UNLOCKS YOUR LAB’S POTENTIAL
Agilent OpenLAB Software Portfolio

OpenLAB ELN
Electronic Lab Notebook

- Capture, Organize, Collaborate
- Smart, high productivity alternative to paper notebooks
- IP Protection and Compliance Features
- Simplifies and accelerates lab work
- Smart Data Import and Dynamic Forms
- Simple Web Based Client
- Analytical Request Module

OpenLAB CDS
Chromatography Data System

- Workstations, Client-Server
- ChemStation, EZChrom Elite
- Multi-Vendor
- OpenLAB ECM Intelligent Reporter
- Regulated and Non-Regulated Modes
- Web-Based Options (ChemLaunch)

OpenLAB ECM
Data Management

- Scientific Data Management
- Data Archiving
- Agilent WorkStation Aware!
- Instrument Vendor Neutral
- Time Stamp/Audit Trail
- Report Capture
- Viewers, Filters, Converters
- E-Signatures
- Regulatory Compliance
- TNF Conversion (LTDA)

Capture • ANALYZE • SHARE
OpenLAB CDS – Chromatography Data System

OpenLAB
Chromatography Data System

ChemStation
• WorkStation or Client/Server
• Database Backend for Client/Server
• Web-Enabled Option

Shared Components
• Instrument Drivers
• Diagnostics / EMF
• Common Output Format
• Reporting Tool (OpenLAB ECM Intelligent Reporter)
• GUI
• GxP / Non-GxP
• 21 CFR Part 11 Backend

EZChrom Elite
• WorkStation or Client/Server
• File Based or Database Options for Client/Server

Agilent Technologies
Organizations spend thousands of dollars buying, moving, and storing paper each year.

What is the impact of a paper based system on productivity and budget?
This represents the tune files and log sheets in 1 lab for 1 GCMS for 1 year.

The cost of generating, handling, and storing this much paper is high.

How does this much paper benefit your business?

How do you re-use this information today?

How quickly can you…
Find the instrument utilization over 2009?
Or
Demonstrate the tune frequency of instrument 6 during 2008?
Paper based systems and Productivity

How much time is spent....?

- Printing paper based test requests
- Making copies
- Transferring paper based requests to the lab
- Distributing requests to individuals
- Starting a case folder
- Printing case notes, analytical data, conclusions
- Assembling the case folder
- Walking the case folder through the review process
- Delivering the case folder to Administration
- Looking through volumes of paper based records to find past work
A lab looked at the time spent “touching” paper – just walking paper through the various stages of their workflow.

This lab generates case files from their analytical work.

In 2009 this process was entirely paper based.

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cases</td>
<td>2000+</td>
<td>2600+</td>
</tr>
<tr>
<td>Number of hours per year moving or handling a paper case file</td>
<td>1100 (on avg per person)</td>
<td>1400 (on avg per person)</td>
</tr>
<tr>
<td>Number of lab personnel</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>75% of a full time employee</td>
<td>100% of a full time employee</td>
</tr>
</tbody>
</table>
How much money is spent on…?

- Paper
- Toner
- Printer / copier maintenance
- Printer / Copier purchase
- Overhead: ordering, tracking, receiving, storage, distribution, accounting

One agency’s budget: $500,000/year
The productivity gains and cost savings of a paperless system are clear.

OpenLAB can help transform your paper based processes into a paperless lab.
Generating and Storing Electronic Data

OpenLAB’s ECM component can automate the centralized storage of all electronic data within your laboratory – both raw analytical and report data.
OpenLAB’s ECM Scheduler component automates the transfer of any analytical data within your laboratory – regardless of the instrument vendor.
OpenLAB ECM’s Printing Services component can automate transfer of any printed report data. The ECM printer appears as any other Windows printer – there is no impact to end user workflow.
Once electronic data has been centralized and secured, it can easily be used in reports, experiments, case notes, etc.

OpenLAB’s ELN component can help.
With an electronic lab notebook all of the paper based forms, notes, descriptions can be transformed into centralized, secure, searchable, accessible electronic records.
Experiments have chapters. Chapters can be shown or hidden as needed.
Within each Chapter are paragraphs. Paragraphs are rich text boxes in which users describe their work using text, graphics, links to analytical data, chemical structures / reactions, calculations, etc…
Both the chapters and the paragraphs can be customized to better fit the way you work.
Configuring the Experiments to Your Workflow

Customize the experiment chapters:
- Rename
- Add
- Remove
- Reorganize

Customize the Paragraph titles
The customized chapter names and paragraph names are saved as an experiment template. The experiment template can be private, or shared across the lab or across the organization.
The experiment templates can be further configured to include fields for users to enter routine or required information. When a field is used, the information becomes standardized across experiments making it specifically searchable.
Fields can be grouped together into forms.
The forms can be designed to follow the workflow associated with an experiment, sample preparation, procedure, conclusion, etc...
An experiment template can be pre-populated with forms, or users can drag and drop them onto the experiment page.
Using Forms

Forms can be locked (they appear with a pink background) meaning users can only enter information into the available form fields.
When forms are unlocked users can edit the information they contain. For example, add a new test.
Using Forms

The Methanol used was from VWR; Lot No: 1234567890

Or add additional text as needed to further describe their work.
Attaching analytical data to experiments – whether that’s spreadsheets users for data processing, reports, raw data, or graphics – can be done in a variety of ways:

1. IMPORTED / LINKED FROM OPENLAB ECM
2. BROWSE YOUR LOCAL MACHINE OR NETWORK SHARE
3. DRAG AND DROPPED ONTO THE EXPERIMENT PAGE
As data is automatically transferred to OpenLAB ECM, it is tagged with searchable metadata that allows a single search to return all of the analytical data associated with an experiment.
When spreadsheets are included in the experiment, users can add a cell range, a worksheet, or an entire workbook.
The contents of the spreadsheet appear inline in the experiment text. To edit the spreadsheet, double click. Excel is launched. Update any information and save directly to the experiment.
When PDF files are included in an experiment, the user has the option to have the entire contents of the document displayed inline with the other experimental text.
Adding Raw Analytical Data

When raw analytical data is included in an experiment, hyperlinks are inserted in the experiment text. If at a later date the raw files are needed – they can be retrieved using these hyperlinks.
Adding and Annotating Graphics

Graphics files or graphics copied and pasted from reports or other documentation can be inserted into the experiment. These graphics can be annotated.
Not only can the fields, forms, and experiment templates be configured to fit your workflow, the process for witnessing, review and approval can be configured.
Configuring a Workflow

Single or multiple witness and validator steps can be configured.
Configuring a Workflow

At each step in the process a PDF copy of the experiment is published and can be reviewed and compared to previous versions at any time.
Reviewing Experiments
The ability to query past experimental data is a tremendous advantage over paper based systems. With a mouse click see all experiments that meet any search criteria: Positive results over the last year, relating to a specific sample type, run on a specific instrument.