VELAGPU
POWERED BY ADVANTECH

GPU-ACCELERATED INDUSTRIAL COMPUTING

GPU-Accelerated Platforms for AI, Video & Multi-Display Workloads

Configurable industrial computing with dedicated GPU acceleration for AI, machine vision, video and graphics-intensive workloads. Built around Advantech hardware, configured to your requirements and supported by Impulse Embedded.



AI Training & AI Inference • Machine Vision • Video Processing • Multi-Display

Available in Tower & 4U chassis | www.impulse-embedded.co.uk

WHY CHOOSE THIS PLATFORM

Industrial Foundations, Room to Grow

VELA GPU is built around the Advantech AIMB-788 industrial ATX motherboard, selected for its expansion, connectivity and long-term platform flexibility. Supporting Bartlett Lake and 12th–14th Gen Intel Core processors, alongside NVIDIA RTX PRO graphics, it provides a dependable foundation that can be configured around demanding AI, vision and GPU-accelerated applications.

1

GPU Acceleration, Configured for the Workload

NVIDIA RTX PRO graphics provide the parallel processing required for AI, machine vision, video processing and real-time visualisation. RTX PRO 4000 Blackwell is our stocked configuration, with alternative GPU options available to suit more demanding workloads.

2

Processor Flexibility & Supply Continuity

Support for Bartlett Lake and 12th to 14th Gen Intel Core processors provides CPU flexibility without changing the underlying platform, helping maintain performance, software and driver compatibility over the system lifecycle.

3

Memory Headroom for Complex Workloads

Four DDR4 3200 DIMM slots support up to 128GB of memory, providing capacity for larger datasets, concurrent applications and memory-intensive AI and vision workloads.

4

Expansion Beyond the GPU

The GPU occupies the primary PCIe Gen4 x16 interface, while additional PCIe and PCI expansion can support capture cards, high-speed networking, storage controllers and specialist industrial I/O. Available expansion depends on the GPU and chassis configuration.

5

Storage, Security & Remote Management

High-speed NVMe and configurable SATA storage provide flexibility around application and data requirements, while optional TPM 2.0 and Intel vPro/AMT capabilities support platform security and remote management.

Built with in-stock components for quick dispatch and long-term support. Backed by a 3-year return-to-base warranty.

DESIGNED FOR

GPU Performance, Built for Industrial Deployment

VELA GPU combines dedicated GPU acceleration with industrial-grade processing, memory, storage and expansion, providing a configurable platform for demanding AI, machine vision, video and visual computing workloads.

AI Training

GPU acceleration, scalable memory and fast storage for AI development, model training and computer vision workloads.

AI Inference

GPU acceleration, memory and fast storage for AI development, model training and computer vision workloads.

Machine Vision

Fast image processing and AI inference for defect detection, object classification and vision-based automation.

Video Processing

GPU acceleration for real-time video pipelines, live feeds and high-resolution image processing.

Automated Inspection

Combines machine vision and AI inference for consistent, high-speed inspection on production lines.

Video Encoding & Compression

Accelerated encoding and compression for transcoding, streaming, recording and video archive workflows.

Industrial Analytics

Processing and memory capacity for analysing large volumes of production, sensor and operational data.

Real-time Visualisation

High-resolution graphics for simulation, monitoring, control-room displays and multi-display environments.

CHOOSE YOUR CHASSIS

Configured Around Your Application



4U Rackmount

Designed for demanding rackmount deployments where expansion, airflow and storage are key.



Tower

GPU performance in a standalone form factor: a flexible platform for AI training, visualisation and video processing.

What the platform can support

- Bartlett Lake and 12th to 14th Gen Intel Core i7 / i9 processors
- Up to 128GB DDR4 3200 memory
- RTX PRO 4000 Blackwell, with alternative GPU options available
- PCIe Gen4 x16 plus additional PCIe and PCI expansion
- NVMe and configurable SATA storage

Let's Configure Your VELA GPU System

Speak to our team about your application, expansion requirements, software setup or customisation needs. We can help you choose a proven configuration or create something more bespoke.

Call: +44 (0)1782 337 800 | Email: sales@impulse-embedded.co.uk