

VIRTEK



VIRTEK - Corporate Presentation

2022



INTRODUCTION



Worldwide market leader in 3D vision and laser projection solutions providing hardware and software solutions for **Alignment, Inspection, and Quality Control** applications to optimize manufacturing processes and **increase efficiency** in various industries: **aerospace, automotive, construction, fabrication, wind, etc.**



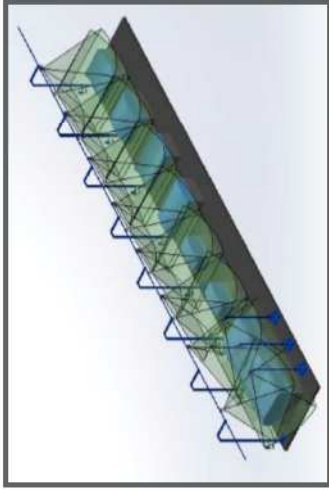
Pioneer in leading
laser technology



Canadian HQ
Waterloo, Ontario
High Tech Region



Global Sales &
Service Teams

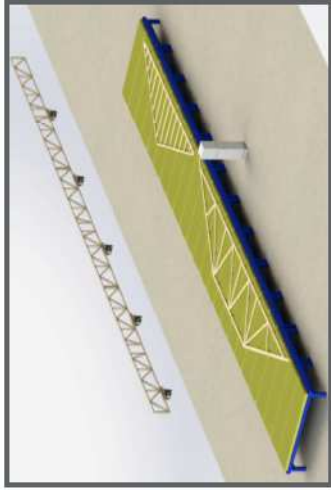


Aerospace fuselage assembly and composite layout stations.

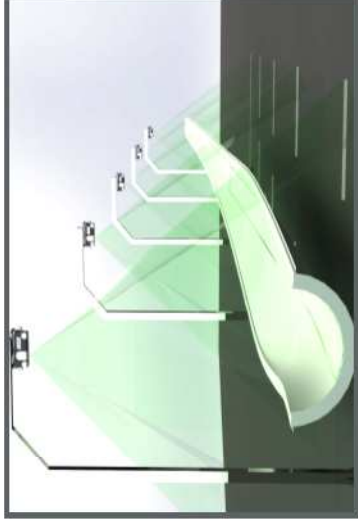
*We Help Make the Manufacturing Process More Productive by **Eliminating** Manual Measurement, Quality Control Steps, and Physical Templates.*



Workcell laser projection system for **Industrial Fabrication** and small **Composite Parts**



Virtek projectors in the “**Truss World**” on top of assembly table with integrated wood saw. Typically 5 projectors per table.



Typical **Wind blade** composite layout installation with up to 16 projectors per mold



Automotive paint cell showing projection of paint flaws, and rework. 6 projectors per rework cell.

1 Increase Efficiency



Time Savings



Multi-Tasking

2 Quick Return on Investment



Lower-Costs



Accuracy

3 Narrow Skills Gap



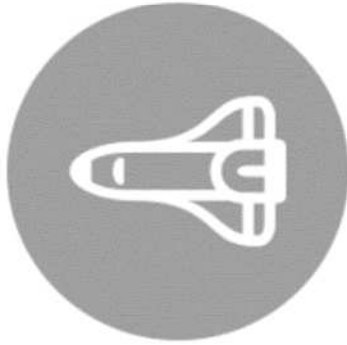
Easy & Scalable



Error-free



CORE INDUSTRIES SERVED



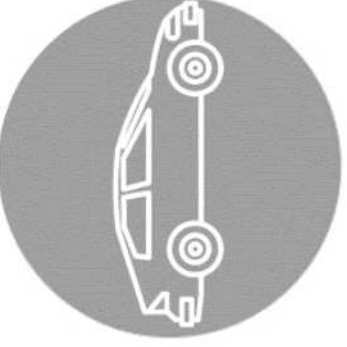
AEROSPACE & COMPOSITES



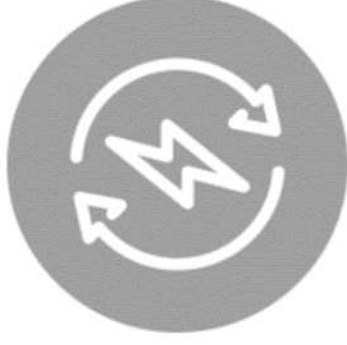
INDUSTRIAL FABRICATION



PRE-FAB CONSTRUCTION



AUTOMOTIVE



WIND

Serving 23 of the Top 25 Largest Aerospace Companies in the World

Industrial Fabricators see Increased Efficiencies in the Manufacturing Process by more than 70%

Virtek Projectors Help Produce 1B+ Board Feet of Prefab Construction Components/Year

All Formula 1 Racing Teams Rely on Virtek to Meet Their Compressed Build Schedule

Largest Global Wind Suppliers rely on Virtek to Succeed in Climate Control Initiatives



SOLUTIONS: Vision-based Laser Projection & Inspection



2D Laser Projection

Accurate laser projection to guide operators through assembly process of Flat 2D parts, eliminating blueprints, manual measurements, and risk of errors.



3D Vision Positioning

Accurate laser projection to guide operators through assembly and part fabrication processes of complex 3D molds



3D Spatial Positioning

Combines laser projection and vision technology to locate a part in 3D space, then quickly locks onto its CAD-specified assembly position.



Quality Inspection

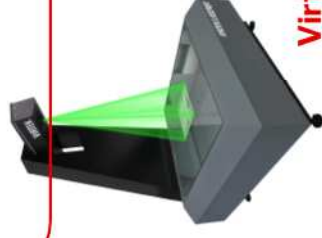
Real-time inspection laser based system to measure accuracy and quality of formed parts.



Virtek LPS-10



Virtek VPS-1





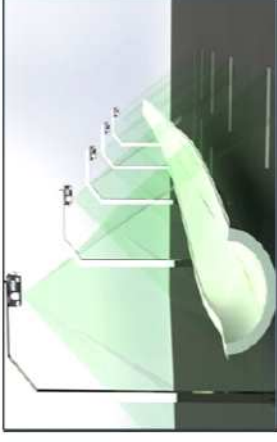
Virtek VQS



THE RIGHT SOLUTION FOR YOUR APPLICATION

One size does *not* fit all!

- Part standoff is an important factor in laser projection
- Beamwidth (focus), accuracy, target measurement ability are all affected by the standoff to the part
- Virtek has specific projectors optimized for standoffs up to 18m (60')

	Standard Range		Extended Range		Long Range	
Standoff	6' - 20'	2m - 6m	20' - 40'	6m - 12m	40' - 60'	12m - 18m
FOV Options	60°x60°, 80°x80°		60°x60°, 80°x80°		60°x60°, 60°x70°	
Beam Width (Typical, D4σ)	1.6mm @ 6m		1.4mm @ 6m 2.2mm @ 12m		1.8mm @ 12m 2.6mm @ 18m	
Applications	 <p>Workcells and portable applications</p>		 <p>Factory ceiling mounted fixed workcells</p>		 <p>Very large parts - wind aircraft wings</p>	

Standard, Extended, and Long Range projectors are all designed to meet Virtek's accuracy specifications while optimizing performance and visibility for specific ranges

VIRTEK

INTEGRATED 3D LASER PROJECTION & VISION SYSTEMS



VIRTEK IRIS^{3D} VIRTEK IRIS 龍

Accurately project a laser template onto complex 3D parts guiding operators through the process.

Eliminates manual laying up composite parts or assembly tasks and the need for physical templates.

Applications:

- Composite Layout
- Composite Manufacturing
- Component Welding
- Wire Harness Assembly
- Paint Masking
- Component Bracket Assembly



Top of the line Vision-Driven positioning technology with **High Visibility Laser Projector VPS-1**



VIRTEK

INTEGRATED LASER PROJECTION & VISION SYSTEMS FOR TARGETLESS ASSEMBLIES



VIRTEK IRIS^{SPS}

The combination of laser projection with 3D vision technology locates objects in 3D space and quickly locks onto CAD-specified assembly positions.

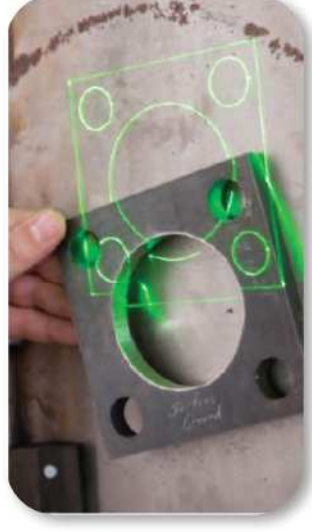
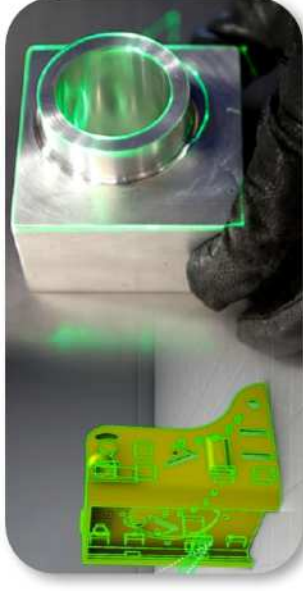
Eliminate human errors, costs of templates, marking, measuring.

Applications:

- Aerospace bonded & riveted fastener installation
- Welded stud & bracket placement
- Heavy equipment fabrication
- Skidded assembly layout and fabrication
- Final assembly – hole location



Top of the line Vision-Driven positioning technology with **High Visibility Laser Projector VPS-1**



VIRTEK

NEW: REAL-TIME LASER TRACKING & LASER PROJECTION ON MOVING OBJECTS



VIRTEK IRIS *ACTIVETRACK*

Precise laser guidance on mobile tools is possible with Virtek's newest software, IRIS™ ActiveTrack.

Real-time tracking software with vision system.
Complete assembly and inspection tasks effortlessly.

Applications:

- Rapid Set Up = Instant Laser Projection
- Tools can rotate in front of the operator or the projector can move
- In-line production operations
- Continuous projection and rapid laser tracking
- Easier and faster workflow
- Assemble & inspect with ease



Top of the line Vision-Driven
positioning technology with
High Visibility Laser Projector VPS-1



VIRTEK

STANDARD 2D LASER PROJECTION SOLUTIONS



VIRTEK LTG

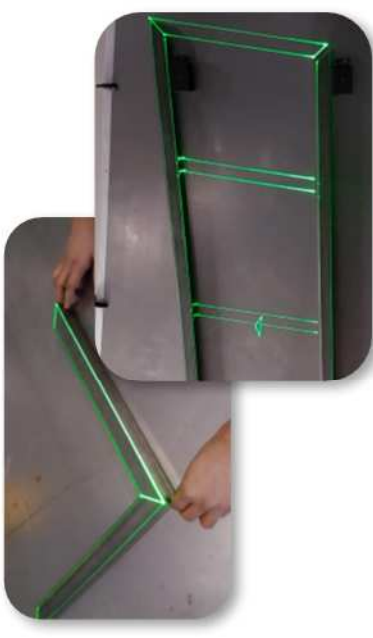
For steel and miscellaneous metal assembly.
Eliminate manual measurement, chalking, & physical templates

Applications:

Handrails, Roof and Floor Trusses, Stair Stringers.



High Visibility Laser Projector LPS-10

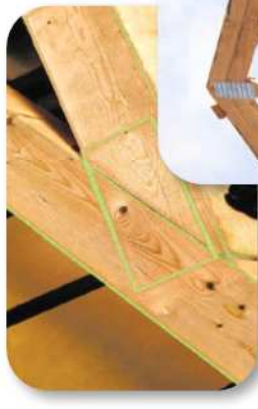


VIRTEK IRIS TRUSS

Highlights the position and shape of truss joints and nail plates.
Eliminating the need for measuring, squaring and stringing

Applications:

Structural wooden roof and floor truss assemblies, prefabricated construction



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QUALITY INSPECTION LASER SOLUTIONS

2D to 2.5D Flat & Formed Part Inspection



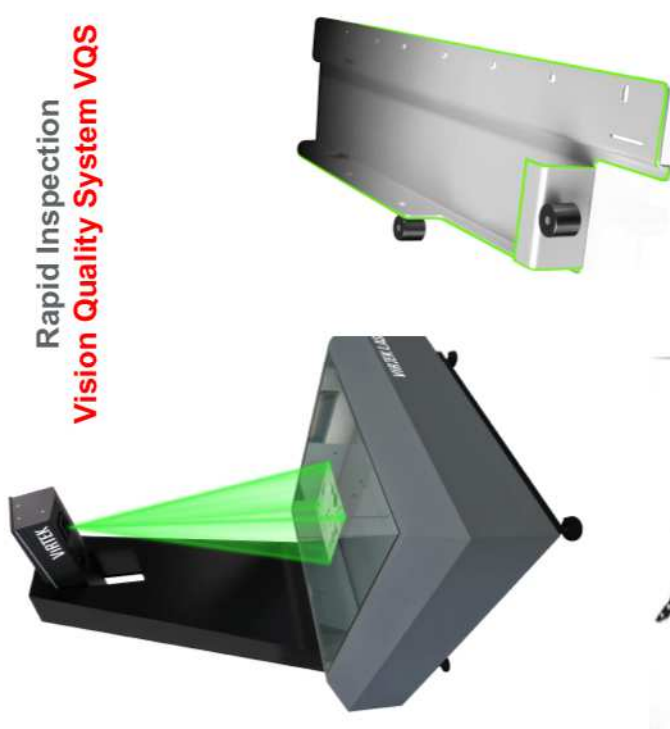
VIRTEK LASERQC

A rapid inspection system capable of measuring flat and formed parts to accuracy levels of +/- 0.05mm.

Eliminates having a quality manager or engineer to inspect parts or the need to measure with hand tools.

Applications:

- Sheet Metal & Gaskets
- First article inspection
- Reverse engineering
- Statistical process control reporting



Rapid Inspection
Vision Quality System VQS





GLOBAL SUPPORT TEAM



- Free Phone Support, Live Chat
- On-Demand Support
- Virtual or in person installations



- Remote Access Support,
- On-Site Services & Training



- System Certification & Process Consulting
- Service Agreements ~ *not mandatory*

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CONTACT VIRTEK



virtekvision.com



service@virtekvision.com



VirtekVision



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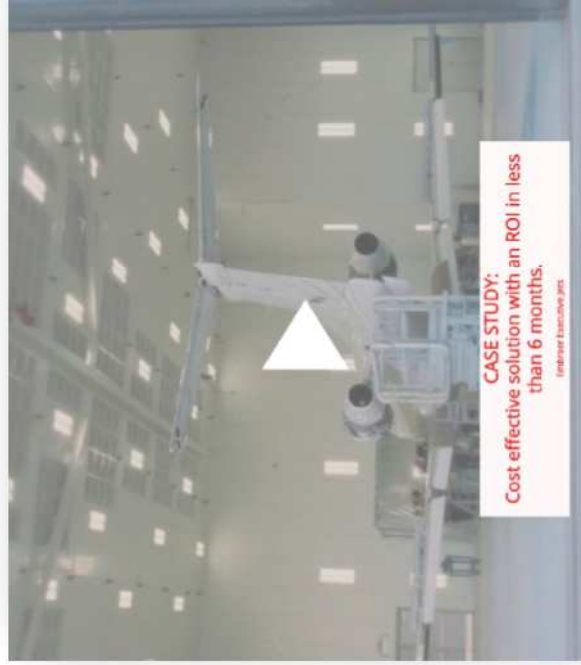


@VirtekVision

#seethingsdifferently

VIRTEK

VIDEO CASE STUDIES



EMBRAER
Executive Jets



KOMATSU

VIRTEK



Thank You