

# FARO® BuildIT Projector Software

## All-In-One Software to Plan, Generate & Operate Laser Templating & Verification Workflows

### Increase Productivity and Quality with Accurate, Laser-Guided Assembly & Verification

FARO BuildIT Projector Software is the world's most complete Imaging Laser Projector software. Built on the popular BuildIT Metrology platform that has been serving manufacturers for over 20 years, BuildIT Projector features a modern and intuitive interface to generate, plan, and operate imaging laser projection and verification workflows.

BuildIT Projector enables the powerful and industry-unique features of the FARO Tracer<sup>SI</sup> Imaging Laser Projector, including In-Process Verification and Feature-Based Alignment. These features make the Tracer<sup>SI</sup> the world's only all-in-one solution for laser-assisted templating and verification.

BuildIT Projector has two components:

- BuildIT Projector Planner enables manufacturing engineers to set up laser templating and verification routines including sequencing, part placement, and verification.
- BuildIT Projector Operator is the software that the assemblers use during their workflows.



### Create & Run Templating & Verification Workflows

#### Part Positioning, Assembly & Validation

Placing a part is quick and easy: project the edges of the part and adjust the part location until its edges line up with the laser lines. Once projection plans are placed in the right sequence, operators can follow the assembly workflow and place parts with confidence.

#### Benefits

Laser Projectors accurately project a laser onto a surface or object, providing a virtual template which operators and assemblers use to quickly, accurately and repeatably position components with absolute confidence. The laser template is created using a 3D CAD model which enables the system to visually project a laser outline of parts, artifacts, site location, or areas of interest. The result is a virtual and collaborative 3D template, able to streamline a wide range of assembly and production applications, without the need for physical templates, blueprints and/or tooling.

#### Increase Efficiency

Streamline manufacturing and building construction processes by creating automated, guided, repeatable workflows that can easily be performed, even by inexperienced users.

#### Maximize Quality

Laser-guided sequencing and part placement, along with In-Process Verification, allow operators to construct and assemble correctly the first time, every time.

#### In-Process Verification

At each step and/or when the assembly is completed, the user can verify the correct placement of each part to ensure correct positioning and check the presence and/or absence of features. In-Process Verification (IPV) can also perform Foreign Object Debris (FOD) checks.

#### Minimize Cost

Eliminate the creation and maintenance of specific hard-tooling or templates for a variety of parts. Simply create and share digital files. Particularly in applications such as composites, welding, and construction, mistakes are costly and unforgiving.

A laser templating solution with In-Process Verification delivers a rapid return on investment by significantly reducing scrap and rework.

## Capabilities

### Validation of Design Data

- Import 3D CAD files from native (CATIA® V4 V5 V6, NX, Parasolid, CREO (Pro/E), Inventor, SolidWorks, AutoCAD), or neutral formats (IGES, STEP, SAT, JT) and use them to easily generate projection plans

### Laser-Assisted Assembly

- Laser outlines help place parts accurately the first time

### In-Process Verification (IPV)

- Validate the presence/absence of features using imaging which is built into the Tracer<sup>SI</sup>
- IPV can be performed against either CAD data or a “golden scan” file
- Evaluate feature position
- Easy-to-understand graphical display highlights errors

### Foreign Object Debris (FOD) Detection

- Quickly verify the assembly to determine the presence of foreign objects such as tools, nuts, bolts, unused parts, weld spatter, etc.

### Feature-Based (Targetless) Alignment

- Faster and easier setup
- No need for external cameras or retro-reflectors
- Simply identify the alignment points (holes, corners) in the CAD model
- Retroreflectors can also be used, if desired

### Projector Operation Interface

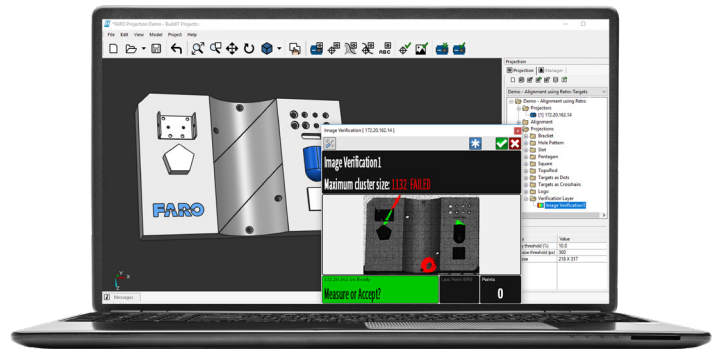
- Interface with a single laser projector or a multi-projector array to:
  - Project design templates for prefabricated parts and assemblies
  - Project equipment placement for factory layout and planning
  - Project text, crosshairs, arrows, etc.

### Projector Operation Interface

- FARO Tracer<sup>SI</sup> | FARO Tracer<sup>M</sup> | LPT8

## Applications

Assembly Alignment, In-Process Verification (IPV), Foreign Object Debris (FOD) Check, Paint & Decal Templating, Prefabrication, Building Assembly, Composites & Ply Lay-Up



*In-Process Verification (IPV) with FOD check*

## Hardware Requirements

| Hardware Requirements | Minimum Requirements                   | Recommended Requirements  |
|-----------------------|--|---|
| Operating System      | Microsoft Windows 10/11, 64-bit        | Microsoft Windows 10/11, 64-bit   |
| Processor             | Intel Core i3 or AMD equivalent        | Intel Core i7 or AMD equivalent   |
| RAM                   | 8GB RAM                                | 16GB RAM+   |
| Hard Drive            | 20GB free solid state hard drive space | 250GB or more of solid state hard drive space                                     |
| Graphics Card*        | Integrated graphics<br>OpenGL 4.0      | NVIDIA Quadro series or AMD Radeon Pro series<br>OpenGL 4.2+<br>2GB memory (VRAM) |

\*We recommend updating the video driver to the most recent released version from the manufacturer website

Local operations around the world. Go to [FARO.com](https://www.faro.com) to learn more.

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