

The global demand for optical fiber stands at an all-time high driven by the deployment of broadband infrastructure, cloud applications, and the advent of AI. This demand is in turn driving the scaling of fiber manufacturing around the world, both in terms of counts and densities.

The manufacturing of optical cable is a complex and highly controlled process that brings together potentially 1000s of optical fibers with strengthening members and jacketing materials to create the end product. To guarantee quality and performance, each optical cable needs to be inspected and tested to tight industry standards. These test results not only provide the end-customer visibility into the quality of their product but also provide the manufacturer with critical information on their manufacturing process and performance.

However, most cable and connectivity manufacturers are bottlenecked in production due to a lack of comprehensive automation solutions during the manufacturing process. Further, the data from the manufacturing process is siloed and often non-correlated making it difficult to harness advanced analytics which can drive continuous improvement.

ECSite introduced LuminECsa™ — an AI SaaS digital transformation solution to help solve these problems, servicing the needs of large-scale fiber cable and connectivity manufacturing.

Product Features

- Desktop application with Cloud-centric architecture
- Supports single mode, multi-mode, and mixed-mode buffer tubes, ribbon, and high count fiber cables (6192 fibers)
- Communication with test equipment and accessories, eliminating manual inputs
- Real-time enterprise application integration with multiple modules in ERP, CRM, ITSM & QC systems
- Test plans/profiles generation based on cable
- Easy-to-use guided application UI/UX for technician
- Pulls, analyzes, and reports trace data (SOR, OBR), generating completion reports and shipping labels
- The operator workstation app remains synced with the cloud app; supports offline mode as well
- AI-toolkit offers real-time feedback for technicians & managers
- Using OFDR/OBR technology with LuminECsa, fiber issues can be identified to 10-micron accuracy

Supported Optics & Measurements Tests

- Physical measurements such as ID, OD, thickness automated through a connected caliper
- OTDR, OFDR/OBR tests for multiple wavelengths, SM/MM cables
- Attenuation measurements
- Linearity measurements
- Parallel multi-OTDR testing for high-density ribbon cables
- Lab testing integrated with temperature controllers, other controllers and sensors

About ECSite

Launched in 2019 by RF, Fiber, and Test Automation experts from the Silicon Valley, ECSite has worked with wireless and wireline operators and integrators in providing advanced automation solutions for highly technical data collection and management for all Digital Infrastructure deployments. LuminECsa™, ECSite's factory automation platform provides a digital transformation solution at scale for fiber manufacturing.



22%
IMPROVEMENT IN
OPTICAL TESTS

30%
OVERALL
PRODUCTIVITY

7%
FEWER TESTS

30%
COST SAVINGS

at production capacity over multiple global locations operating 24x7 performing over

2M+
TESTS PER MONTH

Achieved through OTDR program optimization, automation, process optimization & KPI driven people and process management.

Device Integration

- OTDRs , OFDR/OBR
- Optical switches
- Loss test sets
- Temperature chambers
- Job cameras
- Hi-Pot test setups
- Digital calipers
- Other devices**

** with any device that supports electronic interfacing

The built-in SOR parser and visualizer provide real-time feedback to the operator and provide additional parameters extracted via software.

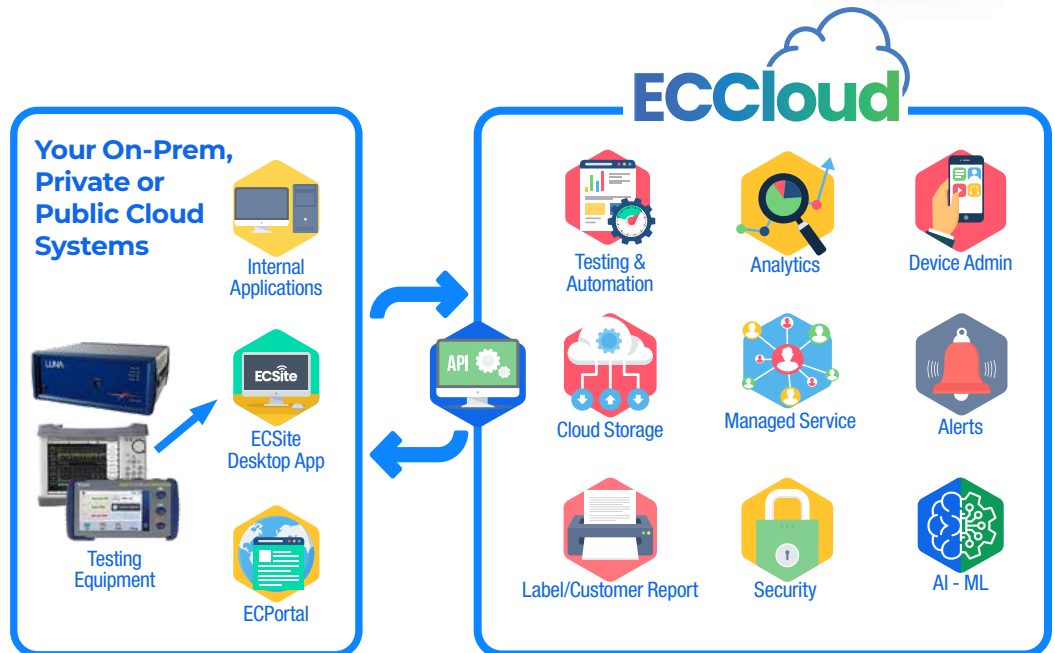


Standard Features

- Desktop + Mobile application
- Cloud Portal
- SSO Integration and MFA
- Standard Analytics
- Real-Time Operational Dashboard
- SOR Tools and Validations
- Form Designer
- Optics and Measurement —Test Profile Designer
- Shipping Label and Report Designer
- 3rd party file imports

Architecture

- Cloud agnostic architecture
- Custom application integration
- Scalable platform stack
- Disaster recovery
- Data retention policy ensures compliance and audit readiness
- Built-in AI engines
- In-bound and out-bound APIs



Analytics

ECSite's AI-powered analytics engine provides rich and interactive visualizations and dashboards with self service capability on the cloud portal for users at every level.

- Standard metrics and KPI fiber testing, productivity, and throughput
- Details analytics by location, operator, and line
- Instrument performance, retests
- Statistical analysis on finer types/models and BOM causing failures
- Visualizations help in easy troubleshooting without having to open any traces in proprietary tools



ECSite

ecsites.ai | sales@ecsitesapp.com