Introduction to Agilent’s Informatics Product Portfolio

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Agenda

• Agilent Informatics Portfolio Overview
  • Kalabie ELN
  • OpenLAB – ECM
  • EZChrom Elite
  • ChemStation
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• Agilent Informatics Portfolio Overview
• **Kalabie ELN**
• OpenLAB – ECM
• EZChrom Elite
• ChemStation
Paper notebooks are no longer effective or efficient in experimental sciences. They are:

- cumbersome,
- difficult to share, and
- costly to store and retrieve data.

The Solution? ELN!

First feedback from customers & companies using ELNs reveal 25%+ increase in user efficiency (time savings).
ELN Benefits

• **Increased effectiveness** by spending less time documenting work and looking up information, automating manual processes, etc. “write once, update everywhere”

• **Institutional memory/knowledge management** by capturing the experiences, designs and observations of the scientist

• **Improved IP protection** by enforcing organizational policies

• **Reduced compliance costs** through procedure management, security and data audit
What is Kalabie ELN?

Kalabie provides a robust platform that can be used to...

- Capture, manage, and share experimental data
- Provide a digital version of the traditional laboratory notebook
- Document and manage experiments and insights
- Protect Intellectual Property
- Facilitate collaboration
- Connect to the R&D IS system
Kalabie ELN from Agilent

- Scalable enterprise solution with central server, client access through Internet Explorer, fast-performing, with ability to be integrated with the other components of the lab informatics portfolio.
- Seamless integration into OpenLAB ECM
- Standard configurations:
  - Kalabie ELN Standard Chemistry: Suitable for research and process development within chemical and other industries.
  - Kalabie ELN Multi-discipline: Suitable for many domains and disciplines (e.g. biology).
Kalabie Benefits

• The user centric work environment—Kalabie provides customers an interface that naturally follows the way they work (process oriented).

• Open architecture—Enables the customer to interface with the tools and applications the customer uses already, saving money and re-training.

• Integrated enterprise solution—Kalabie is designed to integrate the customer R&D IS

• Multi-disciplined—Kalabie is truly designed to handle multiple disciplines (chemistry, biology, etc.) and will store all experiment types on the same knowledge base.
Knowledge Repository Mining

Various search modes
- Keywords
- Full text
- Structure-driven
- Fields
- Advanced modes

Personal files
Permanent requests
Exports
- Excel, RDF, SDF
IP Protection

IP Protection is based on key internal mechanisms

- Electronic Signature
- Long term data format preservation by relying only on XML and PDF core formats
- Administration options allowing the user to manage the type of data that may be incorporated into the ELN
- Search capabilities to find out anteriority information
- 21 CFR part 11 conformity and particularly the audit trail mechanism
Agenda

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The Content Explosion

More data will be generated in the next 3 years than the previous 40,000 years combined.

75% is UNSTRUCTURED

OpenLAB ECM

- OpenLAB ECM (Enterprise Content Manager) provides a secure, web-based, centralized data storage, management, and archive solution for scientific laboratories, which helps you reduce paper, share information, meet regulatory requirements and save you money.

- Unlike any other product on the market, OpenLAB ECM manages and indexes any type of electronic record, making the data searchable by keyword or by analytical results, while providing full compliance functionality managed via a single user login.
Centrally Store and Protect All Data

Manage and organize ALL electronic content regardless of source

- Chromatography results
- Analytical Data
- Photos and images
- PDF files and forms
- Scanned paper files
- Email
- Microsoft Office files
- Electronic reports
- **ANY**
- Electronic Content
OpenLAB ECM—How Does ECM Help You?

- **Reduce paper**—All of your records can be stored electronically
  - So you save money

- **Share information**—Around the World, via a web browser interface
  - So you are more productive

- **Secure your data**—And Meet regulatory requirements
  - So you are more confident

All with little or no impact on your current workflow!
OpenLAB ECM Scalability
Start With A Small, Low-cost Solution

• From a single PC to a multi-server, multi-site enterprise
• Easily add servers and clients as you enterprise grows

ECM Workgroup for 15 users is <$30,000

ECM can grow with your business needs
OpenLAB ECM MS Office Integration
Continue to Use Existing Applications

- Toolbar in Word and Excel to open and save files directly with ECM
- Add a true audit trail to Excel spreadsheets
- All content is searchable

Access ECM files directly from Word, Excel, or Outlook
OpenLAB ECM Automatic Data Uploads
Minimal Impact on Your Current Workflow

• Scheduling agents watch data folders and add content to ECM
• Upload automatically when a change occurs or on a fixed schedule

Add files to ECM whenever they are changed
OpenLAB ECM Powerful Search Tools
Better Organization of Your Data

- Simple Google search
- Smart Boolean searches based on dozens of filter keys
- Advanced searches of scientific results

Find all matching files, regardless of the source application
OpenLAB ECM Security Made Easy
Data Security with Confidence

- Single login integrated with Active Directory
- User/group access permissions
- File versioning
- Audit trails
- Electronic signatures
- File checksums

Control system access, manage users and audit all activities
How OpenLAB Solves Customer Problems
Electronic versus Paper Data Storage

- Moving away from paper can save time, money, and storage space

- One customer’s experience:
  - The paper based lab produced 15 tons of paper annually
  - Data storage requirements went from a rented warehouse space to a single server room
  - Reduced the review and approval cycle time by 50%
Agilent OpenLAB ECM Can Provide…

• Secure centralized data management,
• Minimum impact to end user workflows,
• Audited user access and data activity,
• Data availability and easy retrieval,
• Reduced approval times of paper-based systems,
• And data managed through the entire life cycle

...for all of the data types produced in your laboratory.
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EZChrom Elite

EZChrom Elite is a scalable chromatography workstation offering research testing and quality control laboratories flexible reporting tools, configurable compliance functionality, and robust, reliable control for over 330 LC and GC components.

- Multi-vendor instrument control from over 25 LC and GC manufacturers
- Scalable from single workstation to multi-site client/server
- GLP/GMP Software features addressing regulated environments, pharmaceuticals (21CFR Part 11), etc.
Broadest Instrument Support Available

Control of 330+ Chromatographic Components

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agilent</td>
<td>48 (GC, LC, DAD)</td>
</tr>
<tr>
<td>Shimadzu</td>
<td>98 (GC, LC, PDA)</td>
</tr>
<tr>
<td>Thermo Lab Systems</td>
<td>39 (GC, LC, PDA)</td>
</tr>
<tr>
<td>Varian</td>
<td>29 (GC)</td>
</tr>
<tr>
<td>Hitachi</td>
<td>21 (LC, PDA)</td>
</tr>
<tr>
<td>Plus… Perkin Elmer, Waters, Jasco, CTC, Alltech, Allcott, ESA, GBC, Valco and others</td>
<td></td>
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</tbody>
</table>

More drivers being continually added…
How Does EZChrom *Elite* Address Lab Needs?

An Enterprise-wide Chromatography Data Solution

- Network-access of all instruments
- Integrated instrument control of multiple vendors’ HPLC, GC, etc.
- Scalable from single workstation to multi-site Client / Server
- Highly flexible report generation capabilities
- Software features addressing regulated environments
- Integration with LIMS and Other Software in the Lab
Single Screen Walk Up Sample Entry

Easy to use sample setup

Simple overview of status of instruments and run queue
Elite Automation Toolbox

*Elite Toolbox Allows Complete System Tailoring*

- Simplified User Interfaces
- "Push button" operation
- Customize the way you want to operate the system
SmartSequence™ Technology

**Intelligent Automation**

- Calibrations
- Check Standards
- Spikes
- Duplicates
- System Suitability

**Result Dependant Actions**

- Re-inject
- Pause / Abort
- Trigger Alarm
- Run External Program
- Pager / E-mail notification
Security Tools

Controlled access
• Closed system
• Password and account control
• Immediate and urgent notification

Data security and revision control

Electronic signatures
• Encrypted
• Visible indication of authenticity

Traceability
• Audit trails / Activity logs
How EZChrom Elite Solves Customer Problems

Before

A customer needed support for the following instrumentation in various R&D and QA labs:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Instrument Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Agilent ChemStation with 100 Agilent LC/GC (mostly DAD) connected to ChemStore Server</td>
</tr>
<tr>
<td>25</td>
<td>Merck-Hitachi EZChrom (VWR) with 25 Hitachi LaChrom LC (PDA)</td>
</tr>
<tr>
<td>45</td>
<td>Thermo ChromQuest with 22x Spectra PDA, 21x Spectra 2D, 2x GC</td>
</tr>
</tbody>
</table>
How EZChrom Elite Solves Customer Problems

After

Customer moves to EZChrom Elite, standardizing their lab

• Reduce costs of maintenance and training by having a standardized user interface
• Gain efficiency by better internal information exchange (methods, data files etc.)
• Keep system simple by reducing further admin costs
• One-stop shopping of software
Why EZChrom Elite?

• Multi-Vendor Instrument Control

• Single User to Client/Server

• Smart Sequence

• Powerful, Flexible Reporting

• Customization

• Configurable Compliance
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ChemStation Add-on Modules – Add the Functionality according to your needs

ChemStation B.04.01 with:
  a) ChemLaunch
  b) OpenLAB ECM
  c) OpenLAB Intelligence Reporter

provides:
  • Lab-wide remote instrument management (a)
  • Improved configurable compliance (b)
  • Improved method & result traceability / audit trails (b)
  • Cross-sequence report with advanced calculations (c)
  • Reduce validation & upgrade costs [terminal server] (a)
  • Central Master Method Management (b)
  • Configurable access security (b)

Further demo videos on the web:
OLIR Demo on Agilent.com  ChemLaunch Demo on LSM Home
ChemLaunch Add-on Module – Drive Down IT and Validation Costs

**Increase efficiency** with:
- remote instrument access
- central instrument control
- use of ChemStation thin clients (terminal server environment)

**Benefits:**
- Run ChemStation in a Web Browser
- Reduce validation costs
- Reduce Lab downtime while upgrading
- Reduce IT support costs
- More efficient instrument usage
- Simplified lab administration
- Enable use of Mac or Linux clients
- Fully supported by Agilent
ECM Integration – Add Central and Secure Storage

ECM Integration

– All relevant ChemStation data can be stored / retrieved:
  sequence data, single run data, method templates, sequence templates, …
– User authorization at ChemStation startup to protect all ChemStation data in ECM
– Automatic upload of sequence data
– Ensure data integrity: store related method versions with sequence data

![ECM Integration Login dialog box](image)
ECM Integration – Seamless interface to load data

- Directly load ChemStation files from ECM
- Use full ECM search capabilities for Methods and Raw Data
OpenLab Intelligence Reporter – Get Results Fast!

**Fast and efficient with:**
- Reporting database in ECM
- Simple and advanced calculations cross and within sequence
- Interactive report elements and content based result presentation
- Trend charting

**Benefits:**
- Faster from acquisition to final report
- Typical Pharma and other reports right from the CDS
- Lab-wide asset reporting (instruments, columns,...)
- Improved report quality & compliance
- Access to all results in reporting database through built-in views
- Supports Oracle and MS SQL Server
Summary

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Scientific Computing – Readers’ Choice Awards

ELN
Gold  Kalabie ELN, Agilent Technologies

Data Management
Gold  OpenLab, Agilent Technologies

Chromatography
Bronze  EZChrom Elite, Agilent Technologies
Questions