

# **LIMS Evaluation & Tender Process**

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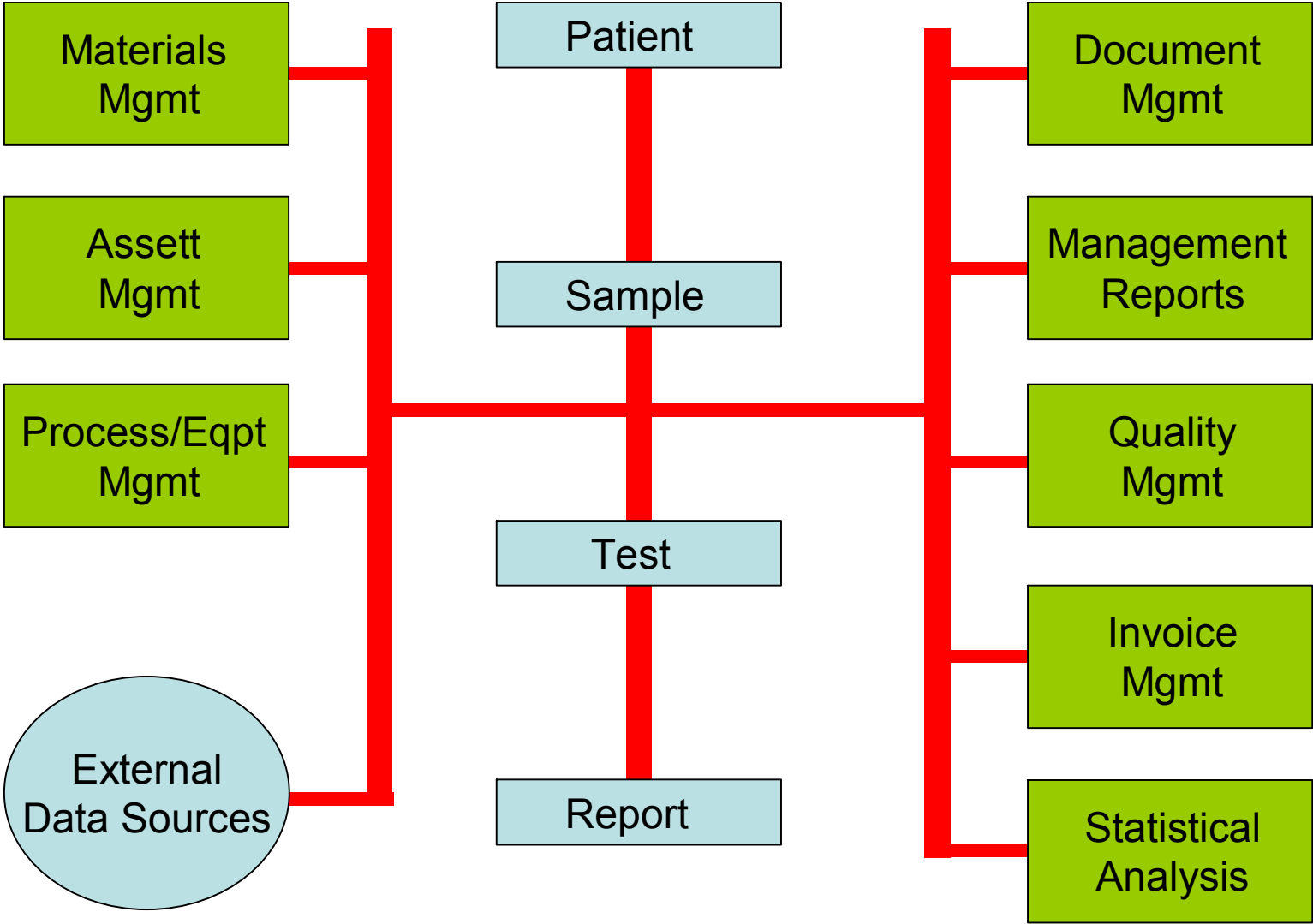
# Overview

- What is a LIMS?
- Business Case
- Initial project scope
- Expanded project scope
- Evaluation process
- Pilot project
- Tender process
- Final selection

# What is a LIMS?

- Laboratory Information Management System
- Normally based on enterprise-strength relational database – Oracle, MS SQL Server
- Sample recording & tracking, workflows, reporting
- Integration with existing database systems and interfacing with instruments

# PROPOSED LIMS ARCHITECTURE



96 Well Plate Down Columns-1 Properties

General Plate Status Prompt Pedigree Inspection Actions Notes Report



	1	2	3	4	5	6	7	8
A	●	●	●	●	●	●	●	●
B	●	●	●	●	●	●	●	●
C	●	●	●	●	●	●	●	●
D	●	●	●	●	●	●	●	●
E	●	●	●	●	●	●	●	●
F	●	●	●	●	●	●	●	●
G	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●
I	●	●	●	●	●	●	●	●
J	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●
L	●	●	●	●	●	●	●	●

- Search
- Result Entry
- Aliquot**
  - Split
  - Composite
  - Spike**
  - Move
- Aliquot Processing
- Build
- Extensions
- Events
- Report
- Notes...
- Properties**

[A,1]	[D,3]	[G,5]	[J,7]
[B,1]	[E,3]	[H,5]	[K,7]
[C,1]	[F,3]	[I,5]	[L,7]
[D,1]	[G,3]	[J,5]	[A,8]
[E,1]	[H,3]	[K,5]	[B,8]
[F,1]	[I,3]	[L,5]	[C,8]
[G,1]	[J,3]	[A,6]	[D,8]
[H,1]	[K,3]	[B,6]	[E,8]
[I,1]	[L,3]	[C,6]	[F,8]
[J,1]	[A,4]	[D,6]	[G,8]
	[B,4]	[E,6]	[H,8]
	[C,4]	[F,6]	[I,8]
	[D,4]	[G,6]	[J,8]
	[E,4]	[H,6]	[K,8]
	[F,4]	[I,6]	[L,8]
	[G,4]	[J,6]	
	[H,4]	[K,6]	
	[I,4]	[L,6]	
	[J,4]	[A,7]	
	[K,4]	[B,7]	
	[L,4]	[C,7]	
	[A,5]	[D,7]	
	[B,5]	[E,7]	
	[C,5]	[F,7]	
	[D,5]	[G,7]	
	[E,5]	[H,7]	
	[F,5]	[I,7]	
	[H,2]		
	[I,2]		
	[J,2]		
	[K,2]		
	[L,2]		
	[A,3]		
	[B,3]		
	[C,3]		

OK Cancel Apply

Samples Pending Receipt - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://labdemo.lims.com:8080/elims/rc?command=page&page=SampleReceiveList

LabVantage SAPHIRE Sapphire R4 LIMS SiteMap LogOff Database: ELIMS User: RandyReceiver

Samples Reports

Import Samples | Receive | Manage

Samples Pending Receipt

Edit Receive Now View/Edit First

Hide Search Bar

Search Bar

Group by Columns: Batch OK

Search within the Id/Desc: OK

Search by a Query:
 

- AllSamplesToReceive
- ByBatchToReceive
- ByProjectToReceive
- ByRequestToReceive
- ByStudyToReceive
- Today'sSamplesToReceive





















Search for Samples by Batch which are Pending Receiving

Please supply the following additional information and click Search Now

Batch Id

Search Now

Scan in Ids: OK

<input type="checkbox"/>	Sample ID	Status	Request ID	Project ID	Product	
<input type="checkbox"/>	<a href="#">S-20050111-0002</a>	Initial			<a href="#">Aspirin</a>	   
<input type="checkbox"/>	<a href="#">S-20050111-0003</a>	Initial			<a href="#">Aspirin</a>	   
<input type="checkbox"/>	<a href="#">S-20050111-0004</a>	Initial			<a href="#">Aspirin</a>	   
<input type="checkbox"/>	<a href="#">S-20050111-0005</a>	Initial			<a href="#">Aspirin</a>	   
<input type="checkbox"/>	<a href="#">S-20050111-0006</a>	Initial			<a href="#">Aspirin</a>	   

Internet



### Plate Manager

#### Plate History

[New Plate](#) [Copy Source](#)

- [-] Racks
  - [-] RC0000043
    - [-] Matrices
      - MX000021
    - [-] Plates
      - PL0000012-01
        - PL0000012-02
        - PL0000013-01

#### Test Workflow Steps

- Load Plate
- Incubate
- Import Results
- Validate

#### Step Actions

- Display Incubation Time

#### Step Details

Start Date: 2/ 7/2006

Start Time: 07:00

Duration: 6

Units: Hours




Plate Details
Plate Results

Row#	Col#	Sample/QC Type	Sample ID	Replicate	Dilution	Concentration
B	1	BLANK	N/A	2	1:10	1
D	1	NEGATIVE	N/A	2	1:10	1
F	1	POSITIVE	N/A	1	1:10	1
H	1	SAMP001	A000034001	1	1:10	1
B	2	SAMP003	A000034002	1	1:10	1
D	2	SAMP005	A000035001	1	1:10	1
F	2	SAMP007	A000036001	1	1:10	1
H	2	SAMP009	A000036002	1	1:10	1

	1	2	3	4	5	6	7	8	9	10	11	12
A	002	010	018	026	034	042	050	058	066	074	082	
B	003	011	019	027	035	043	051	059	067	075	083	
C	004	012	020	028	036	044	052	060	068	076	084	
D	005	013	021	029	037	045	053	061	069	077	085	
E	006	014	022	030	038	046	054	062	070	078	086	
F	007	015	023	031	039	047	055	063	071	079	087	
G	008	016	024	032	040	048	056	064	072	080	088	
H	001	009	017	025	033	041	049	057	065	073	081	089


#### Well Details

**B2**  
Samp# A000034001

#### Plate/Buffer Factors

- Denaturing Temp.: 9
- Annealing Temp.: 50
- [-] Buffer Factors
  - Primer JS-5: 0.05
  - Primer JS-13: 0.08

#### Sample TAT



# Business Case

- Concise Business Case key to any successful project
- Cornerstone of PRINCE2 methodology
- Do we need a LIMS?
- Can we calculate the ROI?
- What is our budget and resources for the evaluation process?



# Initial project scope

- White Paper funded
- Identified as business need for Molecular lab high-throughput facility
- Current lab management/database system has no instrument connectivity or development in that area
- Some evaluation work carried out

# Expanded project scope

- Cross-lab use – Cytogenetics and Molecular
- Single application for lab use – workflow, sample tracking, document control, asset management, materials management, reporting
- Increase of automation in Cytogenetics – Metafer scanners, slide making robot

# Evaluation process

- Contact with software vendors
- Site visits and demo days
- Comparative grid
- Key areas
  - Price!
  - Database choices
  - Client licensing
  - Interfacing
  - Company reputation

# Pilot project

- Thermo Electron 'Nautilus'
- Company suggested pilot project
- Appeared good 'baseline' product in terms of price, features, potential
- Pilot project conducted over 6 weeks at WMRGL
- Connectivity to ABI sequencer & Shire database
- Lessons learned

# Tender process

- Individual labs tendered via NHS procurement and STEP process
- Timescale allowed several labs to compare tender returns for features and pricing
- Decision made to conduct final selection process as a consortium
- No guarantees, but advantages of consortium buy outweighed individual choice

# Final selection

- Final four
  - Labware
  - Labvantage
  - Thermo Nautilus
  - Starlims
- 5 days in Manchester, one vendor per day, demos and Q&A
- Intense!

# Summary

- STARLIMS chosen as preferred vendor
- Why?
  - Interfacing
  - Site wide license
  - Willingness to work with us
- That was the easy bit!
- Implementation and integration.....