GC Media Event – Little Falls

March 18, 2019

Agilent
Trusted Answers

Safe Harbor

This presentation contains forward-looking statements (including, without limitation, information and future guidance on the company's goals, priorities, revenues, operating profit and operating margin, expected cash flow, growth opportunities, customer service and innovation plans, new product introductions, financial condition and considerations, earnings, share repurchases, dividends, ability to access capital markets, the continued strengths and expected growth of the markets the company sells into, operations, operating earnings, and tax rates) that involve risks and uncertainties that could cause results of Agilent to differ materially from management's current expectations. The words "anticipate," "plan," "estimate," "expect," "intend," "will," "should" "forecast" "project" and similar expressions, as they relate to the company, are intended to identify forward-looking statements.

In addition, other risks that the company faces in running its operations include the ability to execute successfully through business cycles; the ability to successfully adapt its cost structures to continuing changes in business conditions; ongoing competitive, pricing and gross margin pressures; the risk that our strategic and cost-cutting initiatives will impair our ability to develop products and remain competitive and to operate effectively; the impact of geopolitical uncertainties on our markets and our ability to conduct business; the impact of currency exchange rates on our financial results; the ability to improve asset performance to adapt to changes in demand; the ability to successfully introduce new products at the right time, price and mix, and other risks detailed in the company's filings with the Securities and Exchange Commission, including our quarterly report on Form 10-Q for the year ended January 31, 2018.

The company assumes no obligation to update the information in these presentations. These presentations and the Q&A that follows include non-GAAP measures. Non-GAAP measures exclude primarily the impacts of acquisition and integration costs, transformation initiatives, and non-cash intangibles amortization. We also exclude any tax benefits that are not directly related to ongoing operations and which are either isolated or is not expected to occur again with any regularity or predictability, including the impact of Tax Reform. Most of these excluded amounts pertain to events that have not yet occurred and are not currently possible to estimate with a reasonable degree of accuracy. Accordingly, no reconciliation to GAAP amounts has been provided.

What Our GC Customers Are Telling Us

Shanya Kane,
Vice President for Agilent's Gas Phase Separations Division

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Agilent in the Delaware Valley

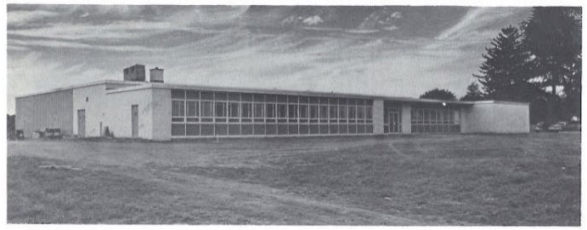
Little Falls Site

- Completed in 1992
- Primary Location (Owned)
- 55 acres; 354,000 Sq. Ft.
- ~ 670 Employees
- R&D, Manufacturing, Marketing, Field Sales and Service, NA Contact Center
- Division Headquarters for Consumables, Gas Chromatography, and Services
- Includes Center of Excellence (Product Showcase and Applications Demos)

Newport Site

- Agilent Operated Since 1997
- Leased Site
- 37,500 Sq. Ft.
- 95 Employees
- Manufacturing LC Columns & Microarray Substrates

Agilent in the Delaware Valley



1961

F&M moves to Avondale, PA

A place to grow, with doubling year-over-year sales

1958

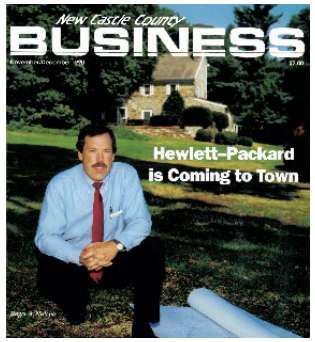
F&M Scientific Corp is established

Premier manufacturer of gas chromatographs

1965

HP acquires F&M

HP enters the analytical instrument market



1992

HP moves to Little Falls

Move to Delaware to accommodate expanding business units

1999

HP spins off Agilent

Biggest IPO in Silicon Valley: $2.1B

1997

HP opens Newport site

New home for liquid chromatography columns and microarray substrates manufacturing

2017

Agilent celebrates 25 years in Little Falls

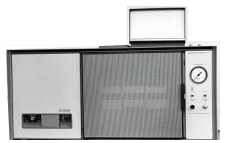
R&D, Manufacturing, Marketing, Field Sales and Service, Contact Center


Agilent
With more than 50 years of GC leadership in routine use, many people assumed there was nothing more to innovate in GC
Agilent does not rest on its laurels

Leading Innovation in GC for Over 50 Years

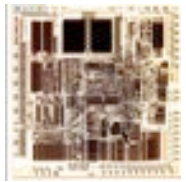
1960s

5840 GC



1970s

AutoInjection



Microprocessor Control

1980s

5880 GC

5890 GC

1990s

5970 MSD

Fused Silica Capillary Column

2000s

Inert MS Ion Source

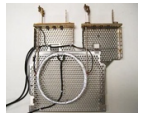
Hyperbolic Gold Quad

2010s

Capillary Flow Technology

7890 GC

Multi-Mode Inlet



Low Thermal Mass Technology

7000 GC Triple Quad

7200 GC QTOF

7890B GC 5977A MSD

Large Valve Oven

8355 Chemiluminescence Detector

The Agilent 8860 GC System

The Agilent 8890 GC System

7697A HS

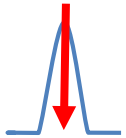
Inert Flow Path

FPD Plus Detector

5977B MSD & High Efficiency Ion Source

Intuvo 9000 GC System

2nd Gen Linear Electron Capture Detector



Retention Time Locking

6890 GC

Electronic Pneumatic Control

2019

A Continued, Sustained Dialogue with Customers Drives Innovation

For the development of Intuvo, instead of leading with innovation, we first focused on understanding the changing GC environment and user demographics, as well as user pain points

6 year development process – much of that in-bound marketing

12 thought leaders

Collaboration and consultation with 100s of key customers (GC operators, lab managers, GC scientists/technologists and enterprise customers)

Based on these learnings, Intuvo has gone on to transform the way GC is performed

Lab Managers Shared their Challenges and Aspirations

58% cited improving efficiency as their No. 1 business objective

73% recognize downtime as their biggest challenge

52% rank developing staff as their No. 1 personal goal

AGILENT LAB MANAGER SURVEY

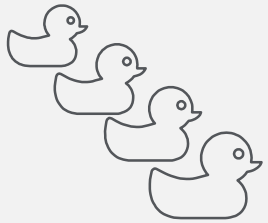
Survey conducted globally in 2017

The Smart Connected Lab is The Future

Heralding 'Industry 4.0' – the 4th Industrial Revolution

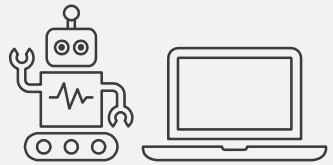
1st

Steam power and mechanization



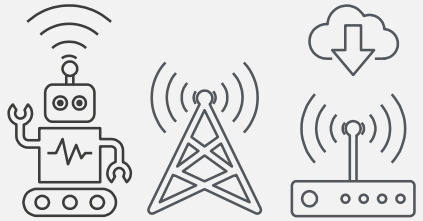
2nd

Mass production



3rd

Computer and automation



4th

Digitally enabled IoT ecosystems

Value greater than sum of its parts

Agilent Supporting Labs to Advance Science and Improve Efficiency

The Transforming Analytical Lab

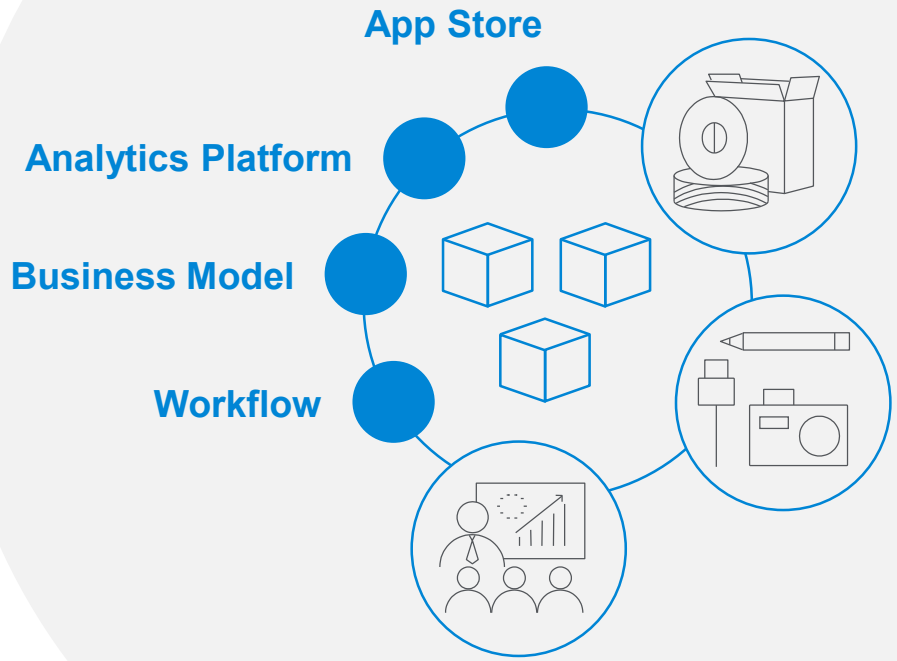
Instruments → **Outcomes**

- Consumables
- Software
- Services
- Warranty

Supporting the transformation of our customers' businesses…

- Understanding their current and future objectives and their ongoing definitions of success
- Easing their operations by appreciating their business models (purchase, delivery, performance and support)

…And delivering on ALL these parameters



SGS: Driving Value Through Partnership and Shared Future Vision

"To strengthen the relationship further, both companies agreed on a number of strategic initiatives, including the Advanced Technology Group, created to collaborate on new technologies.

By working in partnership with Agilent's R&D team, SGS can shape, not only the development of the technology that customers and their clients will require in the labs of the future but also the creation of additional revenue-generating services."

"Partnering with Agilent demonstrates SGS' commitment to cultivating cooperative partnerships with our top suppliers. Beyond improved efficiency and cost saving, the entire supply chain will be better equipped to meet customer and market demands."

JUERGEN NELIS
SGS Vice President
Group Procurement

SGS Annual Report

Supporting Customers to Achieve Their Vision for the Lab of the Future

Through the Lens of Gas Chromatography

Eric Denoyer,
Director of Marketing for Agilent's Gas Phase Separations Division

Agilent
Trusted Answers

Continuously Improving GC User Outcomes

Continuously Improving GC User Outcomes

Warning lights → *Maintenance Minders* → *Driver Lane Assist* → *Autonomous Self Driving?* → **Better Outcomes**

Ease of Use

Efficiency

Skill Required

80-90s	2000s	2016	Today
Integrators Computer & RS232 Chromatography Data System	EMF Maintenance Minders Retention Time Locking Parts Finder	On-Board Dual Core processors Automated Diagnostics Browser interface	Next Generation Smart Connected GC Systems GCs that grow smarter

Smart Connected GCs Can Improve Outcomes

58% cited improving efficiency as their No. 1 business objective

73% recognize downtime as their biggest challenge

52% rank developing staff as their No. 1 personal goal

AGILENT LAB MANAGER SURVEY

Survey conducted globally in 2017

How a Smart Connected GC Can Help
Driving Lab Efficiency

Reduce unplanned downtime

- Lowering operating costs
- Decreasing business uncertainty

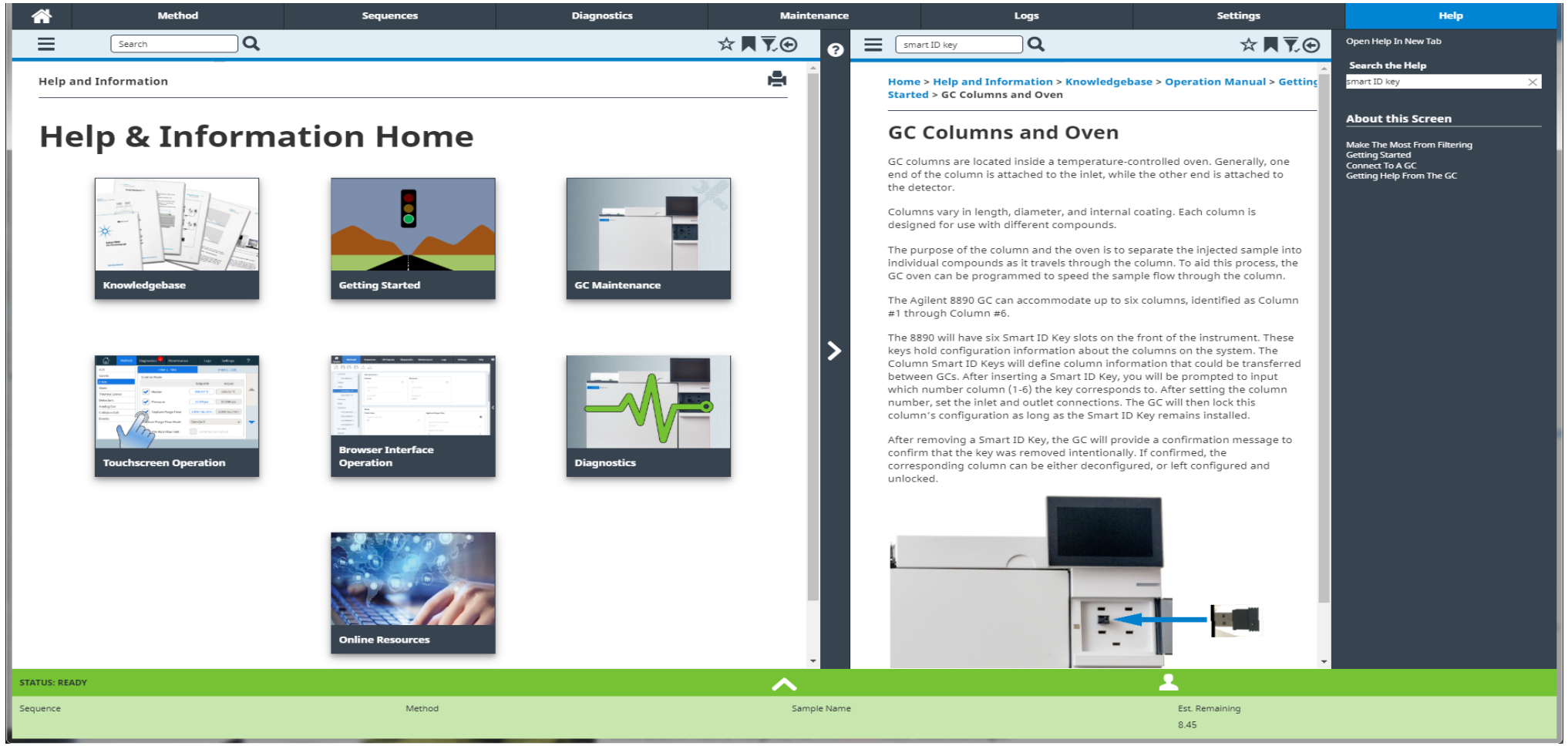
Assures delivery on commitments

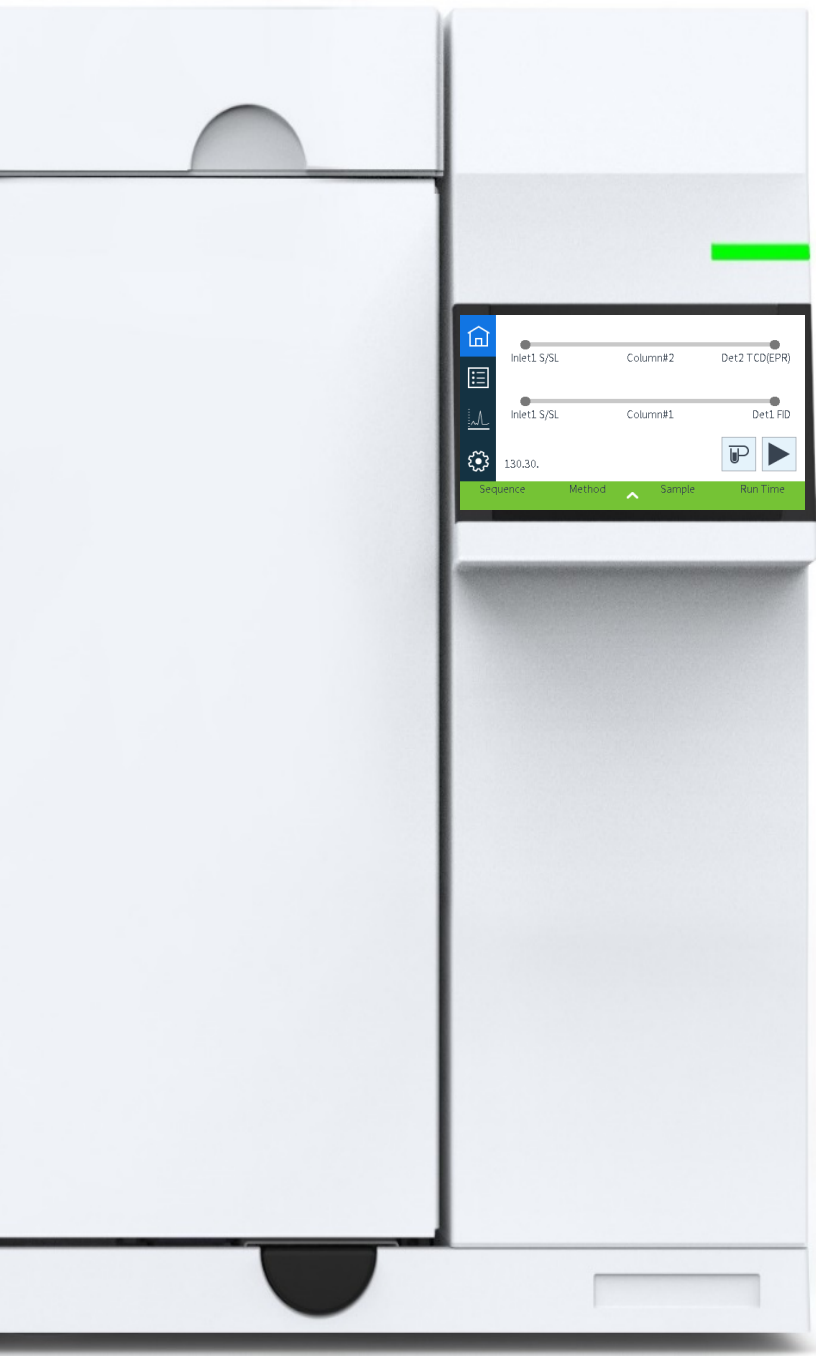
- Building trust with customers

Enables optimum HR deployment and development

A Wealth of Information for Training and Development

Built into the Instrument Itself





What Makes a GC Smart & Connected?

Enabling Better Outcomes

Real Time Autonomous Monitoring

- Embedded sensors and dual core processors
- Self-aware – real time system status & configuration

Smart Algorithms

- Diagnostics and troubleshooting
- Health report

Think Like an Expert

- Draw conclusions; evidence-based recommendations
- Objective judgement of system readiness

Remote Mobile Connectivity

- Untethers staff from the lab to pursue high value activities

GC: Know Thyself *Aeschylus, Plato, Socrates*

Self-Aware

- Automatic recognition of inlets, detectors & EPC flow controllers

Auto Configuration

- Automatic inputs for setpoints and method parameters
- Reduces level of expertise to get up and running with fewer mistakes

Diagnostic Tests

- Faster troubleshooting & problem resolution

Referring to their Intuvo 9000 GCMS system for pesticides analysis: “At the 2018 European Pesticide Residue Workshop (EPRW) we presented a poster demonstrating a 67 percent drop in downtime…”

Marvin Overbeeke, Khalid Bensbaho and Elisa Platjouw, Eurofins Lab Zeeuws-Vlaanderen, *The Analytical Scientist, 2-11-2019*

Designed-In Smart Consumables

Assuring Optimum Efficiency

Column Smart Keys

- Informs system of chemistry, configuration
- Tracks number of injections & temperature exposure
- Assures appropriate column being used, and facilitates setup

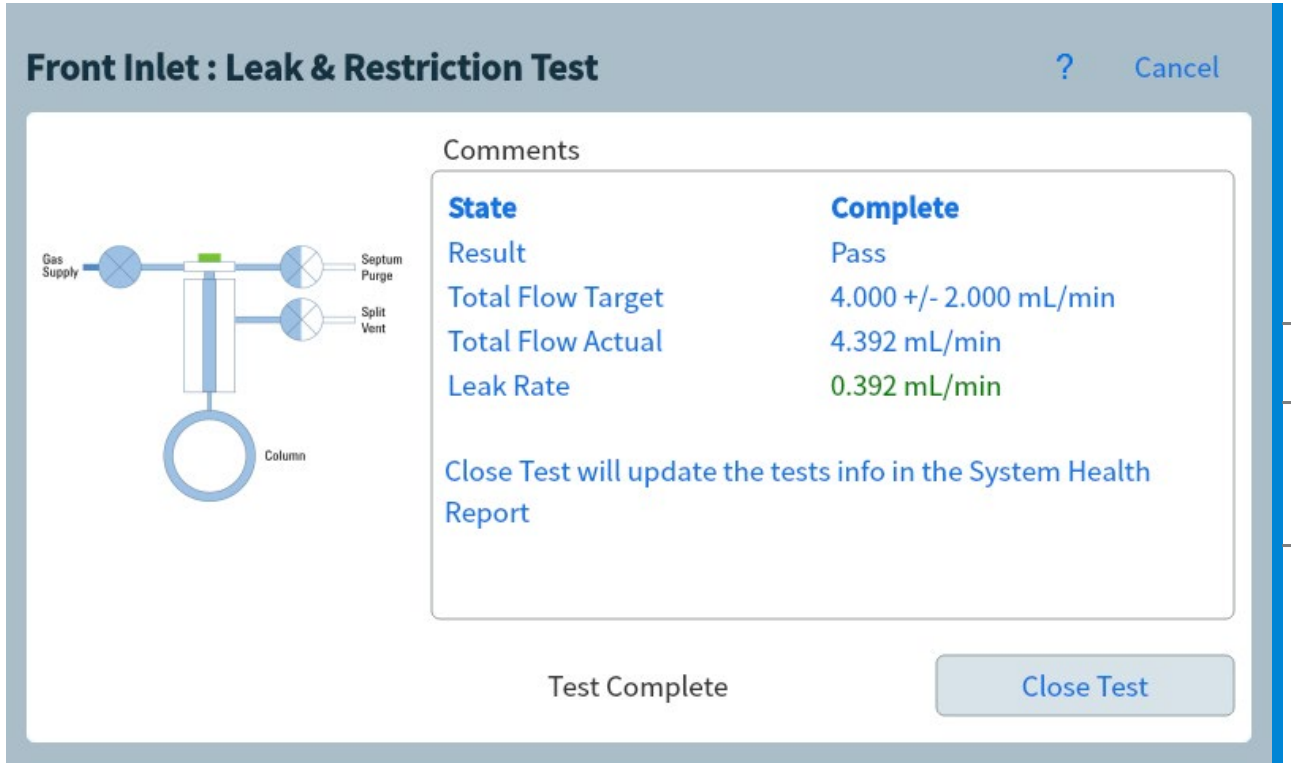
Gas Clean Filter with Smart Sensor

- Automatically senses when filter reaches capacity
- Alerts user through central user interface
- Assures system operating at its best

Agilent

Automatic Leak Test

Smart 6th Generation EPC System



Performs hands-free automatic leak testing behind the scenes

- Automatic smart valve in EPC
- Avoids samples run when system is not optimum; avoids sample re-run
- Helps save expensive Helium

How Expensive is a Leak?

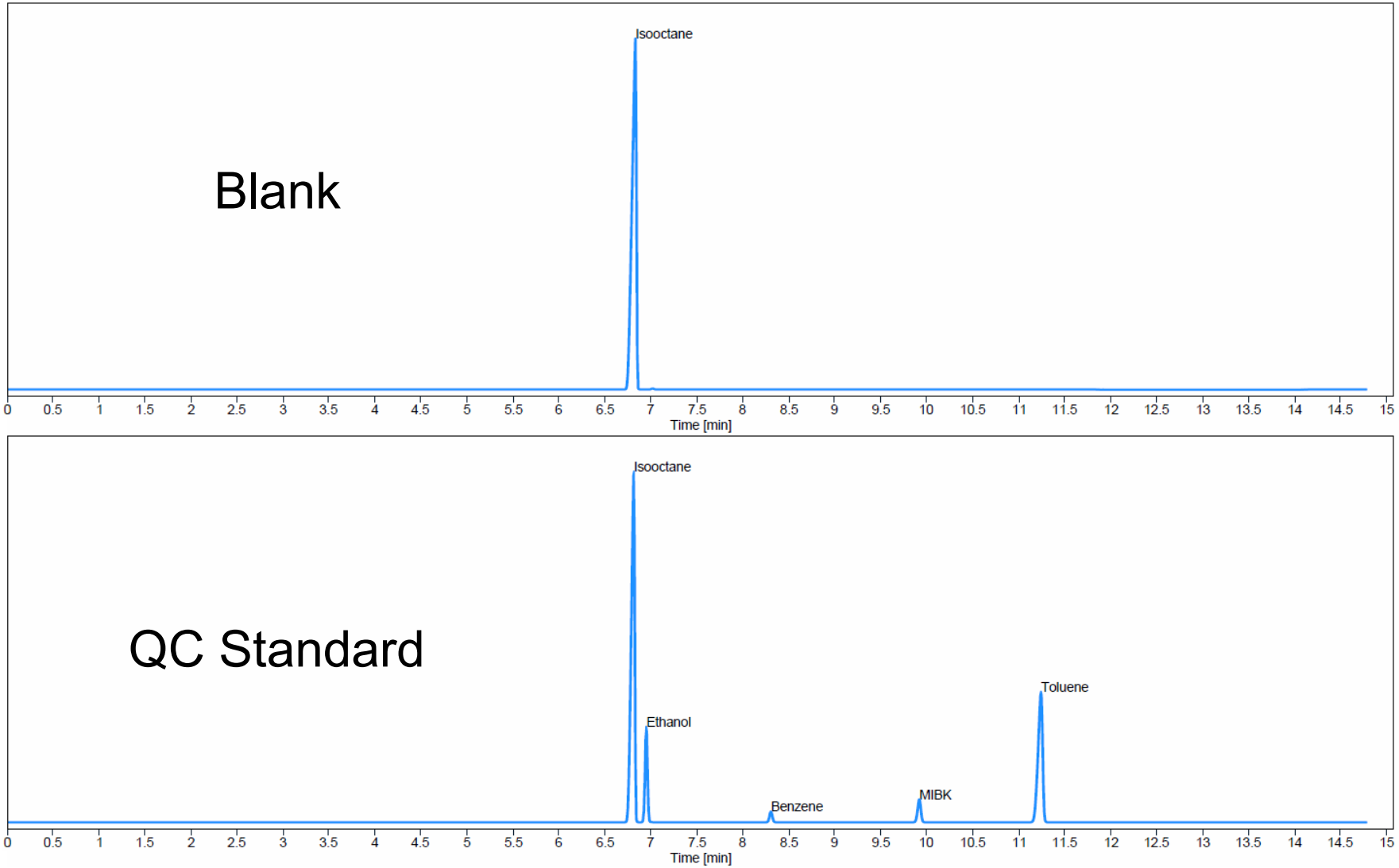
More Than You Might Think, Especially for a Global Enterprise…

US$	Annual Cost Without He Conservation Module	Annual Cost With He Conservation Module	Reduction in Carrier Gas Cost	Annual Cost of 2 mL/min He leak ($300/cylinder)	Increase in Annual He Costs Without He Conservation	Increase in Annual Costs With He Conservation
ASTM D4815 Ethanol in Gasoline	$1,537	$356	77%	$1,123	1.7X	4.2X
ASTM D7405 Impurities in Monocyclic Aromatics	$3,774	$87	98%	$1,123	1.3X	13.9X

10 GCs	$11,230
200 GCs	$224,600
5000 GCs	$5,615,000

Source: McCurry, J. Addressing the World He Shortage for Gas Chromatography, 2013, and McCurry, 2016, and 2019 internal estimates

The Golden Chromatogram Syndrome



Chromatographic Evaluation

Automatically and objectively assures system is ready for operation

Reduces dependence on operator judgement to achieve expected results

- Blank evaluation
  - Assures baseline is clean
- Detector evaluation
  - Assures standard is as expected and detector response is at specification
- Improved method quality control and streamlines support and service

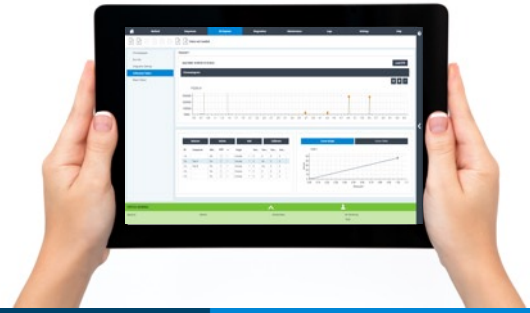

GC Lab
Canteen
Lunchtime conversation: How’s it going in the lab?...

Smart Functions + Remote Mobile Connectivity

Access Lab When out of Lab or Offsite

Mobile + Diagnostics = a powerful combination

- Health report of configuration, history & diagnostic tests
- A huge body of information to help troubleshooting
- Transmitted digitally to a remote expert
- Can better inform a service engineer to identify the problem and arrive on site with necessary parts to fix the problem the first time
- Improves efficiency



Smart Functions + Remote Mobile Connectivity

Saves Considerable Time & Cost: Boosts Efficiency

Primary Center of Excellence

Offshore Oil Drilling Platform

Onshore Oil Drilling Field

Smart Functions + Remote Mobile Connectivity

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Onshore Oil Drilling Field

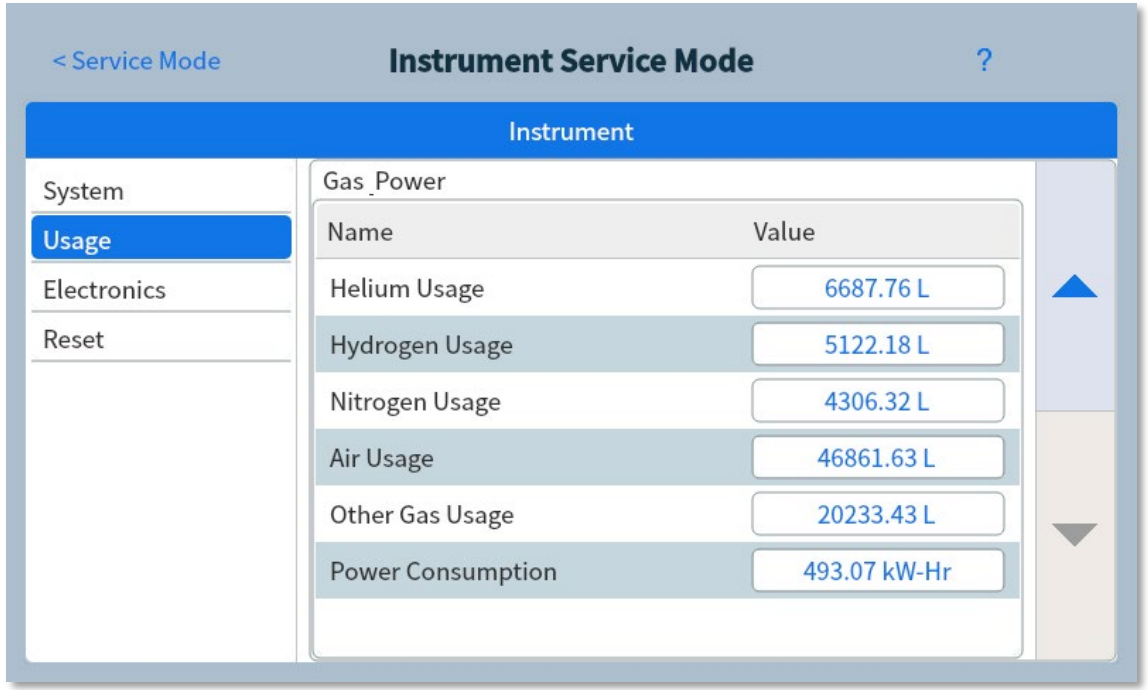
Large Enterprise Fleets

Lab Manager Concerns

- Support
- Optimal geographical deployment
- Duplication
- Underutilization
- Consumables and spare parts costs and deployment
- Fleet readiness

Smart Connected Instruments + CrossLab Connect Services

Optimizing Asset Utilization & Fleet Management



\+

Asset utilization metrics

Injections
Methods
No. service calls
Service costs
% utilization
Age, vintage
Uptime

CrossLab Connect Asset Monitoring Service

=

Greater uptime

Consistent results

Improved Productivity

Resource Optimization

Optimized CapEx & OpEx

Technology Refresh

CrossLab Connect Services Enable Efficiency Gains

Three Global Engagements Demonstrate Significantly Improved Outcomes

- Evaluated asset utilization and vintage to shift workload towards efficient instrumentation resulting in a 9% reduction of carrier gas consumption and a 35% increase in sample throughput.
- Moved from calendar-based to usage-based maintenance service contracts for instruments. Resulted in 10% annual savings in service contracts over three years.
- Provided insight to address a series of instrument failures and informed fleet right-sizing decisions which increased sample throughput by 41%.






Driving a More Efficient Digital Lab of the Future

Through the Lens of GC Examples

Smart Connected Instruments & Software

+

Smart Connected Consumables

+

Smart Connected Services

Lab Manager Goals

Drive lab efficiency

Reduce unplanned downtime

Better deploy & develop human resources

Agilent Supporting Labs to Advance Science and Improve Efficiency

The Transforming Analytical Lab

Instruments → **Outcomes**

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- **Software**
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- **Warranty**

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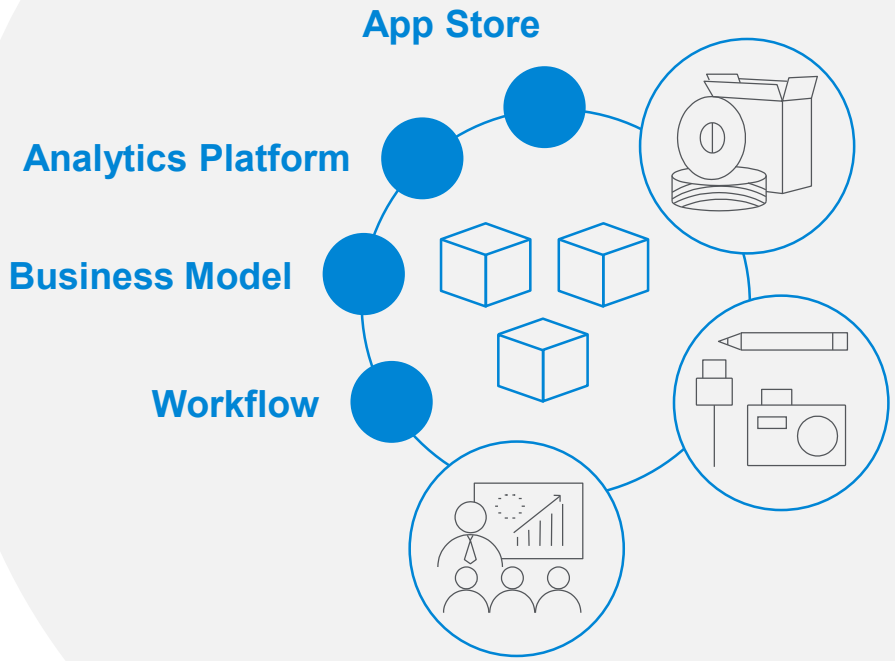


Data Centric Software Systems Enabling the Laboratory of the Future

Shawn Anderson,
Senior Director of Marketing for Agilent's
Software & Informatics Division

Agilent OpenLab

Agilent

Topics

1. Lab informatics today and tomorrow
2. How the cloud delivers value to the lab
3. OpenLab cloud capabilities

Customer Expectations are Changing

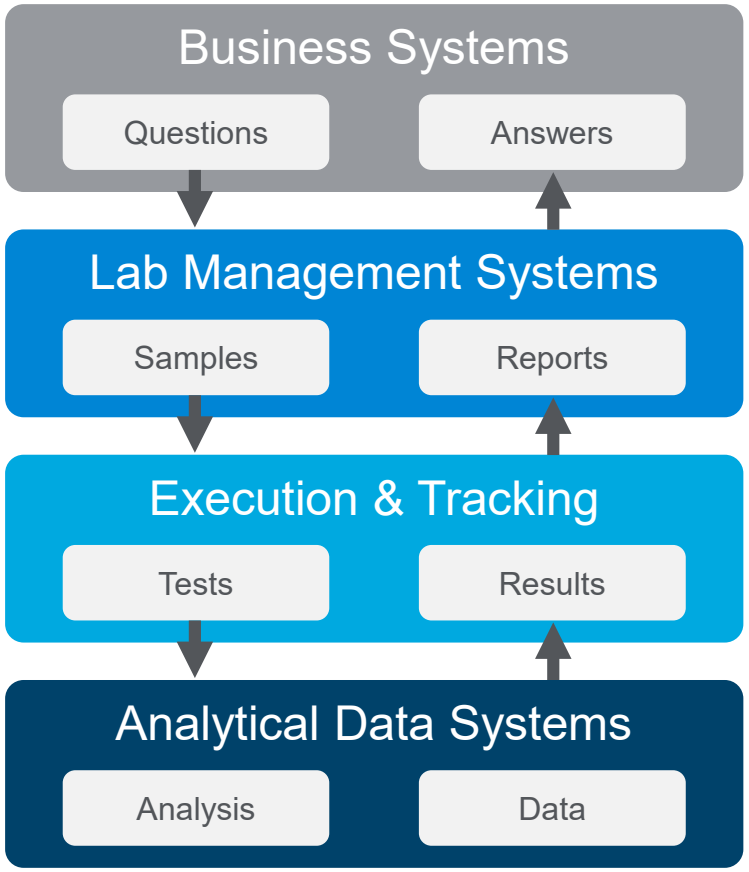
Informatics Systems Play an Even More Critical Role

- The lab exists to **answer questions** critical to the enterprise
- Workflow centric solutions **guide laboratories** in completing tasks
- **Driving efficient** operations
- **Enabling** non-specialist users
- **Recording** compliance and data integrity
- **Delivering** information security

The Current State of Laboratory Informatics

Were Not Designed or Optimized for Current Lab Expectations

Traditional Informatics



Stratified layers of products with limited interconnectivity, resulting in:

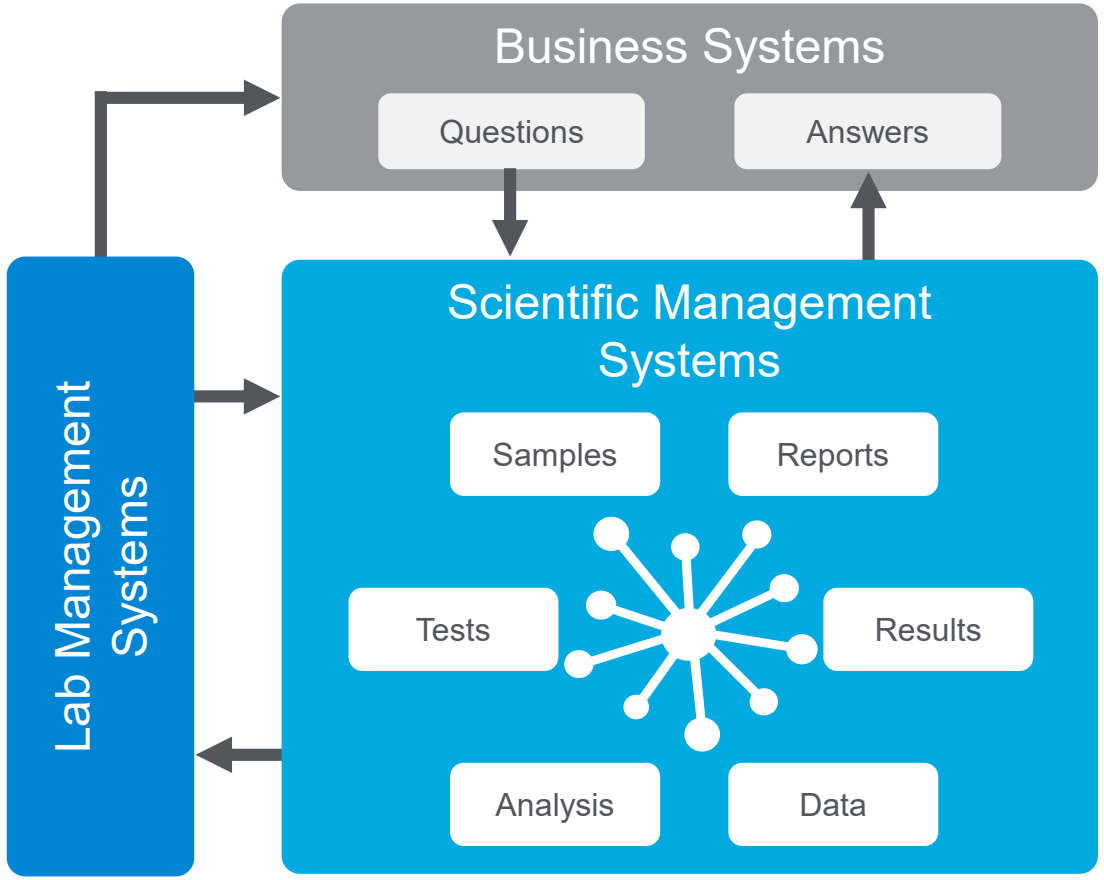
- Inefficiency
- Errors
- 'Dark data'
- Manual actions
- People driven decisions
- Limited redundancy
- Heavy infrastructure requirements
- Iterative & unidirectional workflows
- Siloed data

We are Heading Towards a New Paradigm

Putting Data at the Center to Facilitate Decision Making

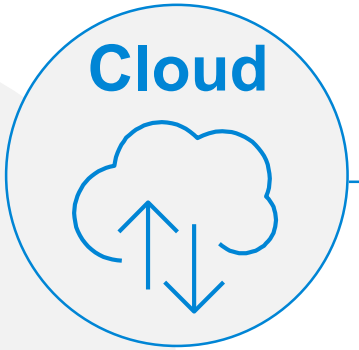
Digital ecosystems enable organizations to:

- Increase efficiency
- Enable automated processes
- Guide decision making
- Scale simply
- Collaborate

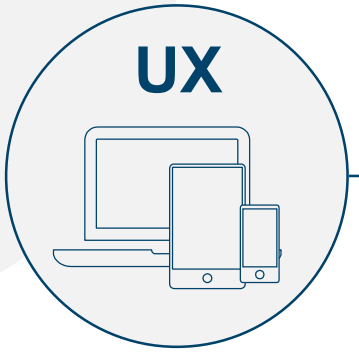


Implementing a Data Centric Paradigm Requires New Technology

Our First Two Steps



- Implement and upgrade faster
- Scale easily
- Recover simply
- Consolidate data



- Align workflow with interface and **U**ser E**X**perience
- Access critical information on demand
- Understand your operations constantly

…and delivers new capabilities across all laboratory functions

Cloud Enabled Informatics Delivers New Values to the Laboratory

Enable Self-Service	Tools to self-service and maintain systems in the lab
Enable Analytics	Gain new insights for your lab
Realize Mobility	Flexibility to work from where you are and enable remote services
Access Expertise	Troubleshoot and train remotely
Collaborate	Access, collect, analyze and store your most valuable asset – data

Value is Also Realized Outside the Lab

Optimize Cost

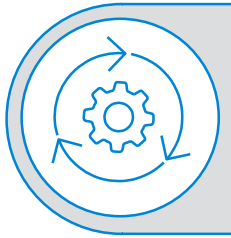
Pay for the capability you need, when you need it. Extract value from your assets rapidly

Deliver Security

Don’t worry about keeping up with details of security and technology

Focus IT

Spend time on the most important business goals



Manage Data

Simplify storage, archival, disaster recovery, and auditing

Our Market Research has Uncovered Four Distinct Groups of Labs

Global Enterprise

Process Driven

Expertise Driven

Small to Medium Scale

One Example

Global Enterprise

IT Sophistication
High

User Capability
High

Lab Size
Large

Geography
Global (not critical)

Considerations

- Cloud is often driven top-down
- Optimization of IT spend is a big consideration
- Laboratories are frequently lagging
- Backup, disaster recovery, high-availability are key motivators

Top Cloud Values

Optimize Cost
Pay for the capability you need, when you need it. Extract value from your assets rapidly.

Focus IT
Spend time on your most important business goals.

Manage Data
Simplify storage, archival, disaster recovery, and auditing.

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Access, collect, analyze and store your most valuable asset – data.

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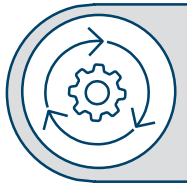
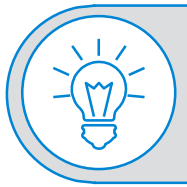


Manage Data

Simplify storage, archival, disaster recovery, and auditing



Collaborate

Access, collect, analyze and store your most valuable asset – data

Different Labs Often Require Different Solutions

Global Enterprise

Process Driven

Expertise Driven

Small to Medium Scale

Agilent Provides Choices for Deploying in the Cloud

OpenLab CDS* in the cloud

Global Enterprise customers have deployed CDS in the cloud to centralize system management and data, increase efficiency, and reduce operating cost

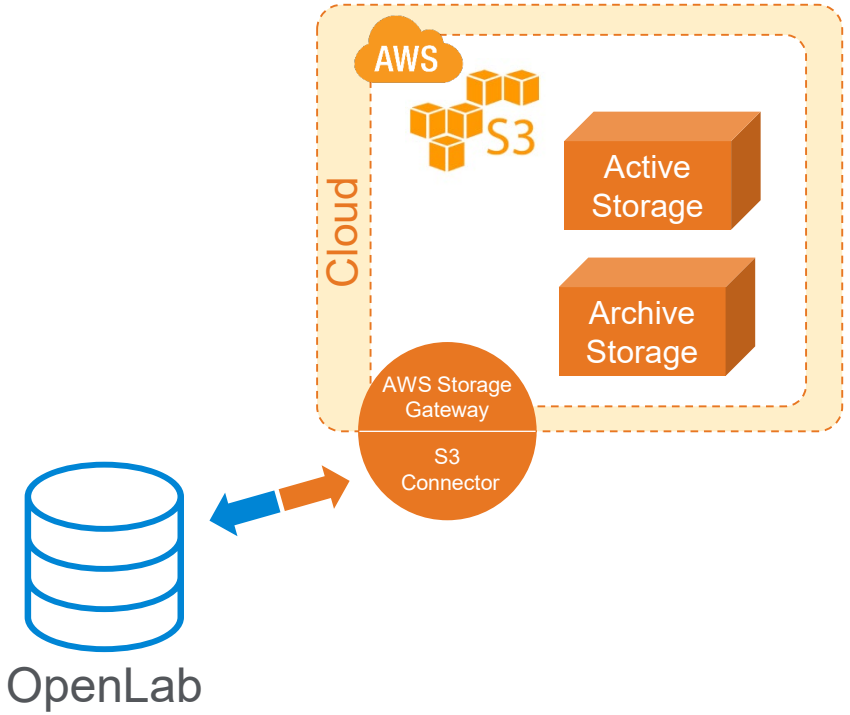
This solution lowers cost in a number of ways but one of its other benefits has been the improved communication between groups.

Global Consumer Products Lab IT

*OpenLab Chromatography Data System

OpenLab CDS Cloud Storage

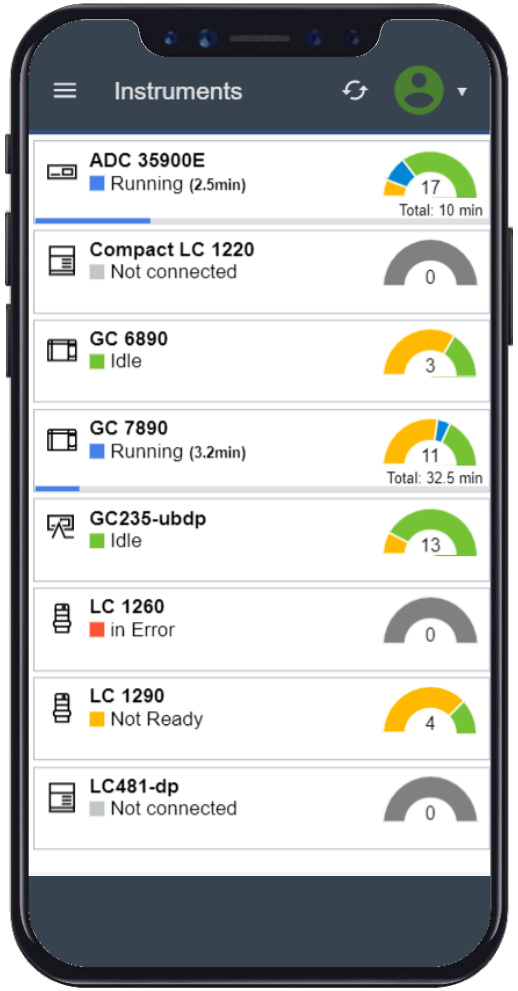
A simpler first step for the other three customer types: Quick connection to Amazon S3 file storage*



* Requires an Amazon AWS account and existing S3 storage/bucket locations.

Informatics Will Enable Wise Laboratory Practice

Systems Connecting the Dots to Answer Enterprise Questions



Actual screen capture of OpenLab Sample Scheduler

1. Lab informatics must deliver new insights
2. The value of cloud depends on the lab and situation
3. OpenLab is in the cloud today and will continue to evolve

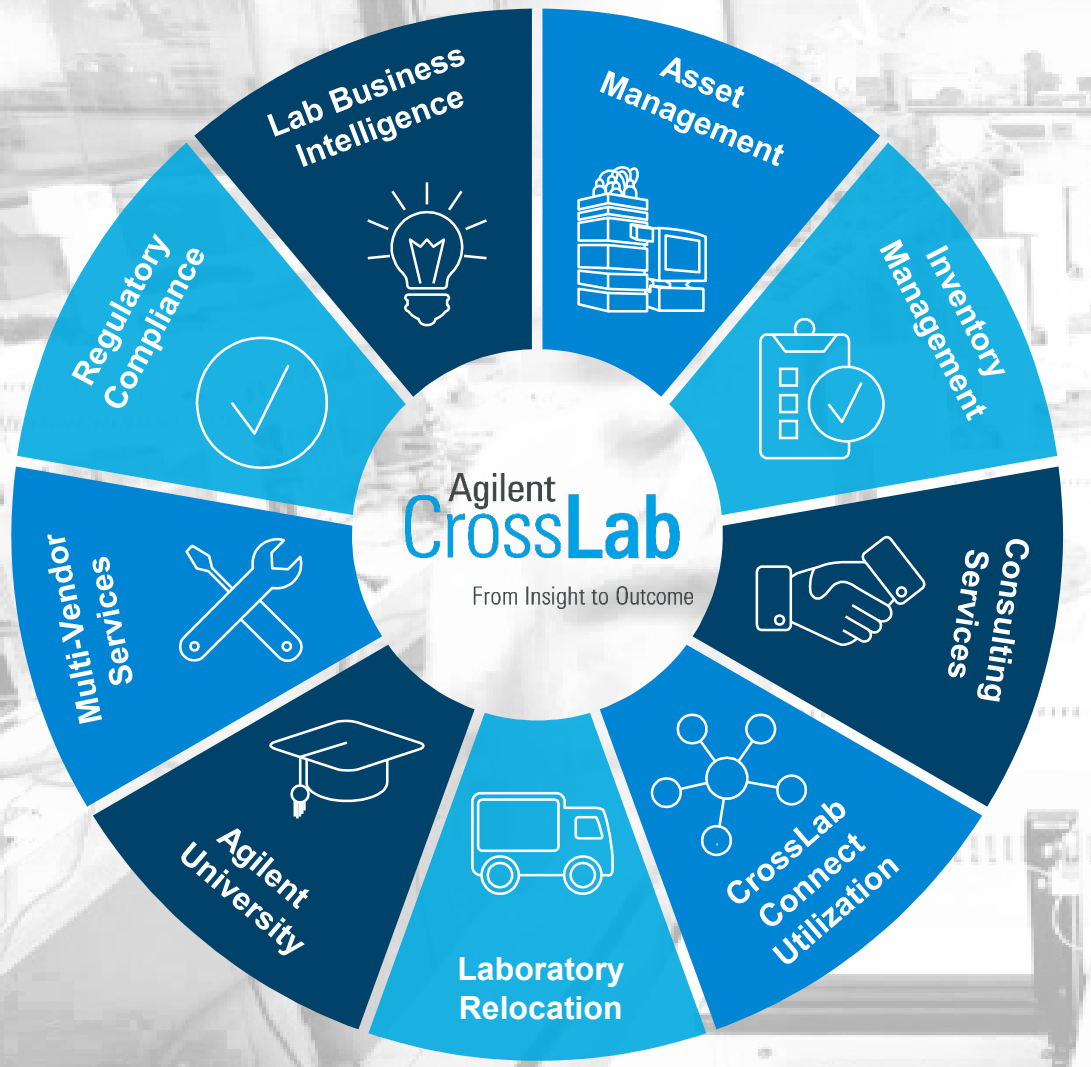
ACG Services: Providing Insight to Affect Customer Outcomes

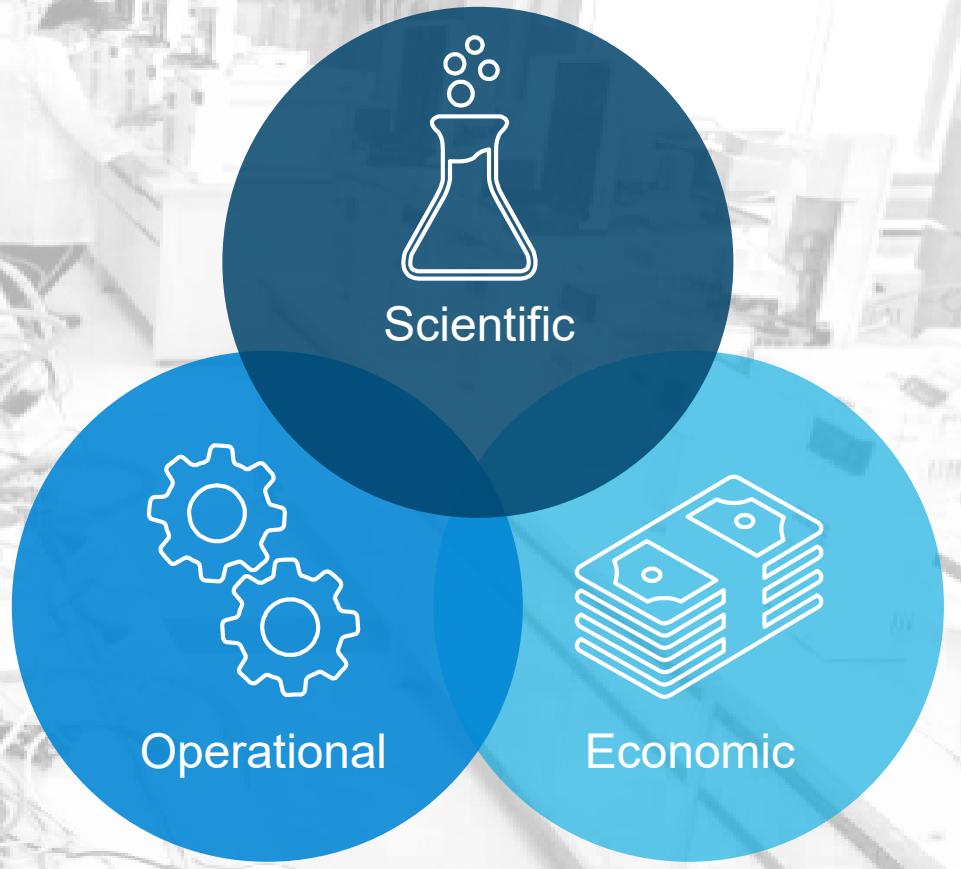
Kristin Giffin,
Vice President and General Manager for Agilent's Services and Support Division

Agilent
Trusted Answers

Agilent CrossLab Provides Various Products and Services to Address Key Issues

Providing Trusted Answers to Deliver Scientific, Operational and Economic Value





We Recognize Our Customers Face Key Challenges in Their Laboratories

Customers' #1 concern is **minimizing unplanned instrument downtime;** they need to know instruments are being properly maintained to ensure highest uptime

Customers are looking to **increase the workloads on their instruments** to get more return from their investment

They want to ensure the instrument is functioning at its best to ensure the **most accurate results**.

Well maintained instruments are high performing instruments

We support GC Customers Throughout Their Workflow

As a world leader in GC and GC/MS systems, we offer all the necessary components for GC analysis with flexible, modular systems for a wide range of uses

We have millions of touch points with customers every year so our expertise and experience with these products is unmatched

We bring this experience into our product design working hand in hand with our GC teams to provide unified, integrated Services and Support

By providing sustained support, and indeed engaging in a dialogue with our GC customers throughout the lifecycle of their GC instrumentation, we ensure that we are able to innovate with their real-life concerns at the front of our minds

Smart Alerts: GC/GCMS

From a deep seated understanding of our GC/GCMS customers (including early Voice of Customer research) we have been able to turn this into tangible action; the development of Smart Alerts for our GC systems, which specifically address concerns around preventative maintenance.

A new, usage-based approach to instrument maintenance is needed

"The biggest help for us would be a software tool that helps us schedule based on instrument condition/use rather than the schedule-based model."

US lab

"Approximately 30% of our instruments are heavy use, and those are the ones we would like real-time data to determine the PM schedule."

US lab

An email-based notification model is preferred

"An email notification would be the most helpful. With an open access model with 20 users, the users won't always act when an instrument alert comes up."

US lab

"I'd like to receive an e-mail 1-2 weeks in advance notifying me PM is due."

US lab

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Offering multiple solutions for different customer situations

"Our company does not allow remote extra-network connections."

European lab

"We are interested in a standalone solution."

Japanese lab

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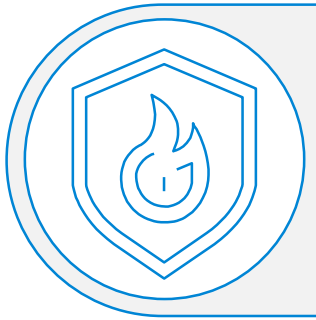
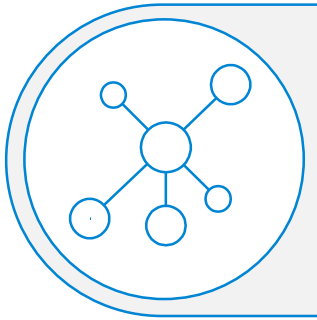
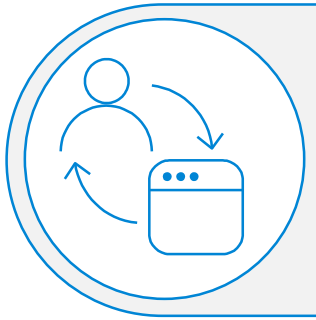


Security/on premise solution

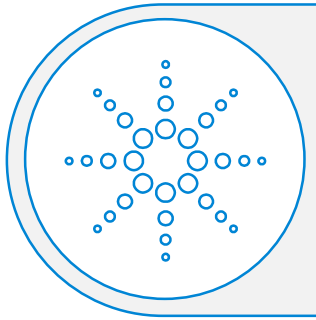
Delivers technical insights and recommendations based on testing



Potential for a continuum of connectedness



User experience – customer installable, user interface



Simplified, seamless transaction access to Agilent (consumables, maintenance, etc.)

Enables customers to leverage usage data in new and valuable ways

But What Exactly is Agilent ‘Smart Alerts’?

‘Smart Alerts’ easily installs on any PC in the lab. It monitors instrument usage (or ‘health’), and provides recommendations on instrument maintenance based on actual usage (sample volume and applications) and insights provided by Agilent. It notifies laboratory personnel when to consider replacing key instrument consumables and when to perform preventive maintenance. Labs get one consolidated email for instruments across your lab.

- Unscheduled downtime is reduced
- Efficiency is promoted with easy access to information which offloads tedious tasks for Lab Managers
- The result is that GC labs can perform at unprecedented levels of throughput

Making ‘Smart Alerts’ Available Across the GC Franchise

- Feedback on the application for Intuvo has been positive so far; an environmental lab in Shanghai, China has spent the most time with the application:
  - *“Smart Alerts is making the proactive and timely provision of the maintenance information and instrument status reports we require.”*
- Significant growth is expected with the new version:
  - *“I’m waiting for the 7890 release to increase my usage” US chemical customer*

Constantly Improving the Customer Experience

- The Agilent team listens to our customer's needs and develops innovative solutions that fit their workflow
- Our solutions will get even smarter over time
- We are very focused on innovating our business processes and expanding our digital offerings as well as working on world class instruments
  - *Digital interactions*
  - *Flexible spend programs*
  - *End to end customer experience*
  - *Agilent University for education*
- The Services team will meet our customers needs by providing insights that lead to improved outcomes

"There is a dramatic difference in the level of quality through the ordering, installation scheduling, follow-through, etc. above your competitors. It does NOT go un-noticed."

"The online has really streamlined a lot of things for us. We did not have to email back and forth."

"It's online and automated. It is better than most vendors."

Q&A