

# Automated Visual Inspection Tool For Fiber Optic Cables

## The Challenge

To develop a tool that will automatically inspect, process, and clean surfaces of fiber end faces to enhance the quality and efficiency of production.

## The Solution

PVI created and developed a fully Automated Visual Inspection Tool (AVIT) that has the capacity to automatically locate, image, and inspect surfaces of fiber end faces. This process detects scratches, pits, chips, cracks, loose contamination, and other defects providing unparalleled functionality to cost-effectively, reliably, and accurately inspect fiber end faces.

## Features

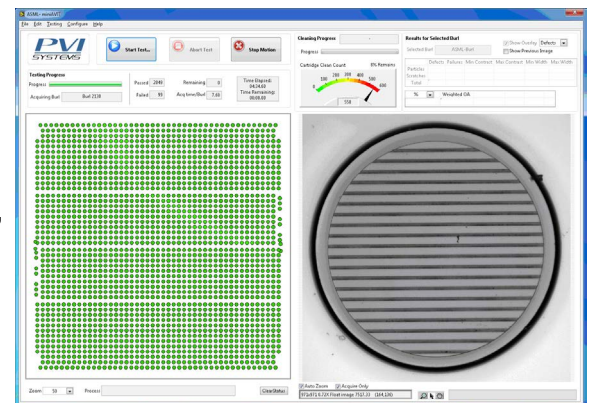
- Multi-axis motion control allows for ease of use and navigation
- Precise, small-scale movement of cameras allows for accurate movements of up to .1 mm per step
- High and low magnification cameras to reduce ferrule and fiber detection time
- Easily attachable fixture plates reduce the delay between tests that use multiple fixtures
- Reliable, user-friendly interface maximizes efficiency for users
- NI PCI 7340 motion card for fast communication from computer to movement of stages

The AVIT works off a three-axis motion system, combined with a vision platform. A dual camera arrangement enables the image capture of the entire ferrule as well as a rapid localization of the fibers in multiple fiber connectors. The AVIT provides highly reliable, consistent fiber inspection and user flexibility in test specifications with detailed, auditable records, computer the total area of defects on the fiber end face.



## Deployment

AVIT and miniAVIT systems have been installed by PVI Systems nationwide. The current system is a motor-driven vision inspection tool that utilizes four axis (X,Y,Z,E) to detect, process, and clean fiber ends. The AVIT is able to successfully collect and manage pass/fail data to determine which fibers require cleaning.



For more information, contact us at [info@pvisys.com](mailto:info@pvisys.com).