

Safer and Smarter Environments with Intelligent Video Analysis

With Dell Technologies, NVIDIA and Deep Vision

66%

of the world population will be living in urban areas by 2050¹

500M

cameras worldwide are producing enormous amounts of data¹

4.3T

hours of video per year to be monetized by enterprise and utilized by governments to improve citizen's lives¹

When it comes to product search, it can quickly become difficult to find the right words. Visual search can make it easier and faster to find what you're looking for. Still endlessly scrolling? Personalize shopping for the right customers.

Not sure who the right customers are for your products and services? Gather demographics to get a better understanding needs, likes and dislikes to more quickly match them to the right products and services.

New artificial intelligence (AI) capabilities have opened a whole new world of possibilities for monitoring and analyzing video feeds in real time for intelligent insights that can help your organization improve customer service, efficiency, health and safety and much more.

However, operating systems at the edge, at scale, requires experience and deep application knowledge to determine the right balance of hardware, software and media processing algorithms. That's why Dell Technologies, in partnership with Deep Vision (an IntelliSite™ company) and NVIDIA®, is offering a Validated Design for AI that has been tuned by Dell Technologies engineering teams for intelligent video analytics at the edge.

It enables you to use AI to create safer and smarter work, play and living environments — sooner and with better results. The solution can be used for retail, healthcare, manufacturing, public safety and other industries that want to use video technologies to protect health and safety and improve customer experiences.

Validated Design for AI: Smarter and Safer Environments with Intelligent Video Analysis

This solution is based on Dell EMC PowerEdge servers with NVIDIA T4 GPUs and the Deep Vision AI platform. It's designed to perform video transcoding and deep learning inference within an edge-deployable solution that has been tested and validated by Dell Technologies engineering teams.

The design for Safer and Smarter Environments with Intelligent Video Analysis outlines the configuration options and details, possible use cases, technical considerations and deployment and management steps. It demonstrates how you can proceed directly to deploying a solution on a fast track schedule with lower risks and cost than do-it-yourself approaches.

¹ <https://www.deepvisionai.com/smart-city>

² The Wall Street Journal, "[A World With a Billion Cameras Watching You Is Just Around the Corner](#)," December 2019.

² Lily Robin et al., "[Public Surveillance Cameras and Crime](#)," Urban Institute, February 2020.

Solutions can be built on a wide choice of server options, providing the opportunity to balance compute, memory and GPU performance with costs. In our AI Innovation Lab, three configurations were configured incorporating the following hardware and software components, as shown in the table below.

PowerEdge servers	Networking	AI platform	AI modules
Choice of NGC-Ready for Edge Systems <ul style="list-style-type: none"> • R7515 • XE2420 • R740 • R7525 With NVIDIA T4 GPUs	PowerSwitch <ul style="list-style-type: none"> N3048ET-ON N3024EP-ON N3048EP-ON S3148P-ON 	Deep Vision deployed on <ul style="list-style-type: none"> • EGX™ software stack for edge AI workloads (Kubernetes®, Helm, Tiller and The NVIDIA GPU Operator) • NVIDIA Metropolis, (DeepStream SDK and TensorRT™ SDK) • NVIDIA CUDA® 	Each video stream can be configured to one or more Deep Vision module(s): <ul style="list-style-type: none"> • Facial recognition • Vehicle identification • People counting and demographics • People entering alert zones • Thermal analysis

Resources

[See the Validated Design](#)

Visit the [InfoHub](#) for guides, white papers and more.

Access worldwide [Customer Solution Centers](#) and the [HPC & AI Innovation Lab](#)

Learn more

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Dell Technologies, NVIDIA and Deep Vision

The combined products and solutions expertise of Dell Technologies, NVIDIA and Deep Vision provide the foundation you need for deploying AI for video analysis at the edge more easily and with less risk. Dell Technologies and NVIDIA have been working together closely for many years to target some of the world’s most complex visual computing problems. By adding Deep Vision intelligent image and video analysis, the combined solution facilitates new ways of understanding and analyzing imaging data.

To further speed deployment and reduce risk, Dell Technologies experts are available to help you design a solution for your specific needs. And [Dell Technologies Services](#) — ranging from consulting and education to deployment and support — are available when and where you need them.

