

## Solution Brief

AI-Enabled Video Editing  
Visual Computing

intel®

# Automate Video Editing Tasks with VEGAS Pro and 12<sup>th</sup> Gen Intel® Core™ Processors

Today's video-editing software—rich with special effects and professional-grade capabilities—places high demands on processors and includes many data-intensive operations. The latest version of VEGAS Pro tackles this challenge by automating and optimizing high-profile video editing tasks with OpenVINO™ toolkit.

“Some creative operations are virtually impossible to accomplish by hand. Style Transfer and Colorization are perfect examples. AI/ML enables these tasks to be done in a fraction of the time it would take to implement them manually, if manual implementation were even possible.”

– Sumit Rai,  
CPO Professional Video,  
MAGIX

The creative boom in video development worldwide and increasing access to streaming services have brought a new generation of creators into the fold and spurred the launch of new and exciting editing tools for this market. As reported by Globe Newswire, projections for the audio and video editing software market show a compound annual growth rate (CAGR) of 9 percent from 2021 through 2025, reaching USD 1.97 billion during the forecast period.<sup>1</sup>

Whether creating videos for YouTube, Facebook, Vimeo, or another hosting site, video makers face similar challenges. Video editing puts heavy processing demands on a workstation, particularly when using special effects and trying to achieve a distinctive look to stand out amidst other social media presences. Tools that optimize editing processes, automate tasks, streamline frequent activities, accelerate workloads, and deliver higher quality results are strongly favored by video professionals. The latest version of VEGAS Pro—a leading video production tool in use by over two-million users—was designed with these factors in mind.

Creative options are abundant when software is tuned to the most powerful features of the system hardware. Working collaboratively, Intel and MAGIX set out to harness the capabilities of a new processor architecture, using the AI/ML libraries and optimized algorithms available with the OpenVINO toolkit.

## AI-Powered Effects in VEGAS Pro Enabled by 12<sup>th</sup> Gen Intel Core Processors

Artificial intelligence and machine learning methods (AI/ML) used during the development of VEGAS Pro made it possible to enable advanced features that would have been too difficult and complex to apply manually. Access to these computationally demanding AI/ML methods through the OpenVINO toolkit unlocked the full potential of the hardware. 12<sup>th</sup> Gen Intel Core processors include embedded acceleration features called Intel Deep Learning Boost (Intel DL Boost). Intel DL Boost accelerates the performance of AI workloads using Vector Neural Network Instructions (VNNI), speeding up inference operations, such as image classification and object detection.

The hybrid processor architecture of 12<sup>th</sup> Gen Intel Core processors combines larger high-performance cores with smaller high-efficiency cores, a first in x86 design. With up to 16 cores available in some SKUs, intelligent selection of cores for different levels of tasks is handled automatically by the Intel Thread Director. These capabilities are at the heart of many of the stunning, AI-powered effects built into VEGAS Pro 19.



VEGAS Pro

OpenVINO™

## Top VEGAS Pro Features for Video Professionals

VEGAS Pro contains many components that take advantage of the 12<sup>th</sup> Gen Intel Core processor architecture, including built-in Intel DL Boost acceleration features. Among the AI-enabled video editing capabilities geared to professionals, colorization of black-and-white video segments yields impressive results, as shown in Figures 1 and 2.



Figure 1. Manual video colorization is a difficult process.



Figure 2. AI enables enhanced colorization operations.

Content upscaling is another feature that benefits professionals. Low-resolution footage can be intelligently scaled to integrate with higher resolution video formats, maintaining a high degree of visual fidelity.

VEGAS Pro also features an innovative style transfer function that models the look of famous artists, including Van Gogh and Picasso. This feature can be extended by providing an original painting that the program analyzes and saves as a unique style option.

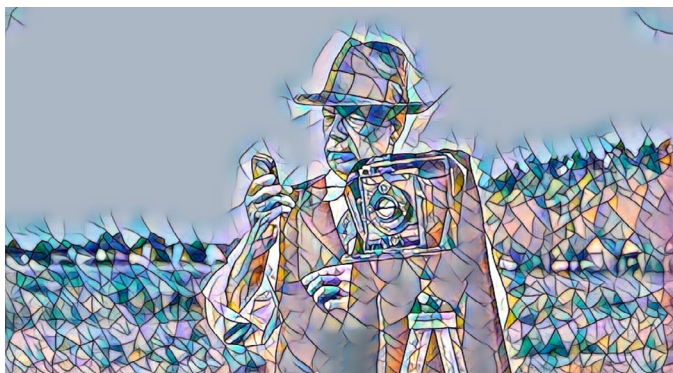


Figure 3. Style Transfer offers unique creative opportunities.

“The process we went through helped us to prepare for the arrival of the 12<sup>th</sup> Gen Intel Core processors. We now leverage the full native performance of this processor architecture, which would not be possible with any other framework other than OpenVINO. We gained maximum absolute performance on desktop SKUs and unprecedented performance and power efficiency ratio on mobile SKUs.”

– Sumit Rai, CPO Professional Video, MAGIX

Numerous processor-intensive features tap into the capabilities of the hybrid processor architecture. These features include adjustment tracks for applying effects to several video tracks at once, sophisticated motion tracking, video stabilization, and high-dynamic range (HDR) color management tools.

Professional formats supported include High Efficiency Video Coding (HEVC) 10-bit 4:2:2; REDCODE RAW; and Blackmagic RAW.

## Using OpenVINO to Harness AI

The Intel Distribution of OpenVINO Toolkit gives developers a broad collection of libraries and tools to efficiently build, optimize, and deploy high-performance deep learning inference anywhere, using a write-once model. MAGIX used OpenVINO as a powerful inferencing engine for VEGAS Pro, performing real-time image processing and many other operations to capitalize on the unique hybrid processor architecture provided by 12<sup>th</sup> Gen Intel Core processors.

Hagen Hirche, CTO of MAGIX, noted, “12<sup>th</sup> Gen Intel Core processors provide maximum performance of advanced image processing in VEGAS Pro 19. When it comes to demanding AI/ML workloads, this new architecture provides performance that exceeds that of any previous CPU generation. In particular, we see a huge performance gain for workloads such as motion tracking and video stabilization. To leverage the full potential of AI/ML processing on 12<sup>th</sup> Gen Intel Core processor architecture, OpenVINO helps developers optimize their models with the integrated tools, resulting in an excellent return on investment.”

## Next-Generation Video Editing

Co-engineering between Intel and MAGIX has resulted in an exceptional video editing suite well suited to the requirements of professional videographers. The AI-enabled effects hint at the opportunities available with advanced technologies and hybrid processor architectures. Sumit Rai said, “At MAGIX, we continue to look for optimizations that speed up the end users’ workflow and give us the ability to implement more creative tools and effects powered by AI/ML.”

## Learn more

### Intel® Distribution of OpenVINO™ toolkit

This toolkit gives developers easy-to-access libraries, frameworks, and pretrained AI models to speed up AI vision developments for faster time to market.

[Learn more >](#)

### MAGIX Vision

How can we make video and audio production better, easier, and more efficient? This is the question that drives each and every one within the MAGIX universe. All our team members are creators at heart—it is their passion. Our mission is to continuously push video and audio production to new levels. And it is with these visions in mind that we constantly strive to develop innovative technologies that empower our customers' creativity.

[MAGIX.com/us/company](https://www.magix.com/us/company)



1. *The Global Audio and Video Editing Software Market is expected to grow by \$1.97 bn during 2021-2025, progressing at a CAGR of about 9% during the forecast period.* Globe Newswire. July 2021. <https://www.globenewswire.com/news-release/2021/07/05/2257699/0/en/The-Global-Audio-and-Video-Editing-Software-Market-is-expected-to-grow-by-1-97-bn-during-2021-2025-progressing-at-a-CAGR-of-about-9-during-the-forecast-period.html>
2. *VIN Complete Forecast Highlights.* CISCO. 2021. [https://www.cisco.com/c/dam/m/en\\_us/solutions/service-provider/vni-forecast-highlights/pdf/Global\\_2021\\_Forecast\\_Highlights.pdf](https://www.cisco.com/c/dam/m/en_us/solutions/service-provider/vni-forecast-highlights/pdf/Global_2021_Forecast_Highlights.pdf)

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