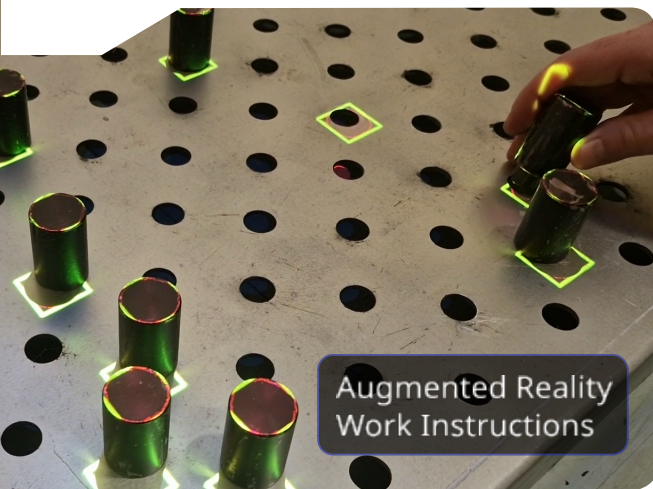


A.I. Powered Guidance & Verification

Operator Augmentation

The automation of mass production has come a long way in the last 50 years, while the tools to help manual operations have barely changed at all.

InspecVision's Guidance & Verification (GAV) system was designed to address this problem.



The GAV system can see in 2D, 3D & 4D.

By watching an operator perform a task it can learn each step and create work instructions.

This trained program can then be saved for reuse.

When an operator needs to repeat the task the system will provide guidance by projecting Augmented Reality (AR) work instructions along with a time lapse video of each step onto the work area.

Because the system has scanned each step in 3D it can verify that the operator has performed each step correctly. Each task repetition can be recorded in 2D, 3D & 4D for unprecedented traceability.

Applications

Any task with a 3D footprint can be used to train the GAV system, allowing it to guide and verify subsequent manual operations. Examples include welding, PCBs, sheet metal inserts, wiring looms, and general assembly tasks.

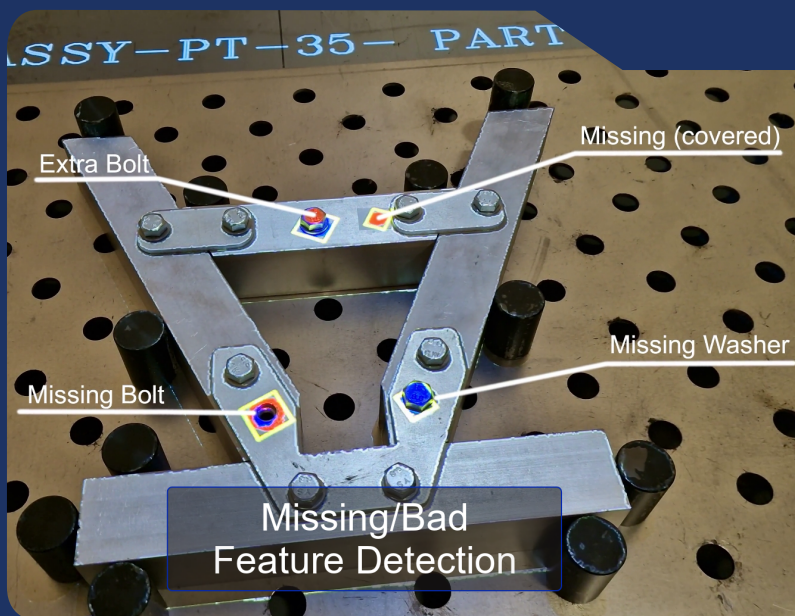
Manual & Robotic Welding:

The GAV system can guide and verify the welding jig/fixture, as well as the shape, position, and orientation of sub-components. It also ensures accurate welding locations and bead depth.

Sheet Metal Inserts:

The GAV system can validate the part and ensure that the proper inserts are placed in the correct locations.

Electrical Assembly: Verification of mounting plate, part locations and type.



A.I. Powered Guidance & Verification

Usage

The GAV system can be installed above or positioned to view a workstation, area, or table to guide and verify tasks performed within that space. For applications requiring portability, such as aircraft interior assembly, the system can be mounted on a tripod.



The system is a self-contained unit that houses the projector, camera, and PC, with dedicated ports for power, network, HDMI, and USB connections.

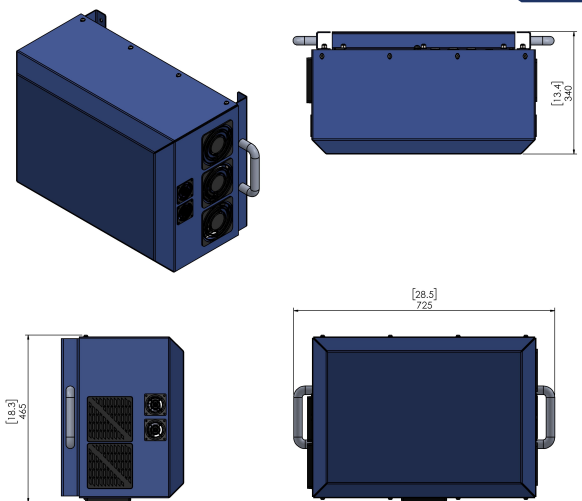
Designed for ease of use, most operations and interactions are controlled via the included foot pedal. A keyboard, monitor, and mouse can assist with programming, though a tablet with wireless connectivity to the PC can also be used.

While the system can be trained using CAD data, this is not the recommended method of operation.

Specifications

Specification and scope of supply of the GAV System

Description	Specification/scope of supply
Max Single scan area ^{18.2}	1800mm (X) x 1100mm (Y) to 500mm (X) x 310mm (Y) Depending on Factory Setup
Max Single scan depth ^{1,2,8,3}	1000mm (Z) to 300mm (Z) Depending on Factory Setup
Volumetric accuracy**	0.2mm to 0.075mm Depending on Factory Setup of Scanning Area
Minimum Feature Size	2mm to 0.5mm depending on Factory Setup of Scanning Area
Scanning speed***	up to 1,000,000 points per second.
Scanning time***	< 5 seconds for typical part
Processing time***	< 5 seconds
Suggested Peripheral equipment	Keyboard, Monitor & Mouse or Tablet
Supplied Operating System	Windows 11 64bit
Supplied CPU	I7 8 Core or better.
Supplied RAM	16Gig or better
GAV Software:	Included as standard.
Calibration Kit	Included as standard, retro-reflective reference markers mounted, on to steel plate with repositioning frame
GAV Construction	Powder coated sheet metal enclosure.
GAV enclosure	Powder coated sheet metal enclosure.
Data cables	HDMI, Network and USB
Power supply	110-240V 50/60Hz
Power consumption	2 Amp maximum at 230 Volt, 4 Amp max at 110 Volt.
EC directives	Compliant with Machinery, Low voltage and VEMC Directives.
Ambient operating conditions	5-35 degree C
Available configurations	Scanning Area from 0.5 to 1.8m wide. Mounting bracket or Tripod on request.
Approx Footprint width/ depth/ height/ weight	725mm (W) x 340mm (D) x 465mm (H)
Approx Weight	25kgs
Standard packing	Export packing suitable for air freight.
Warranty	One year limited warranty on hardware and software
Optional extended warranty	Two or three year extended warranty (requires software upgrade option)
Software support option	Annual support contract provides free software upgrades



Dimensions in brackets are in inches