacturer specialized in single-sensor 360-degree fisheye cameras and video surveillance technology. The company creates and deploys an open platform with specialized IP video and dewarping technology to create award-winning video-led solutions for stakeholders from C-suite to the security officer in multiple customer sectors. Oncam allows better decisions to be made based on real-world and digital data.

Oncam, founded in 2007, is part of ONVU Technologies Group, and is a leading innovator in 360-degree and panoramic IP video technologies globally. Oncam is headquartered in Switzerland and operates from regional hubs in the UK and US.

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