Accelerated Technology LABORATORIES INC.

Leaders in Data Automation

ATL TITAN
BEYOND LABORATORY INFORMATION MANAGEMENT

RESULT POINT
data when you need it

SAMPLE MASTER®
LABORATORY INFORMATION MANAGEMENT SYSTEM

SeqNFind
facilitating discovery

Innovation.
Performance.
Success.

CONSIDERATIONS WHEN SELECTING A LIMS

(LABORATORY INFORMATION MANAGEMENT SYSTEM)

Presented by:

Sonja Stutsman, Account Manager, Sales and Marketing

Accelerated Technology Laboratories, Inc.

Agenda

- **Introduction to LIMS**
  - Why would a laboratory want one?
- **Considerations in LIMS Selection**
  - **Technical Considerations**
  - **Cost of Ownership**
  - **Usability**
  - **Features**
  - **Security**
  - **Partner**

- **LIMS Roadmap to Success Guide**
- **Summary**

LIMS - wiki

Laboratory Information Management System

Laboratories around the world depend on a LIMS to manage data, assign rights, manage inventory, and more.

A **Laboratory Information Management System** (LIMS), sometimes referred to as a **Laboratory Information System** (LIS) or **Laboratory Management System** (LMS), is a software-based laboratory and information management system with features that support a modern laboratory's operations. Key features include — but are not limited to — workflow and data tracking support, flexible architecture, and data exchange interfaces, which fully "support its use in regulated environments. "The features and uses of a LIMS have evolved over the years from simple sample tracking to an enterprise resource planning tool that manages multiple aspects of laboratory informatics.

LIMS Market Drivers

- To securely manage data – final product
- Need for enterprise level solutions
- For competitive advantage
- Increased efficiency to counter decrease in resources
- Regulatory compliance (EPA, FDA, ISO 17025, GMP, USDA, GFSI, FSMA, etc.)
- Enhanced communication across organization
- Standardized business practices
- Globalization imperatives

Anticipated annual LIMS market growth rate 8.6%+

To make more efficient use of time and to save $$$

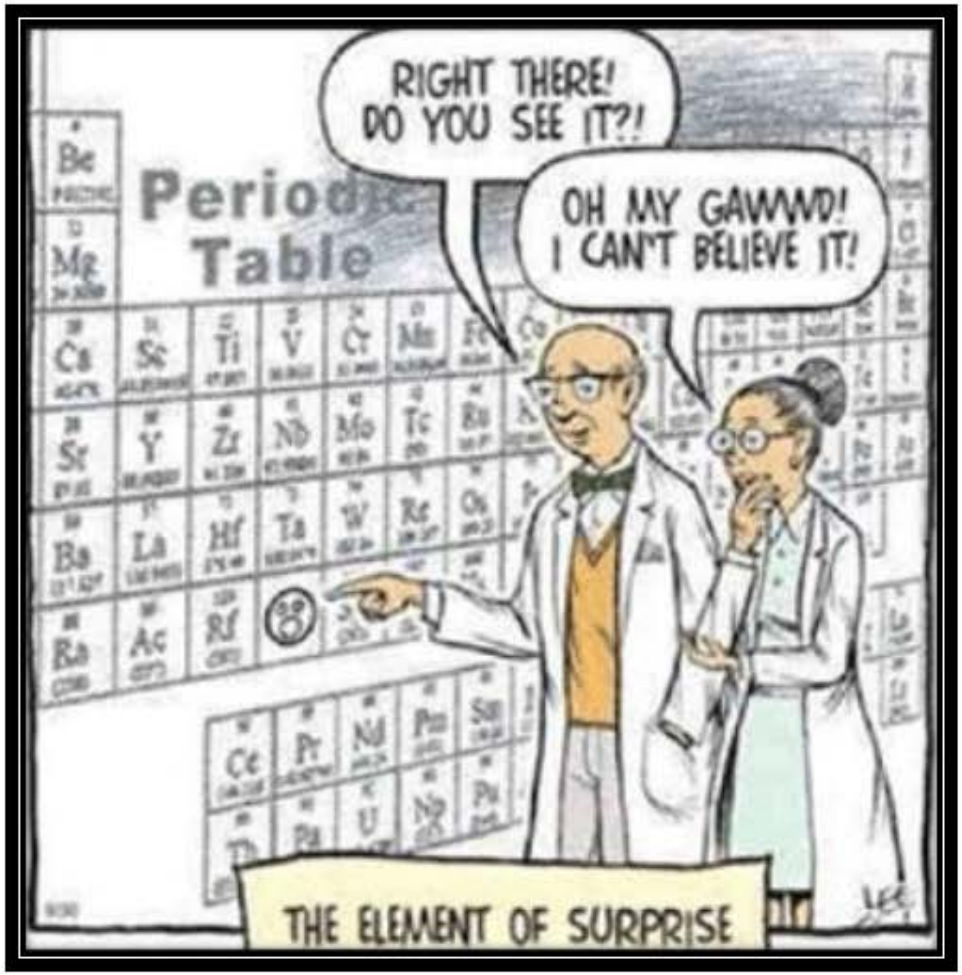
Why LIMS?

- Reducing Manual Entry
- Eliminate Error-prone duplication of efforts
  - Transcribing data from bench sheets and field sheets
- Automation increases Traceability and consolidates into one integrated system

Navigating the LIMS Marketplace:

Why It's Important to Learn about LIMS

- An educated LIMS Consumer is our Best Customer
  - Understand the technology and the differences
  - Make a good decision for today and the future
  - So that you understand the ROI and the value proposition
  - To avoid surprises



Main Considerations in LIMS Selection

1. Technical considerations/IT considerations
2. Cost of ownership
3. Usability (ease of use)
4. Features, Functionality and Familiarity
    1. Referential Integrity
    2. SQL database engine
    3. Configurable (without customization)
5. Security
6. Company history and experience (track record)

Procurement

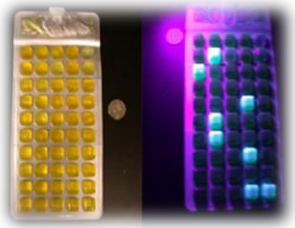
- Procurement Process
  - GSA Route (GSA Schedule 70)
  - RFI/RFP/RFQ
  - Sole Source
  - Low Bid

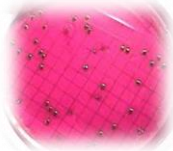
IT Takes a Team

Lab

IT

Micro

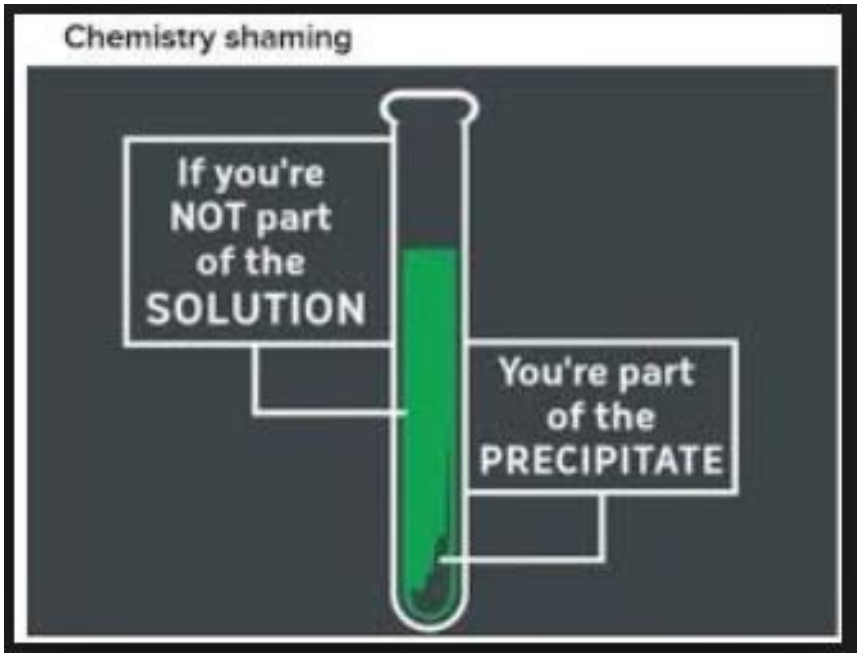




LIMS Partner

QC

TECH SUPPORT

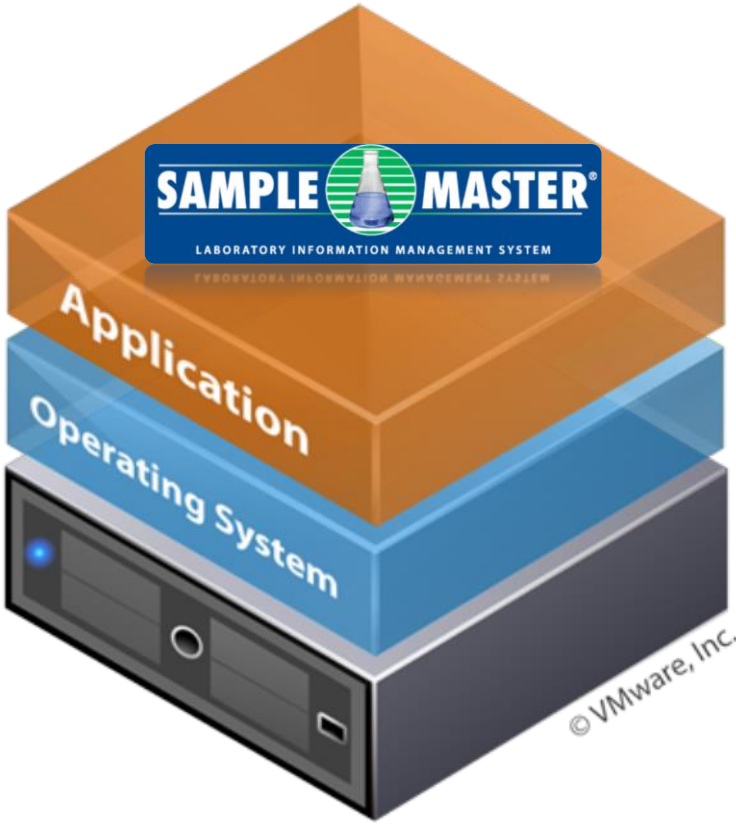


Get everyone on the team involved

TYPES OF LIMS

- Client-Server Based (VB)
  - Fat client
  - Thin client
- Web Based (.NET/C#) – good for multiple sites
  - Premise Based
  - Cloud based - Hosted
  - Simple
  - Sophisticated

What is a LIMS Database?



LIMS is at the application layer

MS Office is at the application layer

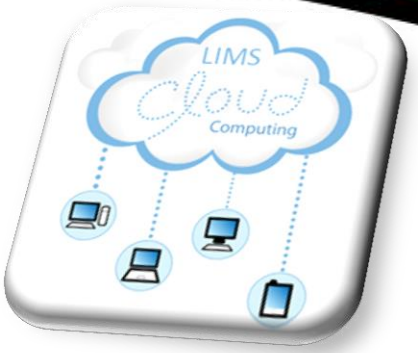
Operating System = Windows, Red Hat, Linux

Database software sits on the server (MS SQL Server, Oracle, Sybase, etc.. Free engines SQL Express, MySQL, others.

Benefits of SaaS LIMS

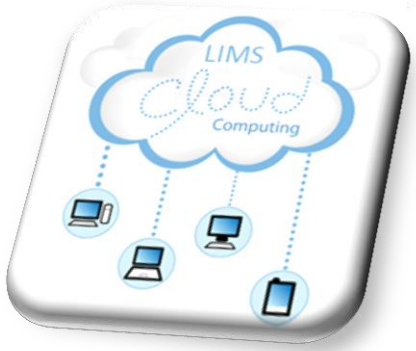
- Eliminates need for infrastructure/IT
- Ensures foolproof security
- Offers anytime, anywhere unlimited secure access
- Provides easy configuration
- Brings excellent economies of scale
- Improves ease of use
- Lowers cost of entry

Benefits of SaaS LIMS (cont)



- Eases upgrades
- Lowers risk and increases ROI
- Facilitates idea of online community of users who can enhance the LIMS overtime
- Offers unlimited scalability
- Creates efficiencies in lab management and tracking
- Deploys software more quickly

Benefits of SaaS LIMS (cont.)



- Frees-up IT staff for better allocation
- Creates “pay as you go” LIMS
- No Installation and No Maintenance
- Reduces need for advanced hardware
- Removes need for physical space
- Provides robust reporting and compliance capabilities

2. Cost of Ownership

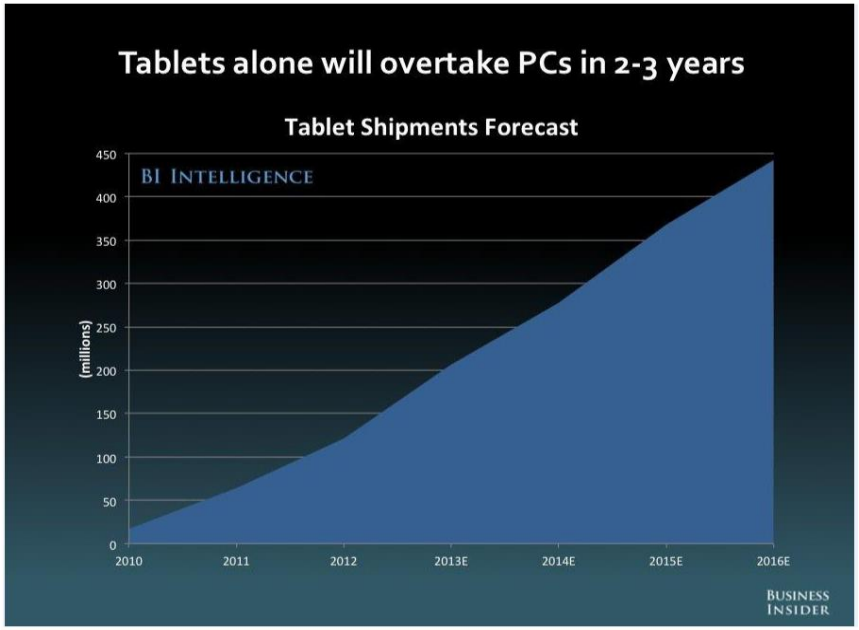
- Premise vs. SaaS
  - Hardware and servers
  - IT support
  - Annual Support
- Features versus price
- Needs/requirements versus price
- Recovering ROI – how long to live? (Typical should be 4-6 months if full time effort) for 20-25 person lab with up to 10 instruments and 5 custom reports.
- Cost to configure to a useable state
- Market trends – are you buying old technology?

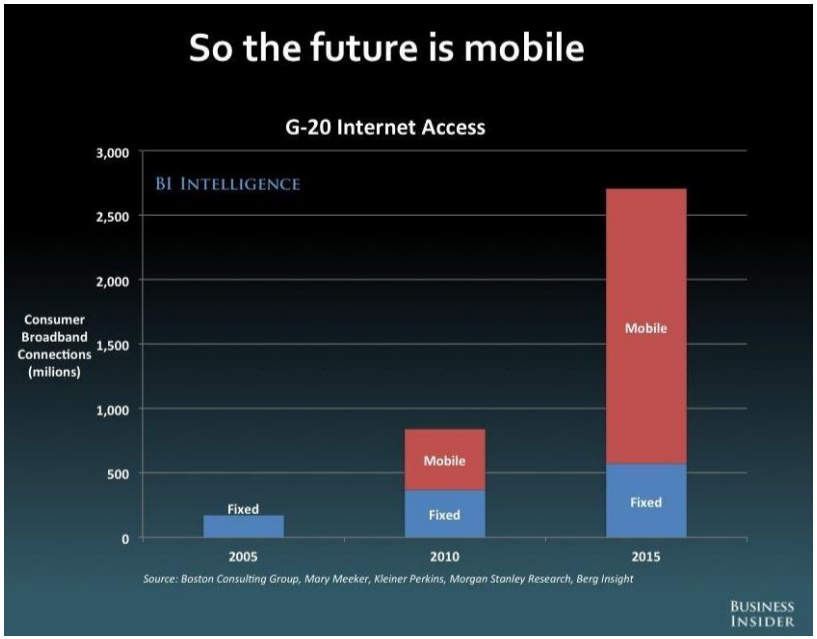
2. Cost of Ownership

- On-going support
  - Free upgrades
  - Live, unlimited, toll-free, technical support
  - Knowledge base
  - On demand Video tutorials
  - User groups
  - Formal training program

2. Cost of Ownership

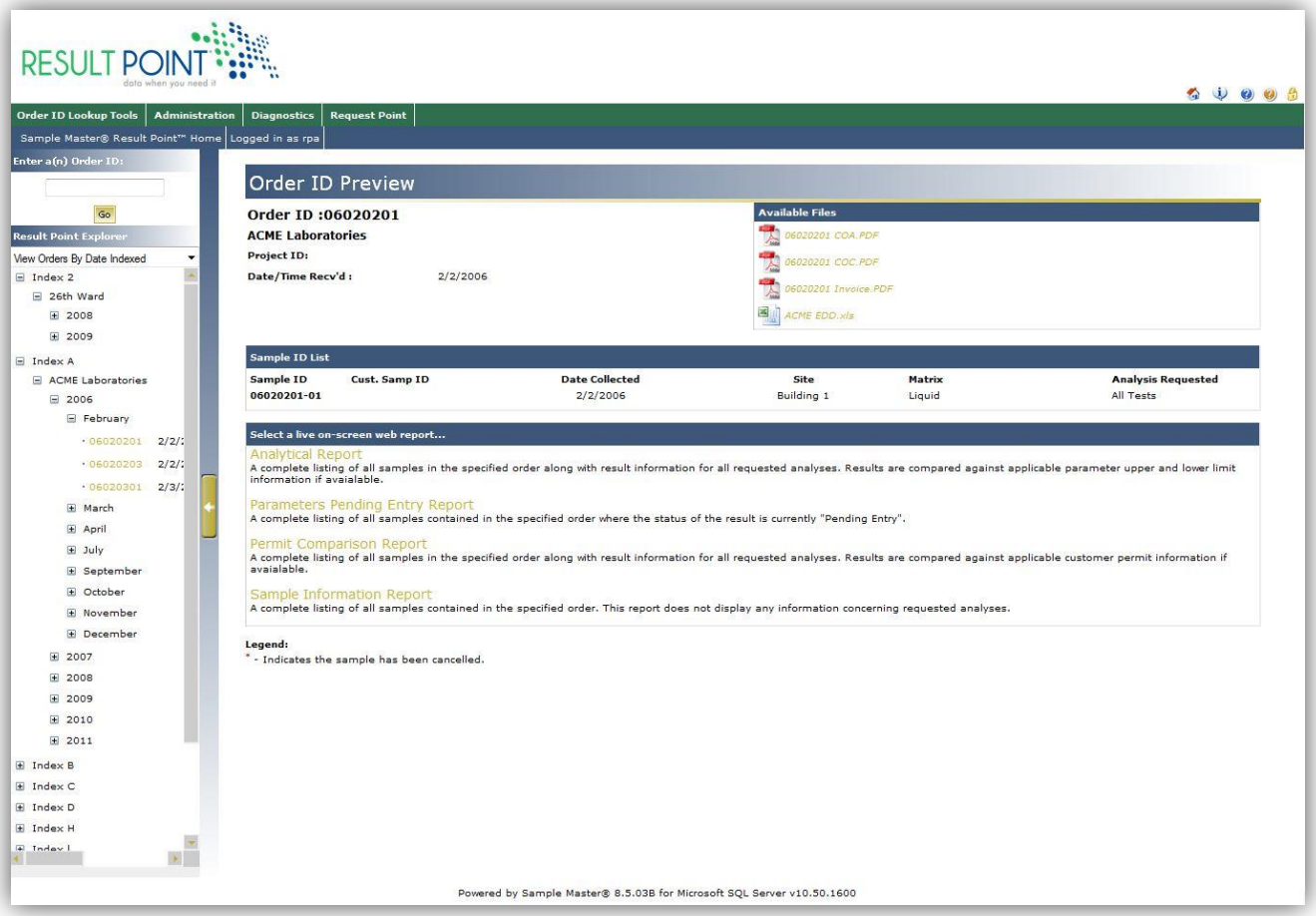
- Technology review
  - 64 bit compatible/Windows 8 Compatible? Web-based, thin client? Security? Data encryption? Auditing?





Secure Web Portal Available

- ✓ The web portal allows access to data 24/7
- ✓ Users can log in and view result status, print reports, download Excel files (EDDs) and much more.
- ✓ Users can also check on sample status
- ✓ Print preliminary XML reports
- ✓ Check sample status



3. Usability (Ease of Use)

- Is the software intuitive, use of features should be fairly self-evident
- Adoption of software within organization
- Support quality is important and provides a resource for technical questions or issues that arise
- Ability to have user specific views, terminology?
- Training users to extract the maximum software benefit
- Maintenance, the companies investment in R&D to improve the software, underlines a commitment to providing quality service

4. Features, Functionality and Familiarity

- Is it easy to navigate, drill down, sort, search (query) data in a variety of ways, etc.?
- Does it meet regulatory compliance goals?
- Can users leverage their workflows, terminology and number formats?
- Can each user save settings that conform to the way they work?
- Does the software follow standard conventions? Is it logical?

4. Features, Functionality and Familiarity

- Is the LIMS compatible with Microsoft products: Excel, Outlook
- Is there a built in way to generate EDDs as necessary
- Is there a capability for Discharge NPDES DMR Reports and does it include electronic reporting?
- Does the LIMS have Easy Report Generation?
- Capability of interfacing with Accounting Systems: Quickbooks, JD Edwards, etc .

Instrument Integration

- Reduce transcription errors
- Increase throughput
- Avoid duplication
- Increase accuracy
- ROI typically within 1 year
- Enhance productivity












Dashboards

- Laboratory BI* at your fingertips
- Easily view trends
- Monitor laboratory in real-time

* Business Intelligence

5. Security

- What encryption standard is used?
- How granular are the permissions?
- Can the database tables be accessed and altered by those without DBA permissions?
- Can user roles be set up?
- Is the LIMS 21 CFR Part 11 Compliant?
- Does the system provide auditing?

5. Security: SaaS

- Data Security
  - Dependency on hardware outside building
  - Complete firewall security (private cloud)
  - Hackers within the cloud (esp. if public)
- Reliance on Internet
  - Solution is redundancy across the hardware and software
  - Interruptions: impact on operations

6. Choosing a Partner:

Company history and experience

- Company/Products
- Technology
- Barcoding Basics
- Key Markets served
- Support & Services, User groups
- Instrument integration & Enterprise Integration (SCADA, SAP, ERP, etc)
- Strategic Partnerships

Company history and experience

- How long have they been in business
- Are they ISO Certified? Do they care about quality?
- How do they operate? Chemistry?
- What technology are they based on?
- What do their customers say?
- Do they offer any training programs?
- What type of support is offered?
- Which certifications do they hold?
- Have they placed their software in Escrow?
- Have they recently been sold?
- Are they involved in any law suits?

Support and Training offerings

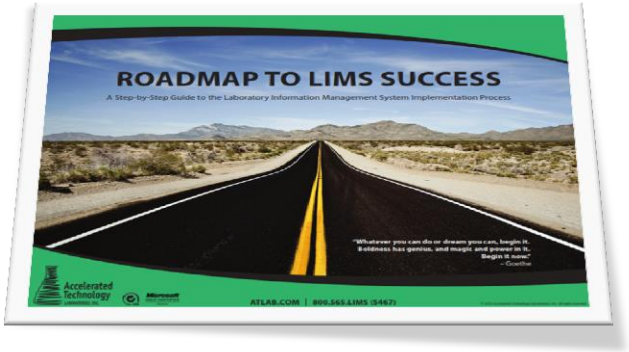
- Toll-free support, free product upgrades, and free quarterly Webinars for GOLD Clients
- LIMS Boot Camp (regularly) + report writing courses
- Training videos + tutorials
- Web guided and custom training offerings

LIMS Roadmap

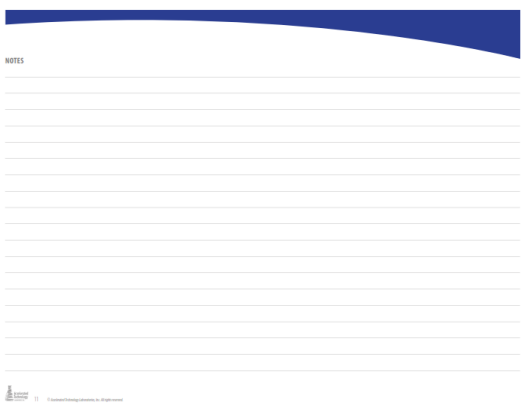
- **LIMS Project Checklist**

ATL's Implementation Process

- Define Project Scope
- Specify System Features
- Implementation
- Deployment - Go-Live



Roadmap To LIMS Success



Guide provides step by step guidance from initial scope through the LIMS requirements, implementation and deployment process.

RISK

- If you take a RISK and win, you will be Happy, if you take a RISK and lose, you will be Wise.

Summary

- It is important to perform due diligence
- Having the tools and guides streamlines the process
- It is critical to select the right LIMS partner to ensure your laboratories success, not only in providing a competitive advantage, being more efficient, enhancing data quality, promoting automation and regulatory compliance
- There are many things to consider in a LIMS purchase:
  - **Technical Considerations**
  - **Cost of Ownership**
  - **Usability**
  - **Features**
  - **Security**
  - **Partner**

Questions and Answers

Thank you!

For more information on LIMS or a copy of the LIMS ROADMAP to Success, phone 800.565.LIMS (5467) or email: info@atlab.com