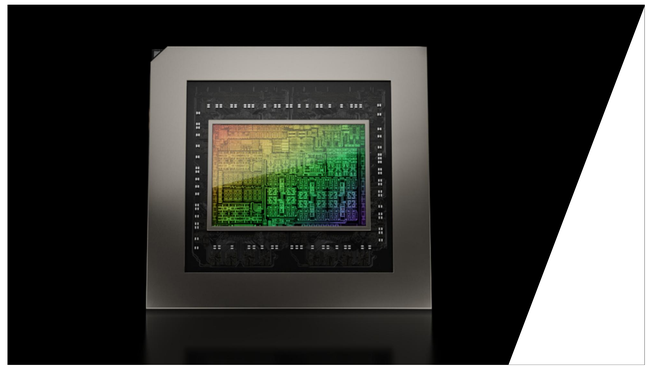
DRIVE AGX Thor Development Platform

June 2025

NVIDIA DRIVE End-to-End Solutions for Autonomous Vehicles

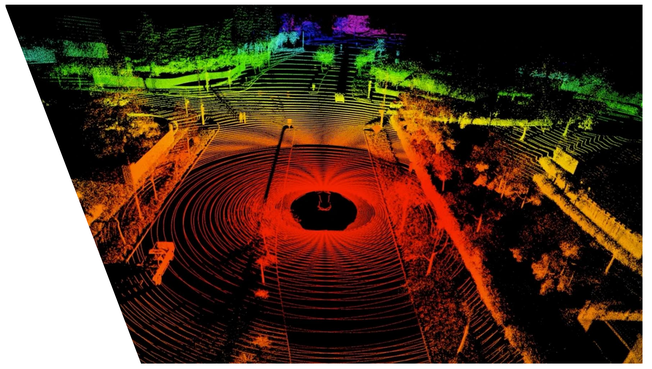


DRIVE Thor SoC

Most advanced Automotive SoC based on Blackwell Architecture

DRIVE AGX Thor DevKit

High-Performance Automotive Software Development Platform

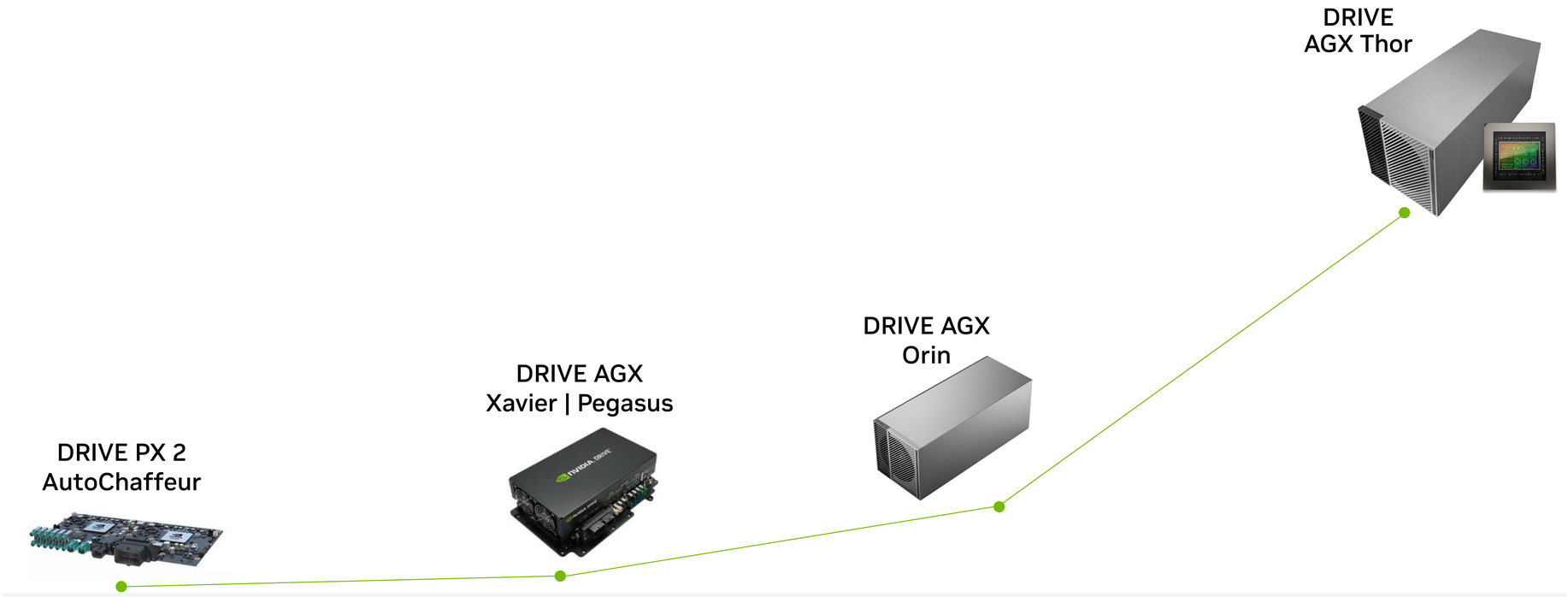


DriveOS

AV Software Foundation OS, CUDA & DriveWorks

DRIVE DevKit Roadmap

Leaps of performance…



2016

24 TOPS

2x Parker SoCs w/ Pascal iGPU

+ 2x dGPUs

2018

60 TOPS | 320 TOPS

2x Xavier SoCs w/ Volta iGPU

| +2x dGPUs

2021

254 TOPS

1x Orin-X SoC w/ Ampere iGPU

2024

1000 TOPS

1x Thor-X SoC w/ Blackwell iGPU

NVIDIA DRIVE Thor-X SoC

Autonomous driving and robotics processor optimized for generative AI

Blackwell GPU with Generative AI Engine

- FP32, 16, 8, and now 4-bit floating point AI support
- Perform quantization aware training and deploy with 4-bit computation
- Up to 1000 INT8 TOPS raw deep learning performance.
- Up to 2000 FP4 TFLOPS. >20x peak Floating Point throughput vs Orin, enabling high throughput LLM inference

High Performance ARM Neoverse V3AE CPU

- High Single thread performance necessary for decision and control
- 2.3x performance SPECrate®2017_int_base vs Orin (est.)

Automotive Hardware And Software Development Kit

Open & scalable platform purpose-built for automotive

DRIVE AGX Thor DevKit

DriveOS – Automotive System Software
Auto-grade Silicon & IO
Up to 1000 INT8 TOPS | 350W

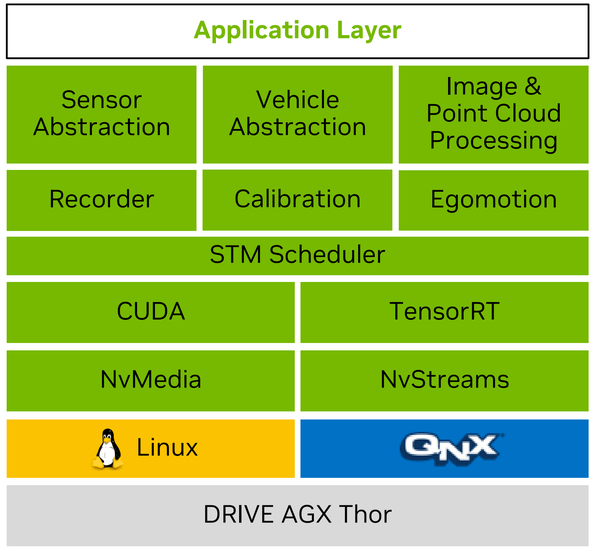
General Access target Q3’2025

Rich IO for Development, Sensors and Vehicle Bus

- Vehicle Bus, GMSL 2 & 3, Ethernet, PCIe, USB, DisplayPort
- ISO 26262 compliant sensors supported via partners

Software Included

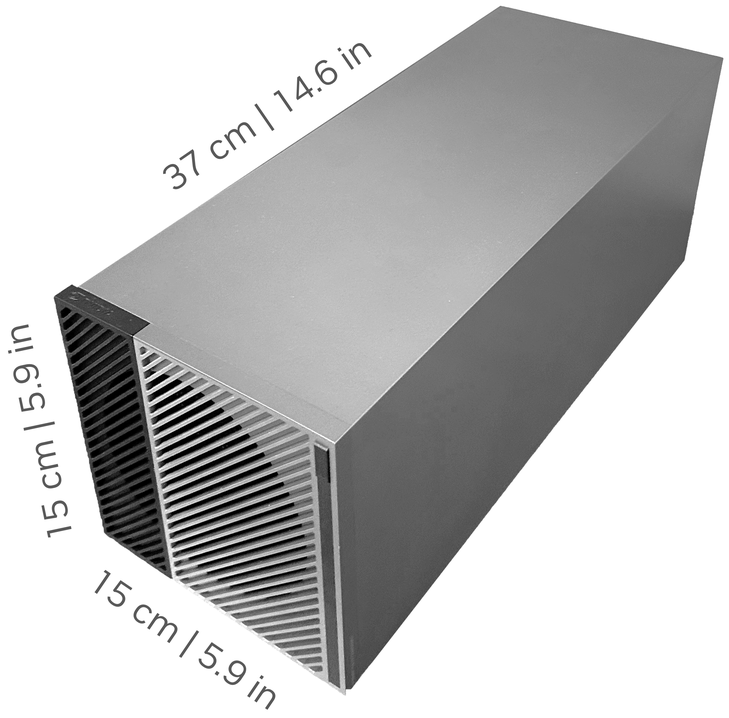
- DriveOS with DriveWorks
- Middleware, tools and algorithms
- ISO 26262 safety certifiable DriveOS QNX, drivers, and platform APIs



Safe and Performant Compute Platform

- DRIVE Thor SoC with CUDA Tensor Core GPU and Neoverse V3AE ARM64 CPU
- Architected for safety, production boards available via Tier1s

Spec Overview



System weight: ~6.2 kg | ~14 lbs

Components		
Thor SoC	GPU	Integrated Blackwell CUDA Tensor Core GPU
	Accelerators	Programmable Vision Accelerator (PVA) Optical Flow Accelerator (OFA)
	CPU	ARM Neoverse V3AE. Arm64 (v9.2-A), SMP
Safety MCU		Renesas U2A16
Storage		256 GB UFS
Power Supply		Built-in
Vehicle Wiring Harness		Additional Accessory

Performance	
DL Inference	Up to 1000 INT8 TOPS | 2000 FP4 FLOPS
Memory Bandwidth	273 GB/s
System RAM	64 GB LPDDR5X at 3200 MHz

Operating Parameters	
Temperature	0 to 35°C (SKU10) 0 to 45°C (SKU12)
Power TDP	350W
Voltage	9V to 16V (Static), 7V to 32V (Transient)

Bench and In-Vehicle DevKit

Bench DevKit
SKU10

AC Power Supply in Chassis
110 ~ 240V input

Power cords and Vehicle Harnesses available separately
for CAN, Audio, etc. bench development

In-Vehicle DevKit
SKU12

DC Power Connector
9 ~ 16V input
Direct supply from Vehicle Main battery

Vehicle Harnesses and Mounting Plate included for in-vehicle installation

Cables, Splitters and Adapters

To learn more see DRIVE AGX Autonomous Vehicle Development Platform

Two DRIVE AGX Thor DevKits will be available for order

- **Bench DevKit (SKU10)** is for lab use with built-in power supply for AC; regional power cords are available for purchase separately
- **In-Vehicle DevKit (SKU12)** is for installation in the vehicle; DevKit comes with DC power connector and vehicle harnesses
- Specific Accessories are available for purchase separately (power cords, vehicle harness, 10 GbE NIC adapter)

Pictures shown are not the final product!

Auto-Grade and Development Interfaces

Ethernet	2x	100/1000/10G-T1	Quad H-MTD[1]
	3x	100/1000/10G-T1	6-port H-MTD[1]
Camera	3x	GMSL2 MAX96724	Quad Fakra[1]
	1x	GMSL2 MAX96712	Quad Fakra[1]
	1x	GMSL3 MAX96792[3]	Quad Fakra[1]
USB	1x	USB 3.2 (U1 for data)	USB-C
	1x	USB 3.2 (U2 for flashing)	USB-C
	1x	USB 2.0 (U3 for data)	USB-C
	1x	USB 2.0 (Debug)	USB-C
Display	2x	GMSL3 MAX96851/96861	Quad Fakra[1]
	1x	Display out up to 4K@60Hz	DisplayPort
PCIe	2x 1x	PCIe x2 or PCIe x 4	MiniSAS HD
Wiring Harness	2x	4x CAN, 1x FlexRay, 1x LIN, 2+1x A2B, 2x USS	Vehicle Harness Connector[1,2]

[1]Auto-grade connectors [2]Vehicle Harness Connector not compatible with DRIVE AGX Orin DevKit
[3]Only 2 of 4 ports available

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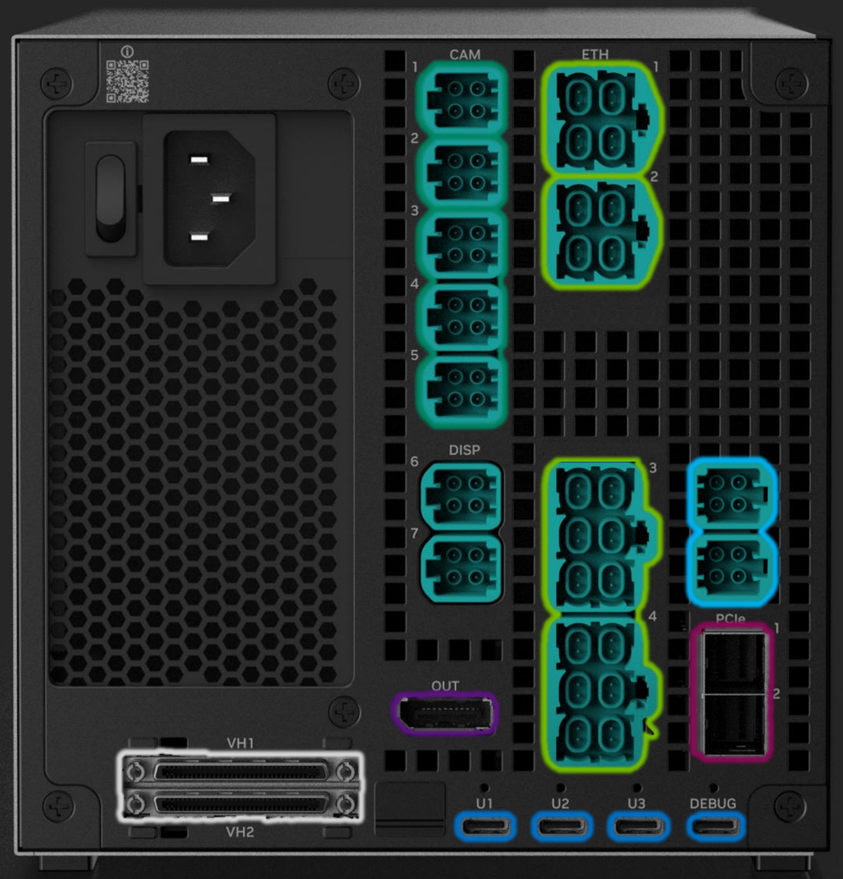

Frequently Asked Questions

Questions	Answer
Can I still purchase a DRIVE AGX Orin DevKit?	Yes, DRIVE AGX Orin DevKits will still be available for purchase. See DRIVE AGX Autonomous Vehicle Development Platform | NVIDIA Developer for more details.
When can I purchase a DRIVE AGX Thor DevKit?	DRIVE AGX Thor Early Access DevKits, SKU10 for bench is available now for approved Customers going to production on Thor. DRIVE AGX Thor P-Release / General Access DevKits, SKU10 for bench and SKU12 for in-vehicle, will be available in Q3'2025.
Where can I purchase a DRIVE AGX Thor DevKit?	DRIVE AGX Thor DevKits will be available for purchase via NVIDIA authorized Distributors (e.g., Arrow, EDOM, Leadtek, MDS, Macnica, Nexty).
What is the difference between DRIVE AGX Thor Early Access and General Access DevKits?	Early Access DevKits are subject to change. They have early Thor-U (vs. Thor-X) SoC. Some I/Os (e.g., networking card) will change. Other hardware will be updated to final versions. Performance will differ from final DevKits. P-Release DevKits will use Thor-X SoC. General Access DevKits will use Thor-X SoC and be commercially certified for specific countries and regions.
Will I be able to purchase a Vehicle Accessory Kit (that was available for DRIVE AGX Orin) for DRIVE AGX Thor SKU10 for bench?	No, we will not separately sell a Vehicle Accessory Kit. DRIVE AGX Thor SKU12 for in-vehicle should be used in the vehicle.