PLASTICS MANUFACTURING

FDM Analytical Data Manager for Plastics Manufacturers

Organizing and searching analytical data across single-site and multi-site laboratories

Executive Summary

Plastic manufacturers accumulate spectroscopic and other analytical data around raw materials (resins, inorganic fillers, plasticizers, uv-absorbers, anti-stats, mold release agents, etc.), formulations, production lots, quality investigations, development projects, and customer applications. Those files often remain useful for years, but their value is limited when they are distributed among instrument workstations, shared folders, plant servers, and individual project directories. These valuable data can become lost as staff and equipment change over time.

Core proposition: FDM Analytical Data Manager can work with virtually any folder organization a plastics laboratory already has, then create persistent libraries that make the same analytical files easier to browse, search, compare, and reuse.

The opportunity

- Preserve sample, product, grade, lot, supplier, and project history instead of forcing every file into one instrument-centered structure.
- Build dedicated spectral libraries for controlled FTIR and Raman searching while retaining broader catalogs for mixed analytical archives.
- Let the same source file appear in several useful logical collections without duplicating or reorganizing the physical archive.
- Start with one laboratory and extend the same model to headquarters, R&D, QA/QC, technical service, and plant laboratories.
- Provide better informed and more consistent customer service.
- Increase management's exposure to and ease of access to vitally important data.
- Lower the risk of expansion by sharing expertise and data with new company labs.

Two perspectives discussed

The single-site model shows how a plastics laboratory can expose product and lot history. The multi-site model shows how that same architecture can extend across plants.

1. The Single-Site Plastics Laboratory

A single plastics facility may support incoming-material inspection, product development, production troubleshooting, quality control, failure analysis, and technical service. Its archive commonly grows along the business structure: resin families, commercial grades, formulations, years, and production lots.

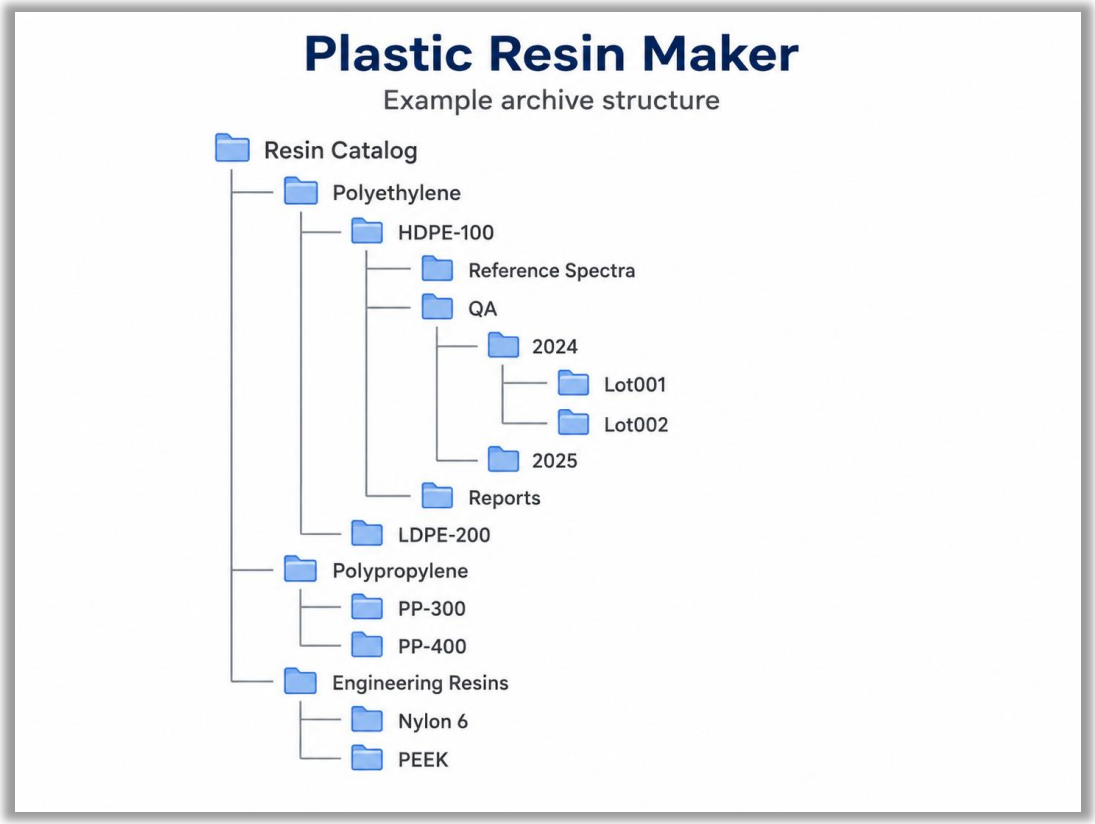
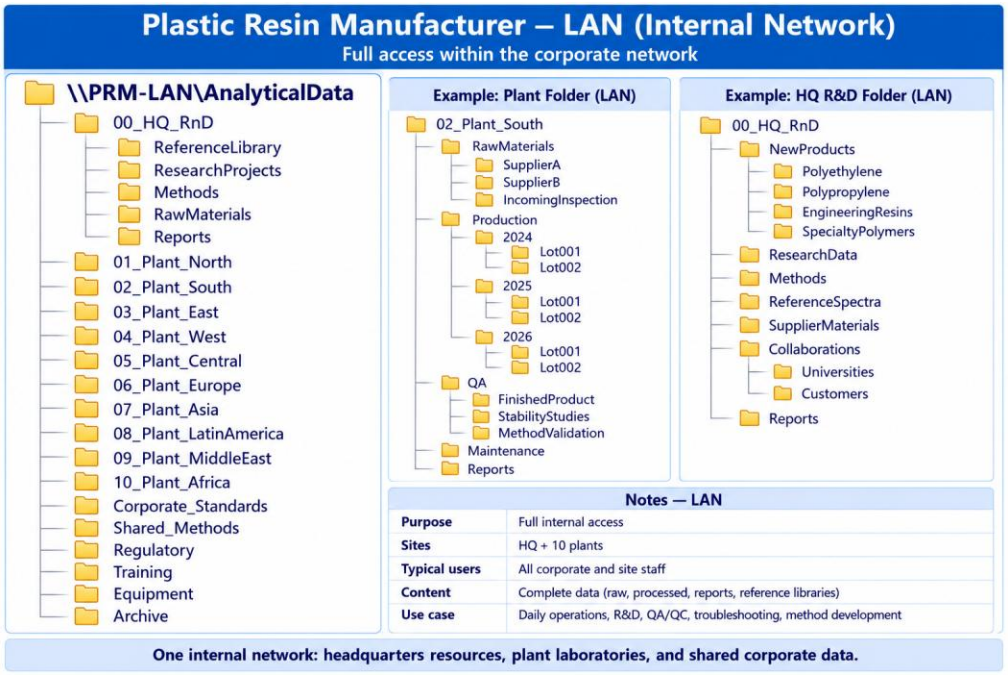


Figure 1. Example single-site archive organized around resin families, commercial grades, reference spectra, production years, and lots.

What this model demonstrates: A useful analytical archive can begin with familiar product folders. FDM adds discovery and persistent analytical views without requiring a folder-reorganization project.

2. Extending the Model Across Multiple Sites

A multi-site manufacturer adds organizational reach, not a fundamentally different archive problem. Headquarters and plant laboratories still work with products, raw materials, lots, methods, reports, and analytical files. The practical questions become which resources remain local, which are shared, and which logical collections should span the organization.



3. Local Work and Shared Corporate Knowledge

The objective is not to force every plant into one enormous undifferentiated collection. Different scopes serve different work. Local collections support daily operations; shared collections distribute approved knowledge; enterprise catalogs provide discovery and management visibility.

Scope	Typical content	Primary value
Plant-local	Current production, incoming materials, local references, investigations, instrument output	Fast access for daily QA/QC and troubleshooting
Corporate shared	Approved methods, reference spectra, standards, product catalogs, training, validated resources	Consistency across plants and reuse of corporate knowledge
Enterprise discovery	Selected catalogs spanning sites, products, techniques, or time periods	Cross-site visibility without flattening every local archive
Project collaboration	New products, supplier issues, customer applications, method development	Focused sharing among R&D, plants, and technical teams

Conclusion

Plastics laboratories do not need another reason to reorganize years of analytical files. They need a way to make those files visible and useful in the structure the business already understands: products, grades, raw materials, formulations, lots, projects, plants, and shared standards.

For a single site

The benefit is practical access to product knowledge and historical laboratory work. Reference spectra, production lots, reports, and related analytical files become easier to browse, search, compare, and reuse.

For a multi-site manufacturer

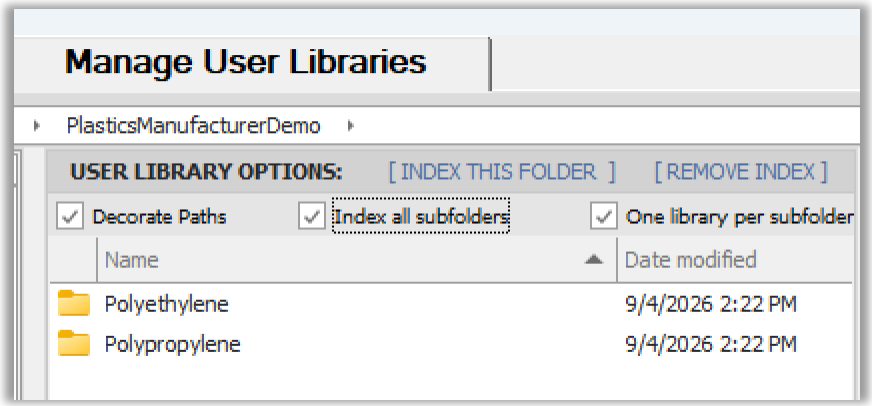
The same model supports plant autonomy and corporate coordination. Local laboratories retain working collections while approved methods, standards, product knowledge, and selected analytical resources can be shared at the appropriate organizational scope.

Product direction

This positions FDM Analytical Data Manager as more than a user-library builder. It becomes an adaptable data-management layer between the analytical archive a plastics manufacturer already has and the people who need to use it.

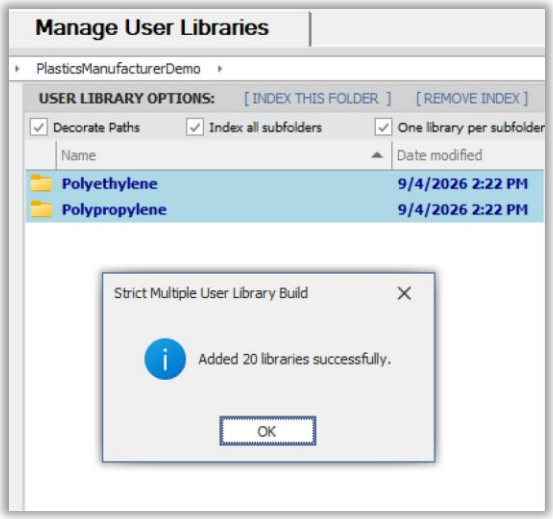
Example: Building 20 spectral libraries in seconds

(1) Navigate to the top folder.



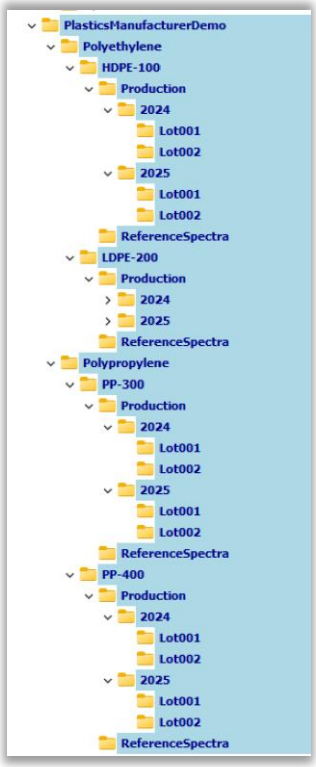
The view into the **PlasticsManufacturerDemo** folder before clicking [INDEX THIS FOLDER].

(2) Click [INDEX THIS FOLDER]



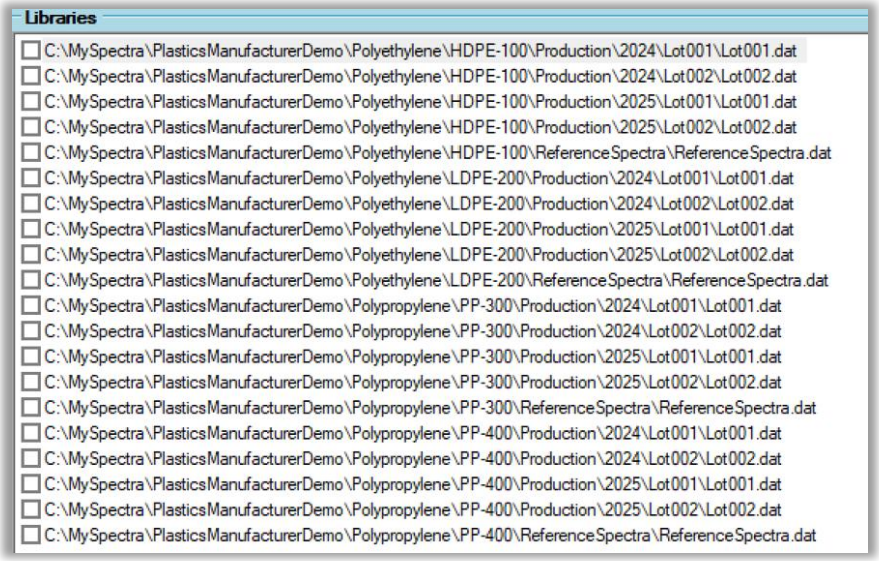
The successful result of clicking [INDEX THIS FOLDER].

(3) Optionally decorated folders make it easy to revisit any library.



20 FTIR Spectral Libraries created from 35 folders of which 20 contain spectra.

(4) 20 FTIR spectral libraries immediately available for browsing and searching



The folder paths describe your product information hierarchy.