World's Leading Electronics Manufacturers Adopt NVIDIA Generative AI and Omniverse to Digitalize State-of-the-Art Factories

Foxconn Industrial Internet, Innodisk, Pegatron, Quanta, Wistron Building Virtual Factories, Simulating Robotics, Automating Inspections With NVIDIA Omniverse, Isaac Sim and Metropolis

COMPUTEX—NVIDIA today announced that electronics manufacturers worldwide are advancing their industrial digitalization efforts using a new, comprehensive reference workflow that combines NVIDIA technologies for generative AI, 3D collaboration, simulation and autonomous machines.

Supported by an expansive partner network, the workflow helps manufacturers plan, build, operate and optimize their factories with an array of NVIDIA technologies. These include: NVIDIA Omniverse™, which connects top computer-aided design apps, as well as APIs and cutting-edge frameworks for generative AI; the NVIDIA Isaac Sim™ application for simulating and testing robots; and the NVIDIA Metropolis vision AI framework, now enabled for automated optical inspection.

In his keynote address at COMPUTEX, NVIDIA founder and CEO Jensen Huang showcased a demo of an entirely digitalized smart factory — an industry first for electronics makers.

"The world's largest industries make physical things. Building them digitally first can save enormous costs," said Huang. "NVIDIA makes it easy for electronics makers to build and operate virtual factories, digitalize their manufacturing and inspection workflows, and greatly improve quality and safety while reducing costly last-minute surprises and delays."

World's Leading Electronics Makers Embrace Digitalization With NVIDIA
The new reference workflow is being used by Foxconn Industrial Internet, Innodisk, Pegatron, Quanta and Wistron as they work to optimize their workcell and assembly line operations while lowering production costs.

Foxconn Industrial Internet, a service arm of the world's largest technology manufacturer, is working with NVIDIA Metropolis ecosystem partners to automate significant portions of its circuit-board quality-assurance inspection points.

"NVIDIA's strength in AI and its strong ecosystem of application partners are providing Foxconn Industrial Internet with a path to significant operational efficiency gains," said Tai-Yu Chou, CTO at Foxconn Industrial Internet. "The combination of NVIDIA Metropolis for factories and Isaac Sim for robotics is helping us realize industrial automation goals faster than ever imagined."

Innodisk is deploying NVIDIA Metropolis to automate optical inspection processes on its production lines, saving cost and improving production efficiency.

Pegatron, a leading electronics manufacturer and service provider, is using the reference workflow to digitalize its circuit-board factories with simulation, robotics and automated production inspection.

"NVIDIA Omniverse, Isaac Sim and Metropolis give us the ability to accomplish AI training, enhance factory workflows and run numerous simulations in the virtual world before we commit to an idea in the physical world," said Andrew Hsiao, associate vice president of the software R&D division at Pegatron. "Digitalizing our entire factory enables us to simulate the robotics and automation pipeline from end to end, and lets us try things out in a simulated environment, which saves time and greatly reduces costs."

Quanta, a major manufacturer of laptops and other electronic hardware, is using AI robots from its subsidiary Techman Robot to inspect the quality of manufactured products. Techman is leveraging Isaac Sim to simulate, test and optimize its state-of-the-art collaborative robots while using NVIDIA AI and GPUs for inference on the robots themselves.

Wistron, one of the world's largest suppliers of information and communications products, is tapping NVIDIA Omniverse to build digital twins of its automated receiving lines and operations buildings using inputs from Autodesk AutoCAD, Autodesk Revit and FlexSim. Wistron also uses NVIDIA Metropolis to automate portions of its circuit-board optical inspection using AI-enabled computer vision.

Industrial Ecosystem Swarms NVIDIA Technologies
NVIDIA is working with several leading manufacturing-tools and service providers to build a full-stack, single architecture with each at every workflow level.

At the systems level, NVIDIA IGX Orin™ provides an all-in-one edge AI platform, combining industrial-grade hardware with enterprise-level software and support. IGX meets the unique durability and low-power-consumption requirements of edge

computing, while delivering the high performance needed for developing and running AI applications.

Manufacturer partners ADLINK, Advantech, Aetina, Dedicated Computing, Onyx, Prodrive Technologies and Yuan are developing IGX-powered systems to serve the industrial and medical markets. These systems allow the benefits of digitalization to be realized during physical production.

At the platform level, Omniverse connects the world's leading 3D, simulation and generative AI providers. The open development platform, for example, lets teams build interoperability between their favorite applications — such as those from Adobe, Autodesk and Siemens.

A demo in the COMPUTEX keynote showcased Omniverse connected to various AI assistants, such as ChatGPT and Blender GPT, to simplify 3D workflows and Python-application development. NVIDIA Omniverse Cloud, a platform-as-a-service now available on Microsoft Azure, gives enterprise customers access to the full-stack suite of Omniverse software applications, and NVIDIA OVX infrastructure, with the scale and security of Azure cloud services.

And at the application level, Isaac Sim allows companies to build and optimally deploy AI-based robots. Manufacturers can work with industrial automation company READY Robotics to program their robot tasks in simulation before deploying in the real world. Simulation technology partners like SoftServe and FS Studio shorten development timelines for customers by building digital twin-based simulations.

Also at the application level, NVIDIA Metropolis includes a collection of factory-automation AI workflows that enable industrial solution providers and manufacturers to develop, deploy and manage customized quality-control solutions that save cost and improve production throughput. A large partner ecosystem — including ADLINK, Aetina, Deloitte, Quantiphi and Siemens — is helping to bring these solutions to market.

Learn more about Omniverse, Isaac Sim and Metropolis at COMPUTEX.

About NVIDIA
Since its founding in 1993, NVIDIA (NASDAQ: NVDA) has been a pioneer in accelerated computing. The company's invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined computer graphics, ignited the era of modern AI and is fueling the creation of the industrial metaverse. NVIDIA is now a full-stack computing company with data-center-scale offerings that are reshaping industry. More information at https://nvidianews.nvidia.com/

Certain statements in this press release including, but not limited to, statements as to: the benefits, impact and availability of NVIDIA's products, services and technologies, including NVIDIA generative AI, NVIDIA Omniverse, NVIDIA Isaac Sim, NVIDIA Metropolis, NVIDIA IGX Orin, NVIDIA Omniverse Cloud and NVIDIA OVX; leading electronics manufacturers worldwide adopting NVIDIA generative AI and Omniverse to digitalize state-of-the-art factories and advance their industrial digitalization efforts; the world's largest industries making physical things and building them digitally first saving enormous costs; NVIDIA making it easy for electronics makers to build and operate virtual factories, digitalize their manufacturing and inspection workflows, and greatly improve quality and safety while reducing costly last-minute surprises and delays; the world's leading electronics makers embracing digitalization with NVIDIA; third parties using our technologies and the impact thereof; NVIDIA working with several leading manufacturing-tools and service providers to build a full-stack, single architecture with each at every workflow level; and the partner ecosystem helping to bring our solutions to market are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; NVIDIA's reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to NVIDIA's existing product and technologies; market acceptance of NVIDIA's products or its partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of NVIDIA's products or technologies when integrated into systems; as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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