

Lenovo and NVIDIA AI solution for safer and more efficient manufacturing

LabVista makes manufacturing more efficient, by creating a safer environment for employees while optimizing the manufacturing process through quality control checks.

Summary

LabVista will enhance the current security systems of a manufacturing site, ensuring that no threat is left unchecked and that the existing technology can be used to its full potential. Not only will the analytics work cohesively with the existing security system, but the platform can also be adapted to work with established video analytics, therefore unifying all their security needs into one platform for easy accessibility.

LabVista will help clients extract meta-data from CCTVs and leverage this data to be relevant for their daily use and future planning for their sites. Through personalized analytics, customers will have a tool to ensure smooth day-to-day operations with the assistance of hardware provided by Lenovo and NVIDIA. Graymatics supports clients with a portfolio of over 100 analytics, standing out from any competitor, for offering a great range of solutions to help businesses and by being open to discuss analytics to meet clients' unique needs.

Challenge

The need to measure important facilities and infrastructure is more critical than ever. Conventional surveillance solutions depend on round-the-clock monitoring of the camera feeds by trained professionals. This is neither scalable nor foolproof, given the scarcity of trained manpower. Advances in camera capabilities coupled with image recognition technologies make it feasible to leverage technology to detect issues in designated locations. This significantly lowers the dependence on skilled manpower, the need for human monitoring 24x7, and enhances overall security efficiency.

Solution

Lenovo, in partnership with Graymatics and NVIDIA, offers a solution that leads the AI video analytics industry, leveraging the best and deepest of AI technologies for extracting deep insights and enabling compelling solutions around installed CCTV base. With over 100 analytical solutions, Graymatics has worked on various smart manufacturing projects with our LabVista solution with leading groups across the globe - such as Rolls Royce and many more.



Some of the key features of the solution include:

-  Intrusion detection
-  Process optimization
-  Quality control
-  Accident detection and prevention
-  Access control
-  Worker safety

Results

The solution is designed to optimize the manufacturing process by ensuring the proper use of manufacturing space and conducting quality control checks on products. This ensures that products comply with standards and are not missing any components.

The joint solution makes the manufacturing process safer for employees, and it achieves that by detecting workplace accidents such as smoke and fire, as well as employee issues and altercations. LabVista even detects accident-prone machinery and can alert and warn personnel when they are in the presence of such devices. The technology also works as an access control device by monitoring employee access through facial recognition and tracking the location of unauthorized personnel. This technology is hugely beneficial in ensuring that employee safety and workplace efficiency are top priorities in the manufacturing industry.

Validated Architecture

Graymatics Platform can be deployed on-premise, based on the requirement.

- Graymatics provides the hardware requirements.
- The OS Ubuntu is installed then Graymatics installs VISTA on the server (1 - 5 days installation window).
- Pricing for software licenses are based on the number of cameras and license duration.
- Further updates and applications can be acquired separately.

The solution is microservices-based architecture. It helps in deploying software components as a suite of independently deployable, modular services in which each service runs a unique process and communicates through a well-defined, lightweight mechanism to serve a G3C AI video analytics platform. As an NVIDIA-Certified System, the Lenovo ThinkSystem SE350 has been optimized for the best performance on GPU-accelerated workloads, as well as validated for key capabilities in manageability and security.

Design Components

	Servers	Storage	Networking	Accelerator	Software
Edge	Lenovo ThinkSystem SE350	2x 2TB NVMe	ThinkSystem 1GB 4 port LOM	NVIDIA A2 16GB PCIe Passive GPU	LabVista
Dif. sizes	Lenovo ThinkSystem SR630	2x 2.5" 2TB 7.2K SATA 6GB Hot Swap	ThinkSystem 1GB 4 port LOM	NVIDIA A2 16GB PCIe Passive GPU	LabVista

Resources

- [Explore the Lenovo HPC and AI Innovation and Briefing Center](#)
- [Lenovo Validated Design for AI Infrastructure on ThinkSystem Servers](#)
- [Graymatics Website](#)
- [Lenovo and NVIDIA Alliance](#)

Why Lenovo

Focused on a bold vision to deliver smarter technology for all, Lenovo is developing world-changing technologies that create a more inclusive, trustworthy, and sustainable digital society. By designing, engineering and building the world's most complete portfolio of smart devices and infrastructure, we are also leading an Intelligent Transformation – to create better experiences and opportunities for millions of customers around the world.

Lenovo AI Innovators

Partner Ecosystem

GRAYMATICS



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