Actionable insights from field test data

Overview

EXFO datamart technology turn raw test result into Artificial and Business intelligence ready data. Designed for network operators, service providers, webscale, private network, and contractors, data marts consolidate field test data into a structured database, ready for advanced analysis in your preferred Business Intelligence (BI) tool — such as **Amazon QuickSight**, **Power BI** or **Tableau**.

With data marts, you gain **deeper visibility**, **smarter decision-making**, and **elevated operational control**, especially when managing distributed workforces or multiple contractors.
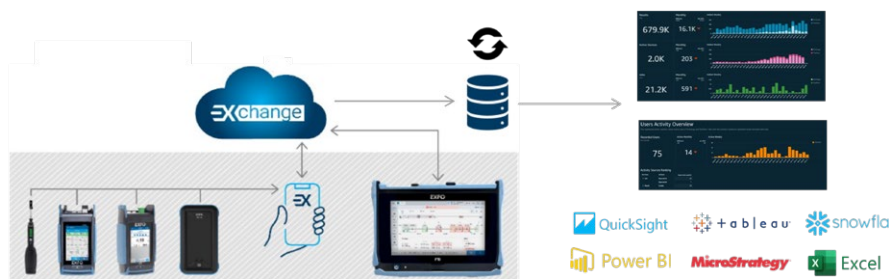

Figure 1. Key concept showing relationship between the main componenets of EXFO's ecosystem (i.e. Connected test devices, result sharing, data mart, analytics).

What you get: Structured, ready-to-use data

Customer invest a lot of money into testing their network. By consolidating all the results into a data mart provides a quick health assessment on the quality of their network and prove the quality of their assets. At the core, EXFO data marts consist of **well-organized relational tables**, including:

- **Jobs**: Test campaigns or assignments.
- **Results**: All field test outcomes.
- **Technicians**: Who executed what.
- **Devices**: Test units used, including serial numbers and calibration dates.
- **Events**: Logged occurrences per device.
- **Measurements**: Detailed optical parameters by wavelength or link.

Each dataset is delivered in a flat, structured format (like an Excel or CSV file), making it easy to feed into your existing BI infrastructure and back up their data.
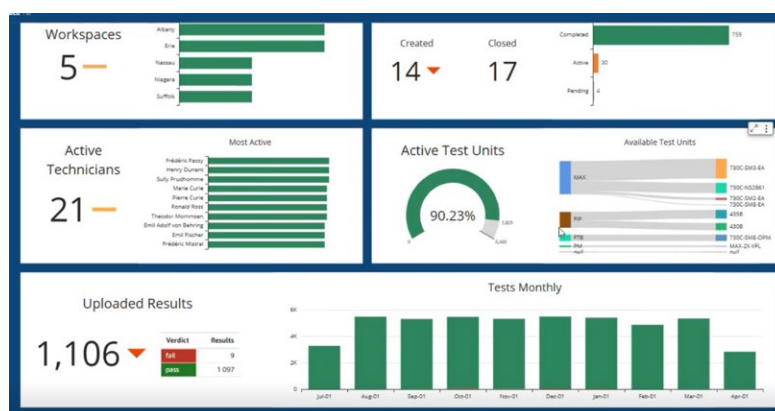

Figure 2. Example of a dashboard comparing uploaded results across workspaces or technicians.

Four axes of operational insight

1. Project progress and completion

Monitor how test jobs are progressing across teams, regions, or contractors. Compare planned work (e.g., 15 hubs, 8 central offices) to actual executed tests, and calculate completion percentages per project.

- Group jobs to track site-specific performance.
- Track progress across weeks or months.
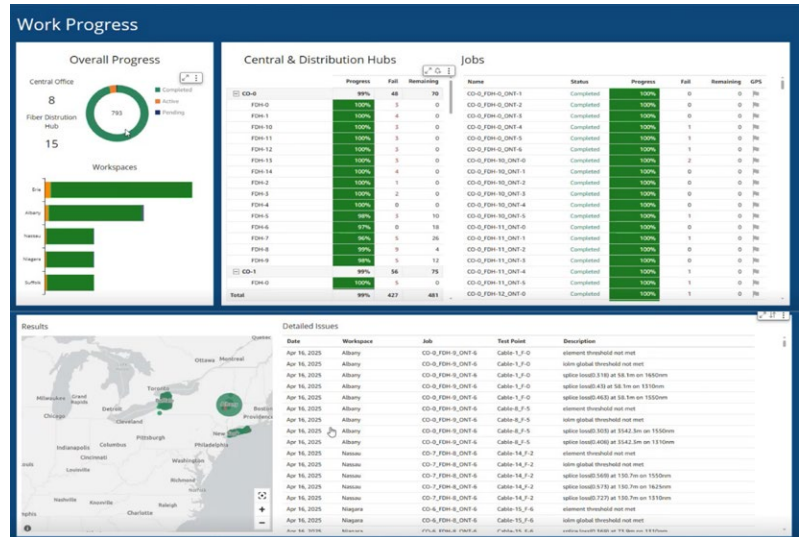- View live updates from connected devices.

Figure 3. Progress tracking dashboard showing percentage of job completion and regional breakdowns.

2. Technician performance and activity

Use data marts to monitor technician productivity and identify where support or training is needed.

- See how many tests each technician uploaded.
- Identify which tests passed on the first try vs. those needing rework.
- Spot underperforming team members or super-users.

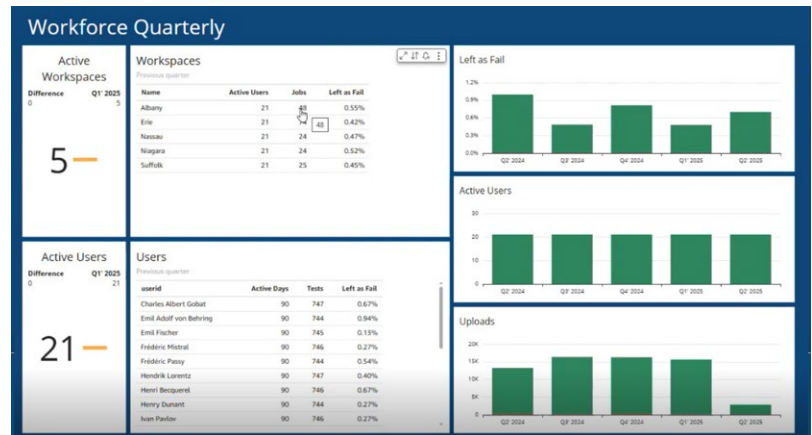This allows managers to **benchmark field performance**, optimize assignments, and reduce repeat visits.

Figure 4. Chart showing pass/fail ratio per technician or number of retests.

3. Device usage and calibration

Analyze and monitor which test devices are being used and whether they're up to spec.

- View calibration dates to ensure compliance.
- Identify underutilized or unused assets.
- Cross-reference devices in use with those purchased.

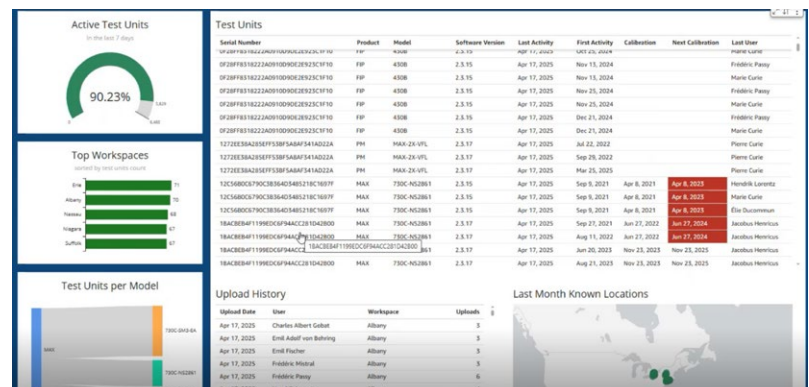This helps optimize fleet usage and validate equipment ROI.

Figure 5. Device usage dashboard with calibration date flags or asset utilization pie chart.

4. In-depth optical measurement analysis

Go beyond basic metrics. Analyze the following:

- **Power measurements** per wavelength.
- **Loss and reflectance** on each link, connector, or splice.
- **Statistical variance** across thousands of data points.
- Threshold-based alerts: "What if we adjusted our pass/fail thresholds?".

For example, using historical data, a client could simulate raising a splice loss threshold from 0.3 dB to 0.4 dB—and instantly see a projected **reduction in retests** and **field truck rolls**.
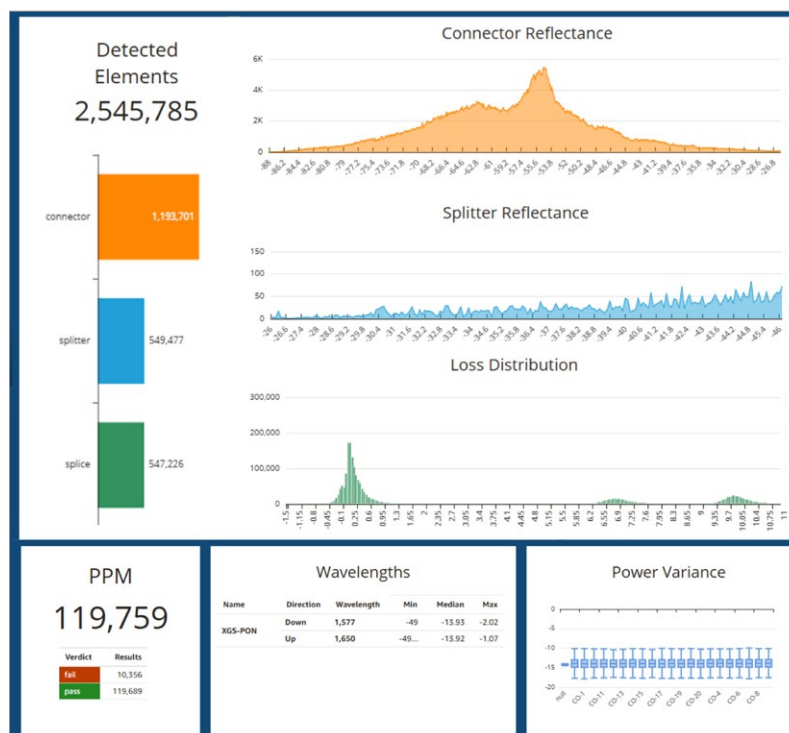

Figure 6. Histogram showing connector reflectance variation and thresholds.

Business value

- **Data-driven workforce optimization**
  Spot inefficiencies, support coaching, or compare contractor performance.

- **Smarter test planning and policy tuning**
  Use actual field data to inform pass/fail thresholds and reduce rework.

- **Compliance and audit readiness**
  Ensure test naming, job structure, and device usage follow internal and client policies.

- **Network asset protection**
  Leverage test data to demonstrate the quality of your network, protecting your investment and providing a valuable tool in case of a merger or company sale.

- **Operational efficiency**
  Shift from reactive management to proactive insight.

Flexible integration options

- Data marts are designed to **fit your ecosystem**:

- Export to Snowflake, Amazon S3, or Google BigQuery.

- Connect directly to your data pipeline or BI tool.

- Work with structured relational databases or flat data exports.

- Easily manage large quantity of data, refreshed daily or hourly.

- Minimal software development required, when compared to API integration.

Clients already using Snowflake or custom pipelines can receive automated pushes of their data.

Conclusion

The data mart is a critical asset for network service providers who invest heavily in physical layer testing to ensure network reliability and performance. However, without the ability to retain and structure the resulting data, operators miss a key opportunity to showcase the value of their infrastructure. In scenarios such as mergers, acquisitions, or asset sales, this data becomes crucial, serving as tangible proof of network quality. EXFO's data mart solution bridges this gap by organizing test results into structured formats, allowing operators to preserve, analyze, and leverage this data for both strategic and operational advantage.

More than just data exports, EXFO data marts are a strategic tool for any organization looking to scale its testing operations while maintaining full control and visibility. Whether managing internal teams or coordinating external contractors, data marts provide the insights needed—quickly and effectively.

Ask us for a live demo customized to your use case.