



Web based Open Source LIMS

tell it as it is



bi:ka Zulu trad: to report, from clan to clan,
bring news of weddings, births, festivals and funerals

Lemoene Smit · LIMS Analyst & Project Manager



Overview

Professional Open Source LIMS



www.bikalims.org

Bika Community

Functionality

bikalims

bikahealth

bikainterlab

Roadmap · Questions

POSS - Professional Open Source Software

Enthusiastic user community

Free LIMS

Bug reports · Feature requests · Translations · Code

Sponsors · Fee paying clients

Major new developments · No licenses to pay

Professional service providers

Aggregate · Merge · Develop · Maintain

All contribute to LIMS Design and **Testing**

***Participants work towards their own goals,
benefiting all***

LIMS Benefits

- ✓ Dramatically improved capacity
- ✓ **Improved turnaround** times (TAT)
- ✓ Higher **accuracy**
- ✓ Higher levels of certainty
- ✓ Traceability and accountability
- ✓ **Easier Accreditation**



www.bikalims.org

500+ Subscribers



Wiki

Github.com/bikalabs

Github.com/bikalabs/Bika-LIMS/wiki

Bika Certified Professional Service Providers



Mailing lists

- Users
- Developers
- Designers
- Bika Health

Coming through



D9T
Riding Bytes



Incyte Systems



Lab San Martin



WebTide

Your logo
here...

On-line demonstration installations

- LIMS
- Bika Health
- Interlab PT

Online Manual & Video

Issue Tracker: <http://jira.bikalabs.com>

IRC: <irc://freenode.net/#bika>



Bika Branches



ISO 17025 LIMS · Chemistry and Micro-biology

Agriculture, Food and Beverages, Water Quality, Mining and Geology, Engineering, Environmental Management, etc.

Interfaced with lab instruments, ERP and accounts packages



CLIA conformant health care LIS

Adds Patients, Doctors, Referring Institutes, Clinical Cases

Also used in veterinary settings

The basis for Bika applications in bioinformatics

Interfaced with clinical instruments, EMR or hospital systems



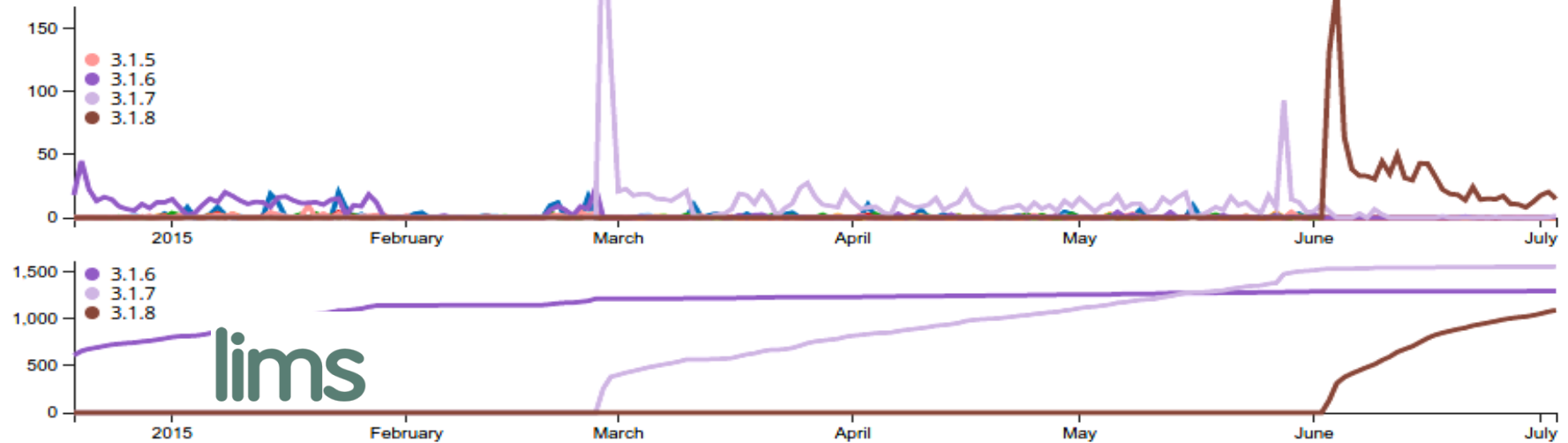
Inter-laboratory Proficiency Testing

Easy browser based interface

Immediate turn-around. Results per email and securely on-line

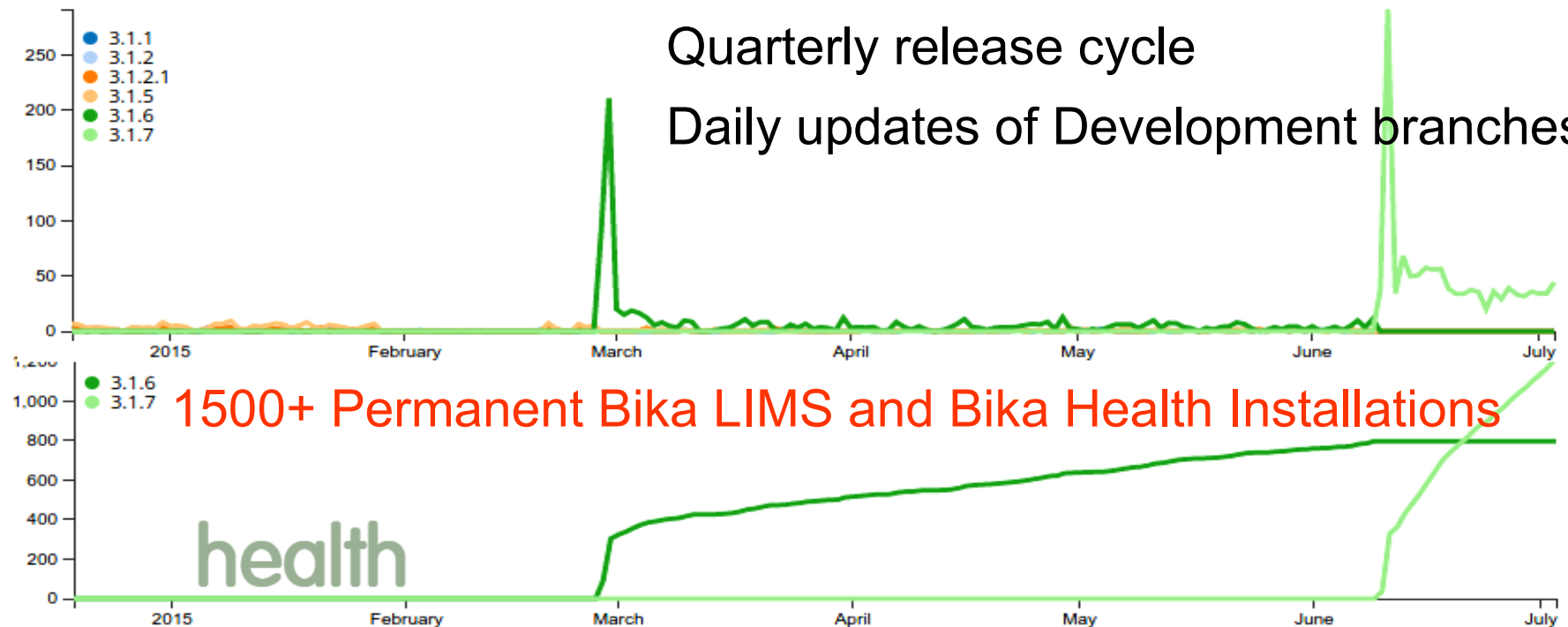
14 Years of Professional Open Source LIMS

Downloads



Quarterly release cycle

Daily updates of Development branches



1500+ Permanent Bika LIMS and Bika Health Installations



Client Sponsors



Your logo here...





1 Of 137 global mentoring organisations, allocated 4 students

Inventory and Supply Chain Management

Aman Aarora and Jayadeep Karnati

Reports and Queries

Chandan Kharbanda

Rebuilding and optimising the Bika query engine with latest Plone functionality



www.bikalims.org

SQL

Hareendra Chamara

Default ZODB is fast, scales, and never breaks, provided with JSON API

This project will mirror the ZODB in real time to PostgreSQL

Expected release date

30 September 2015



Review · Questions

Professional Open Source LIMS

Benefits

Community

Participation

Branches

Resources

Services · Funding



კითხვები · Вопросы · Imibuzo · Lipotso tseo

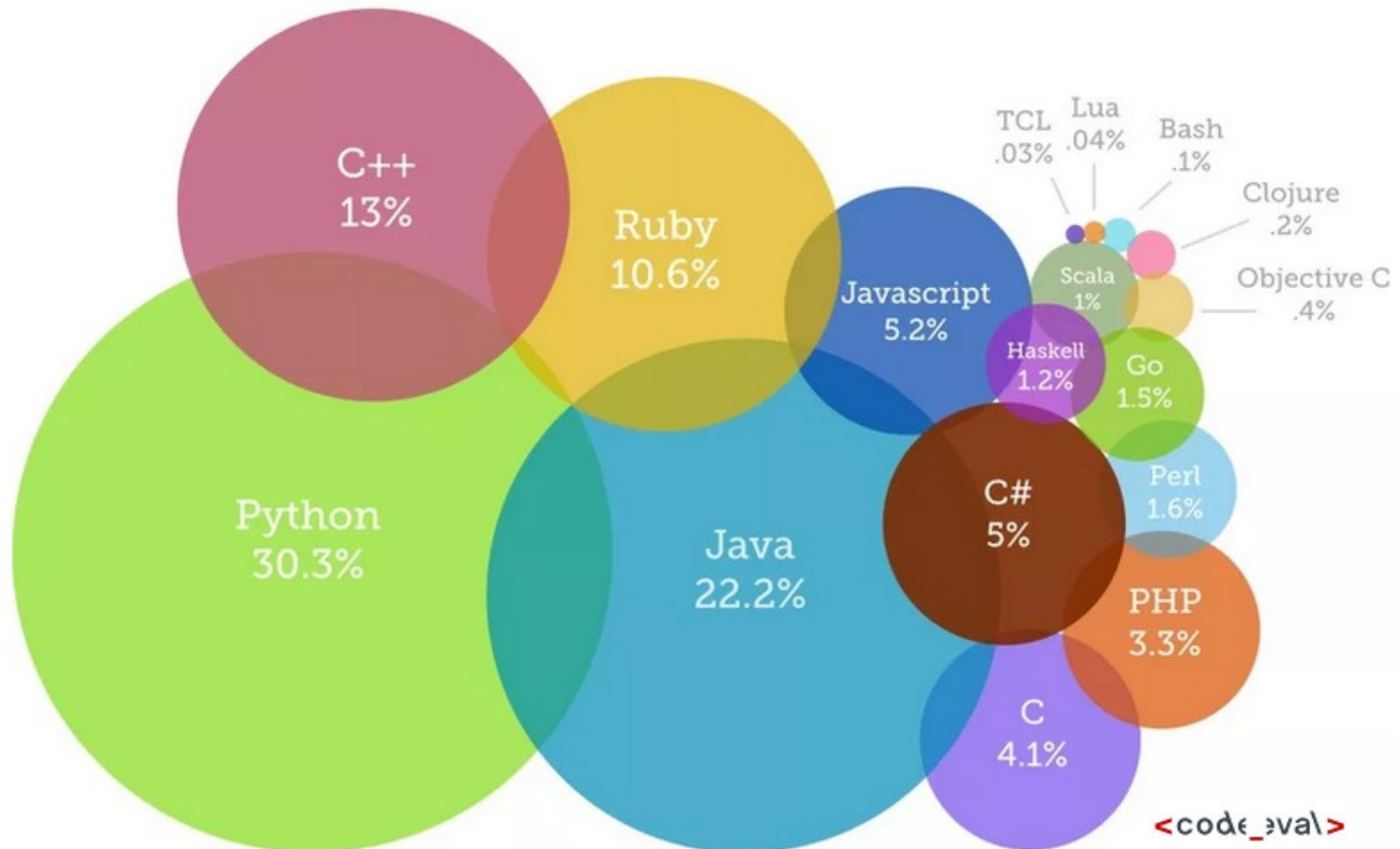


Bika's Open Source Platform

Programming language preferred by
Google, Yahoo, Shuttleworth, Disney



Most Popular Coding Languages of 2014



<code>eval</code>

Bika's Open Source Platform

Programming language preferred by
Google, Yahoo, Shuttleworth, Disney



Web application server



Content management framework

Used by **eBay, Nokia, Motorola,**
many **governments and universities, NASA** and more

No license fees · Big supporting communities

Open Source Platform



PostgreSQL



Platform independent
Debian & Ubuntu preferred



debian



497 Of the fastest 500 super computers. *Wikipedia*

72% Of all global Web servers, 7.5% Microsoft. *Netcraft.com*



Plone® Content Management Framework



Governments · International Organisations

Plone® Content Management Framework



Universities · Scientific and Security Organisations

Plone® Content Management Framework

Bika inherits:

- ✓ Versatile workflow engine
- ✓ Strong security
- ✓ Authorisation structure and diversification
- ✓ Document management system
- ✓ Lab portal · Add-on products

Robust and proven

Knowledge Centre

CMS - LIMS Portal

The Knowledge Centre will be updated regularly with helpful information relating to the LIMS and lab information and should be contributed to by lab staff too. Not only can it be used to collect LIMS reference manuals, training videos, 'how to' documentation, FAQs - frequently asked questions, glossary of terms and helpful internet resources, but also SOPs, Safety documentation, material data sheets, accreditation information, etc.

Documentation search

in

 Feed for all documentation.

Latest Reference Manuals

 [Bika 3 User manual](#)
16 Oct 2011

[All 1 Reference Manuals...](#)

Latest SOPs

 [Protocolpedia](#)
29 Dec 2011


 [Estimation of time for bacteria growth](#)
29 Dec 2011


Latest Analysis

 [CFA - Continuous Flow Analysis](#)
17 Dec 2011


[All 1 Analysis...](#)


Latest Accreditation

 [ISO 17025 at ISO.org](#)
16 Oct 2011


 [Interlab PT resources](#)
16 Oct 2011

Latest Glossary

 [ISO/IEC 17025](#)
18 Oct 2011

 [PT - Proficiency Testing](#)
16 Oct 2011

Latest How-tos

 [How to get system issues attended to fast](#)
18 Oct 2011

[All 1 How-tos...](#)

Browser-based editing

Title ■

Icons

Summary

Used in item listings and search results.

Bika 3 icon set. The descriptions entered here are helpful in describing main Bika objects. Cop

**Version Controlled
Document
Management**

Text Format HTML

 **B** *I*          HTML Normal paragraph

Samples

Sample Points

Indicates the location where the sample is taken, described by a set of parameters, incl lat & long for field samples, or node on a production process

Sample Types

E.g. water, ore, blood, wine, urine – depending on the lab's discipline

Hazardous

Used to indicate hazardous Samples. configured per sample

Analysis Requests

ARs · The collection of concurrently requested analyses for a sample. ARs are the most important building blocks in Bika. Have unique IDs and action log

Sample

Click this icon on AR lists and views to navigate to the request's associated Sample

Analysis Profiles

Collection of Analyses frequently ordered together for the same sample types. By storing the collection of analyses in a profile

Bika Setup

Laboratory Information

The name of the laboratory as it will appear in browser frames, contact numbers, physical and postal address, email address and accreditation information

Lab Departments

Lab Contacts

The people that work in the lab

Instruments

Review · Questions

Bika Platform

Linux

Web based

Plone

Content Management

Network

Security

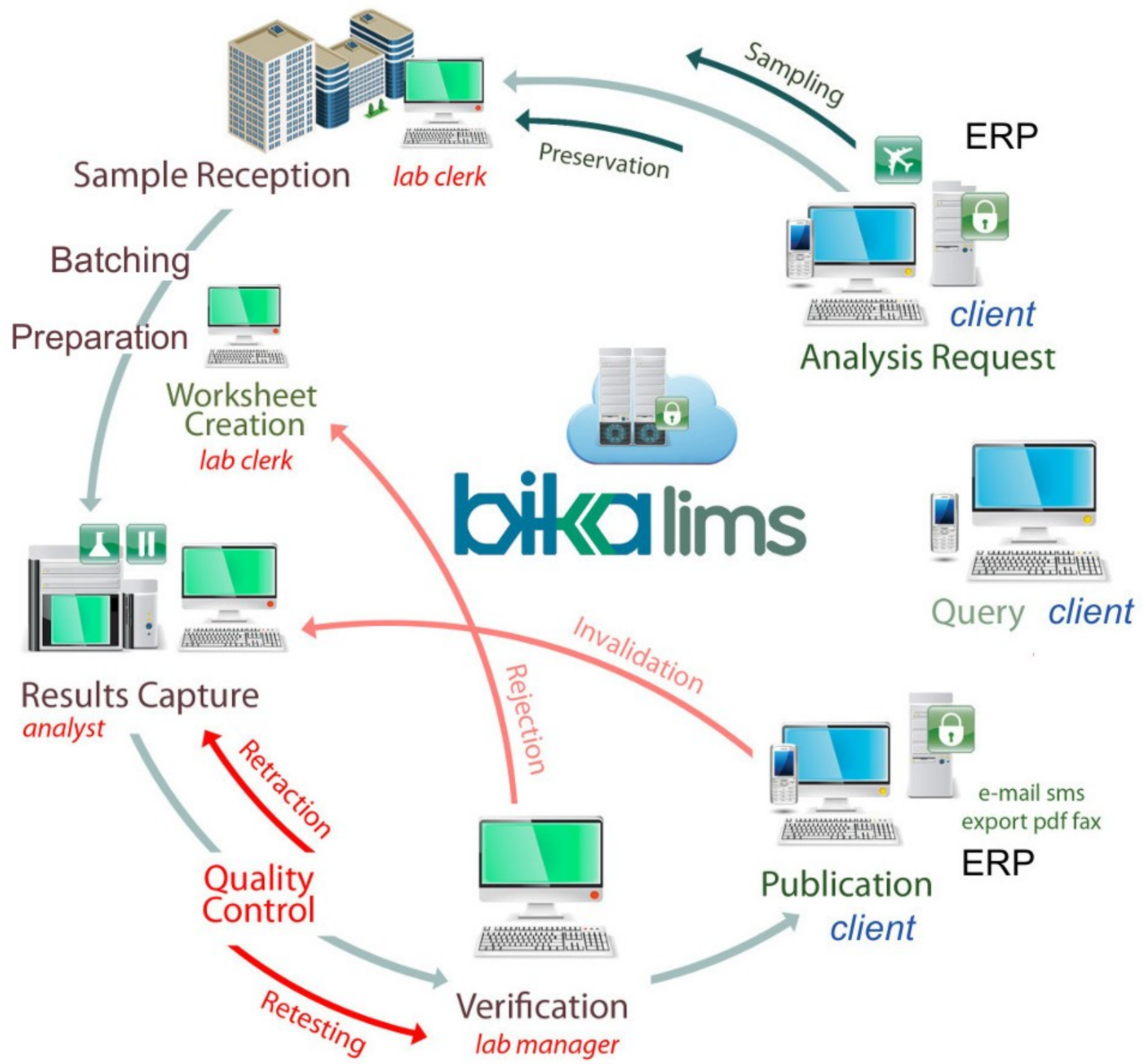


კითხვები · Вопросы · Imibuzo · Lipotso tseo



Functionality

**How
does
it
work?**



Analysis Requests

Analysis Requests + Add

Active Due Received To be verified Verified Published Cancelled Invalid

Request ID	Batch ID	Creator	Client Ref	Client SID	Sample Type	Priority		
AP-0003-R01		isabel isabel			Apple Pulp			
AP-0004-R01		isabel isabel			Apple Pulp			
AP-0005-R01		isabel isabel			Apple Pulp	2014-01-01	Sample Due	
AP-0006-R01		isabel isabel			Apple Pulp	2014-01-01	Received	
AP-0008-R01	B-001	Lab Manager 1			Apple Pulp	2014-02-03	Received	
AP14-019-R1	B14-016	leonardoro			Apple Pulp	2014-05-19	Sample Due	
AP14-022-R1		Lab Manager 1			Apple Pulp	2014-06-03	To be verified	
AP14-023-R1		Lab Manager 1			Apple Pulp	2014-06-03	To be verified	
AP14-024-R1		Lab Manager 1			Apple Pulp	2014-06-03	To be verified	
AP14-025-R1		Lab Manager 1			Apple Pulp	2014-06-03	To be verified	
AP14-027-R1		psoliva			Apple Pulp	2014-06-03	To be verified	
CN-0002-R01		admin			Canola	2014-06-03	To be verified	
CN-0003-R01		admin	GS1234		Canola	2014-06-03	To be verified	
CN-0004-R01		admin	MFP2361		Canola	2014-06-03	To be verified	
CN-0005-R01		admin	MFP2362		Canola	2014-06-03	To be verified	
CN-0006-R01		admin	MFP2363		Canola	2014-06-03	To be verified	
CN-0007-R01		admin	MFP2364		Canola	2014-06-03	To be verified	
Con14-002-R1		jordi jordi			Cannabis Concentrate	2014-06-03	To be verified	
H2O-0014-R01		leonardoro			Water	2014-01-20	received	

Upstream Application

client

Analysis Request

Sample Due

- CM-0001-01 Jan 16, 2012
- WH-0001-01 Jan 17, 2012
- CN-0001-01 Jan 11, 2012
- CN-0007-01 Jan 11, 2012
- CT-0001-01 Jan 11, 2012

[14 More...](#)

Analysis Request

Request new analyses

Happy Hills

Contact	»	Rita Mohale	»		»	
CC Contacts	»	<input checked="" type="checkbox"/> Sarel Seemonster <input checked="" type="checkbox"/> Neil Standard <input type="text"/>	»		»	
CC Emails	»	<input type="text"/>	»	<input type="text"/>	»	
Sample <i>Select a sample to create a secondary AR</i>	»	<input type="text"/>	»	<input type="text"/>	»	
Batch	»	Happy Hills Hygiene Survey	»		»	
Sub-group	»	<input type="text"/>	»	<input type="text"/>	»	
Template	»	Bruma Metals	»		»	
Analysis Profile	»	<input type="text"/>	»		»	
Sampling Date	»	2014-06-10	»		»	
Sample Type <i>Create a new sample of this type</i>	»	Water	»		»	
Analysis Specification <i>Choose default AR specification values</i>	»	Water	»		»	
Sample Point <i>Location where sample was taken</i>	»	Bruma Lake	»		»	
Storage Location <i>Location where sample is kept</i>	»	Fridge in Lab 6	»		»	
				Client Order Number	»	<input type="text"/>
				Client Reference	»	<input type="text"/>
				Client Sample ID	»	<input type="text"/>
				Sampling Deviation	»	<input type="text"/>
				Sample condition	»	<input type="text"/>
				Default Container <i>Default container for new sample partitions</i>	»	<input type="text"/>
				Ad-Hoc	»	<input type="checkbox"/>
				Composite	»	<input type="checkbox"/>
				Report as Dry Matter <i>These results can be reported as dry matter</i>	»	<input type="checkbox"/>
				Invoice Exclude <i>Select if analyses to be excluded from invoice</i>	»	<input type="checkbox"/>
				Priority	»	High



Save

Analysis Request



Field Analyses						
[-] Oak						
[-] Water Chemistry						
Lab Analyses						
[-] 180 Metallurgy						
[-] Bacteriology						
[-] Barley Purity test						
[-] Cannabanoids						
[-] Irrigation water routine tests						
[-] Metals						
Calcium (mg/l)	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			
Copper (mg/l)	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			
Iron (mg/l)	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			
Magnesium (mg/l)	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			
Manganese (mg/l)	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			
Phosphorus (mg/l)	€ 10.00	»	<input type="checkbox"/>			<input type="checkbox"/>
Sodium (mg/l)	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			
Zinc (mg/l) ★	€ 10.00	»	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 11	<input type="checkbox"/> 10	<input type="checkbox"/>
			1			

Sample Due	
CM-0001-01	Jan 16, 2012
WH-0001-01	Jan 17, 2012
CN-0001-01	Jan 11, 2012
CN-0007-01	Jan 11, 2012
CT-0001-01	Jan 11, 2012
14 More...	

✓ Bulk Analysis Request creation from spreadsheets

Analysis Profiles and Templates

Analysis Profile

Sampling Date ■

Sample Type ■
Create a new sample of this type

Analysis Specification
Choose default AR specification val

Sample Point
Location where sample wa

Storage Location
Location where sample is

Client Order Number

Trace Metals	
Title	Description
Analisis Estabilidad Proteica	Analisis Estabilidad Prot
Micro-Bio check Milk Truck	Analysis of Raw Milk Tar
Micro-Bio counts	Micro-Bio counts

Service

+ Mehlich-3

- Metals

<input type="checkbox"/>	Calcium	<input checked="" type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Copper	<input checked="" type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Iron	<input checked="" type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Magnesium	<input checked="" type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Manganese	<input checked="" type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Phosphorus	<input type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Sodium	<input checked="" type="checkbox"/>	>min	<max	err%
<input type="checkbox"/>	Zinc ★	<input checked="" type="checkbox"/>	>min	<max	err%

+ Microbiology

Total permanent hardness

Trace metals in feeds an

▶▶ ▶| 10 ▼

Sample & Analysis Request

View Edit Log

WH-0007



Client Reference	Week 4
Client SID	HHS0346
Requests	WH-0007-01
Sample Type	Water
Sample Point	Bruma Lake
Composite	True
Hazardous	False
Date Sampled	09 Jan 2012
Date Submitted	17 Jan 2012 04:38 pm
Disposal date	12 Jan 2012

View Edit Log

WH-0007-01





WH-0007-01 Happy Hills Feeds

 Attachments

 Sample ID	WH-0007	 Contact Person	Rita Mohale ;
Client SID	HHS0346	Client Order ID	Ord12-001
Sample Type	Water	Client Reference	Week 4
Sample Point	Bruma Lake	Date Requested	17 Jan 2012
Status	sample due	Date Sampled	09 Jan 2012

 Profile: Trace Metals  Range Specification **Lab** **Client**

 Lab Analyses

Analysis	Result	+ -	Due Date	Status	Attachments
Copper	 mg/l			Sample Due	
Fluoride	 mg/l			Sample Due	
Iron	 mg/l			Sample Due	
Magnesium	 mg/l			Sample Due	

Batching

Edit View Analysis Requests Samples Log Batch Book

Edit Citrus samples for CTV

Client

Cikku Vella

Client Batch ID

6785

Title

If no Title value is entered, the Batch ID will be used.

Citrus samples for CTV

Description

Used in item listings and search results.

Testing for Citrus Tristeza

Date


Jun 04, 2014

Batch labels

- Barley
- Citrus samples
- Spa Water
- Wheat

Edit View Analysis Requests Samples Log **Batch Book**

Citrus samples for CTV

	Analysis Request	Batch	Sub-group	Soil Saturation Test	pH	Dryness percentage test	State
<input type="checkbox"/>	No Subgroup						
<input type="checkbox"/>	LEAFV14-001-R1	Citrus samples for CTV	No Subgroup				Sample Due

Receive sample Cancel Copy to new

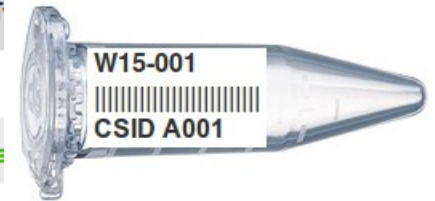
Sample Receipt



Analysis Requests

All Due Received To be verified Verified Published Cancelled   

<input checked="" type="checkbox"/>	Request ID	Client	Sampling Date	Sample T
<input checked="" type="checkbox"/>	AP-0001-01 	Sunnyside Egg Farm	09 Jan 2012	Apple Pulp
<input checked="" type="checkbox"/>	CM-0001-01  	Sunnyside Egg Farm	26 Jan 2012	Carcass Mea
<input checked="" type="checkbox"/>	CN-0001-01 	Myrtle Wheat Farm	10 Jan 2012	Canola
<input checked="" type="checkbox"/>	CN-0007-01 	Happy Hills Feeds		
<input checked="" type="checkbox"/>	CN-0013-01 	Sunnyside Egg Farm		
<input checked="" type="checkbox"/>	CT-0001-01 	Klaymore Fertilizer		
<input checked="" type="checkbox"/>	CT-0007-01 	Sunnyside Egg Farm		
<input checked="" type="checkbox"/>	DG-0001-01 	Sunnyside Egg Farm	09 Jan 2012	Dist. Grain
<input checked="" type="checkbox"/>	FF-0001-01 	Sunnyside Egg Farm	09 Jan 2012	Fish Feed
<input checked="" type="checkbox"/>	HAY-0001-01 	Morton Chickens	09 Jan 2012	Hay



SW12-123456  

Sewage Chill 4 deg C Pond 23A

Sampling 12 Feb 2012 John Smith



Sample ID
CI Sample ID

Receive sample Cancel

[1] 2 Next 9 items »

10 Items per page

Creating Worksheets

Autofill Field Value Only to empty or zero fields

<input type="checkbox"/>	Position	Analysis	Method	Final Conc	Factor	Result	+ -	<input checked="" type="checkbox"/>	Due Date	State	Attachments
<input checked="" type="checkbox"/>	1 ACT DBS13345-026-R1 Dried Bloodspot	Total 25-OHD Remarks: recalculated because of D2 retesting	LC MS			66.00 ng/ml			2013-12-16	Published	
<input type="checkbox"/>		Total 25-OHD	LC MS			55.00 ng/ml			2013-		
<input type="checkbox"/>		Vit D2	LC MS	22	1	22.00 ng/ml			2013-		
<input type="checkbox"/>		Vit D3	LC MS	33	1	33.00 ng/ml			2013-		
<input type="checkbox"/>		Vit D3	LC MS	44	1	44.00 ng/ml		<input checked="" type="checkbox"/>	2013-		
		Remarks: retested									
<input checked="" type="checkbox"/>	2 ACT DBS13345-025-R1 Dried Bloodspot	Total 25-OHD Remarks:	LC MS			56.33 ng/ml		<input checked="" type="checkbox"/>	2013-		
<input type="checkbox"/>		Total 25-OHD	LC MS			66.00 ng/ml			2013-		
<input type="checkbox"/>		Total 25-OHD	LC MS			56.33 ng/ml			2013-		
<input type="checkbox"/>		Vit D2	LC MS	29	1	29.00 ng/ml			2013-		
<input type="checkbox"/>		Vit D2	LC MS	29	1.5	19.33 ng/ml		<input checked="" type="checkbox"/>	2013-		
		Remarks: retested									
<input type="checkbox"/>		Vit D3	LC MS	37	1	37.00 ng/ml			2013-		
<input type="checkbox"/>		Vit D3	LC MS	<input type="text" value="37"/>	<input type="text" value="1"/>	37.00 ng/ml		<input checked="" type="checkbox"/>	2013-		
		Remarks:									
<input checked="" type="checkbox"/>	3 QC13-0001-014 Blank DS July	Vit D2	LC MS	<input type="text" value="1"/>	<input type="text" value="1.2"/>	ng/ml		<input type="checkbox"/>	2014-07-01 12:00 AM	Assigned	
<input checked="" type="checkbox"/>		Vit D3	LC MS	<input type="text" value="2.3"/>	<input type="text" value="1.5"/>	ng/ml		<input type="checkbox"/>	2014-07-01 12:00 AM	Assigned	
<input checked="" type="checkbox"/>	4 QC13-0006-002 UTAK 100 July	Vit D2	LC MS	<input type="text" value="123"/>	<input type="text" value="2"/>	ng/ml		<input type="checkbox"/>	2014-07-31 12:00 AM	Assigned	
<input checked="" type="checkbox"/>		Vit D3	LC MS	<input type="text" value="0.1"/>	<input type="text" value="1"/>	ng/ml		<input type="checkbox"/>	2014-07-31 12:00 AM	Assigned	
<input checked="" type="checkbox"/>	5 ACT DBS13345-026-P1-D01 Dried Bloodspot	Vit D2	LC MS	<input type="text" value="0.23"/>	<input type="text" value="2.3"/>	< 2 ng/ml	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2013-12-16	Assigned	
<input checked="" type="checkbox"/>		Vit D3	LC MS	<input type="text" value="12"/>	<input type="text" value="12"/>	< 2 ng/ml	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2013-12-16	Assigned	
<input checked="" type="checkbox"/>		Vit D3	LC MS	<input type="text" value="1"/>	<input type="text" value="12"/>	< 2 ng/ml	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2013-12-16	Assigned	
<input checked="" type="checkbox"/>		Vit D3	LC MS	<input type="text" value="2"/>	<input type="text" value="1"/>	2.00 ng/ml	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2013-12-16	Assigned	

- ✓ Remarks field on each analysis
- ✓ QC Samples: Duplicates, Controls and Blanks
- ✓ Retract analyses for retesting
- ✓ Out of range alerts



Edit Hardness

Description ■

Layout ■

Analyses ■

Analysis Service ■

Select which Analyses should be included

Service	Keyword
<input type="checkbox"/> Mehlich-3	
<input type="checkbox"/> Metals	
<input checked="" type="checkbox"/> Calcium	Ca
<input type="checkbox"/> Copper	Cu
<input type="checkbox"/> Iron	Fe
<input checked="" type="checkbox"/> Magnesium	Mg
<input type="checkbox"/> Manganese	Mn
<input type="checkbox"/> Phosphorus	Phos
<input type="checkbox"/> Sodium	Na
<input type="checkbox"/> Zinc	T
<input type="checkbox"/> Microbiology	

Instrument

Select the preferred instrument

AA 2 ▼

Worksheet Templates

Description ■

Layout ■

Analyses ■

Number of Positions 12

Reset




Pos	Analysis Type	Reference Definition	Dup of
1	Blank ▼	Distilled Water ▼	
2	Control ▼	Trace Metals 10 ▼	
3	Analysis ▼		
4	Analysis ▼		
5	Analysis ▼		
6	Analysis ▼		
7	Analysis ▼		
8	Analysis ▼		
9	Analysis ▼		
10	Duplicate ▼		3 ▼
11	Control ▼	Trace Metals 10 ▼	
12	Blank ▼	Distilled Water ▼	

QC. Reference Definitions

Edit Trace Metals 10

Description ■

Reference Values ■









Service	Expected Result	Permitted Error %	Min	Max
+ Mehlich-3				
- Metals				
Calcium (Ca)	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
Copper (Cu)	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
dddddd (dddddd)	<input type="text"/>	<input type="text"/> %	<input type="text"/>	<input type="text"/>
Iron (Fe)	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
Magnesium (Mg)	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
Manganese (Mn)	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
Options Test (opt-test)	<input type="text"/>	<input type="text"/> %	<input type="text"/>	<input type="text"/>
Phosphorus (Phos)	<input type="text"/> mg/l	<input type="text"/> %	<input type="text"/> mg/l	<input type="text"/> mg/l
Sodium (Na)	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
Test (T)  	<input type="text"/> mg/l	<input type="text" value="5"/> %	<input type="text"/> mg/l	<input type="text"/> mg/l
Zinc (Zn) 	<input type="text" value="10"/> mg/l	<input type="text" value="5"/> %	<input type="text" value="9.5"/> mg/l	<input type="text" value="10.5"/> mg/l
+ Microbiology				

Manual Results Capture

 Attachments

Analyst ■ Lab Analyst 1 ▼

Instrument Blott Titrator ▼

<input type="checkbox"/>	Position	Analysis	Titr Vol	Titr Fact	Result	Dry <input checked="" type="checkbox"/>	+ -	Due Date	State	Attachmen
<input checked="" type="checkbox"/>	1 Blank Reference Everyting blank	 Calcium	6.3	2.0	12.60 mg/l 	<input type="checkbox"/>			Assigned	
		Blank			Out of range					
<input checked="" type="checkbox"/>	2 Trace Metals Dry African's Metals	 Calcium	4.76	2.0	9.52 mg/l	<input type="checkbox"/>			Assigned	
		Control								
<input checked="" type="checkbox"/>	3 Morton Chickens HAY-0002-01 Hay	 Calcium	5.12	2.0	10.24 mg/l	<input type="checkbox"/>		11 Jan 2012 	Received	
	4									
<input checked="" type="checkbox"/>	5 Klaymore Fertilizer CT-0004-01 Catfish	 Calcium	5.49	2.0	10.98 mg/l	<input type="checkbox"/>		11 Jan 2012 	Received	
<input type="checkbox"/>	6 Morton Chickens (HAY-0002-01) Hay	 Calcium	0	0	mg/l	<input type="checkbox"/>		11 Jan 2012	Assigned	
		Duplicate								

Submit for verification

Remove

Instrument Interfaces



WS-066

Manage Results

Add Analyses

Add Blank Reference

Export

Analyst

Stefan Gruber

Instrument **Fiastar**

Print

Import

Select a data interface

Instrument Import

Load Setup Data

FOSS - FIAStar

File Choose File JC15-0008.csv

Format CSV

Advanced options

Analysis

Received

Requests state

Results

override

Don't override results

Alere
Beckman Coulter
Eltra
FOSS
Horiba
Nanodrop
PANalytical
Qubit
Rigaku
Roche
Scil Vet
Seal
Sysmex
Tescan
Thermo Scientific
Varion
VetScan

Calculations



Edit AST - Disk Diffusion (v1)

Description ■ Calculation

Calculation Interim Fields

Define interim fields such as vessel mass, dilution factors, should your calculation require them. The field title specified here will be used as column headers and field descriptors where the interim fields are displayed

Keyword	Field Title	Default value	Unit	Hidden Field	delete
<input type="text" value="LOWER_LIMIT"/>	<input type="text" value="LOWER LIMIT"/>	<input type="text" value="0"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="UPPER_LIMIT"/>	<input type="text" value="UPPER LIMIT"/>	<input type="text" value="100"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="DIAMETER"/>	<input type="text" value="Diameter"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

More

Calculation Formula

The formula you type here will be dynamically calculated when an analysis using this calculation is displayed.

To enter a Calculation, use standard maths operators, + - * / (), and all keywords available, both from other Analysis Services and the Interim Fields specified here, as variables. Enclose them in square brackets [].

E.g, the calculation for Total Hardness, the total of Calcium (ppm) and Magnesium (ppm) ions in water, is entered as [Ca] + [Mg], where Ca and MG are the keywords for those two Analysis Services.

```
[DIAMETER] <= [LOWER_LIMIT] and "Resistant" or ([DIAMETER] > [LOWER_LIMIT] and [DIAMETER] < [UPPER_LIMIT]) and "Intermediate" or [DIAMETER] >= [UPPER_LIMIT] and "Sensitive"
```


Results attachments

Attachments

abGeneral\Microscopic\redblood.jpg

Browse...

Attach to

Analysis

All analyses of type

Attachment Type

Microscope



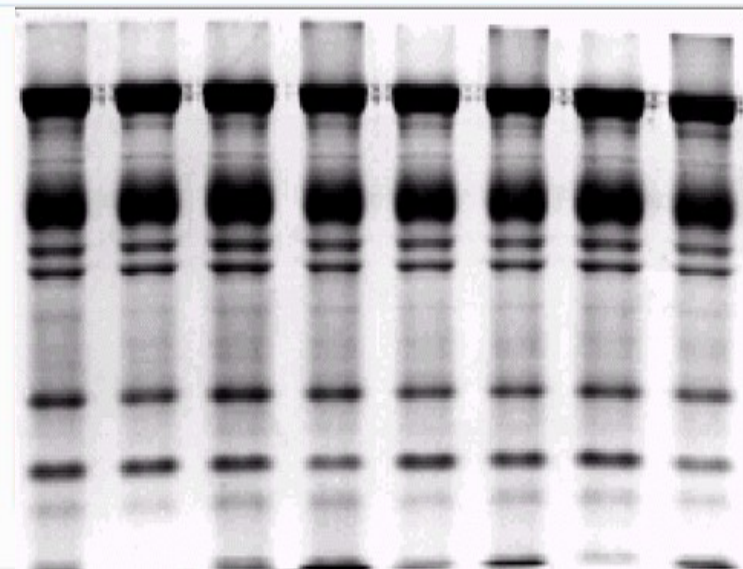
Keywords

Blood cells

Documents library

Microscopic

Arrange by: Folder



Results Verification

You are here: [Home](#) > [Worksheets](#) > WS13-0052

Manage Results

Log


Warning

Some results exceeded the panic levels that may indicate an imminent life-threatening condition.

 **WS13-0052**

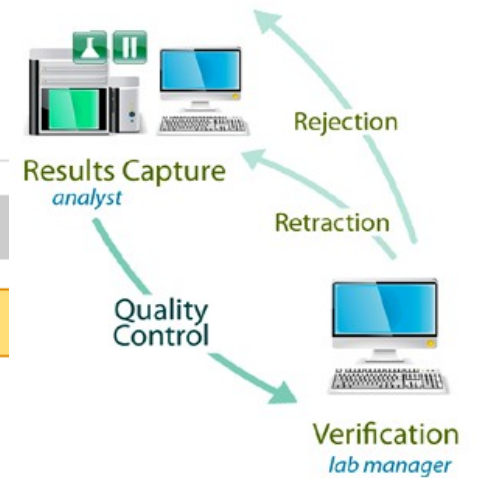
 **Attachments**

Analyst ■ Jean Martin **Instrument** LC MS Triple Quad

<input type="checkbox"/>	Position	Analysis	Method	Final Conc	Factor	Result	+ - ✓	Due Date	State	Attachments
<input type="checkbox"/>	1 KT Clinic	 Total 25-OHD	LC MS			10.34 <i>ng/ml</i>  		2013-12-17	Published	
<input type="checkbox"/>	DBS13346-005-R1	Vit D2	LC MS	1.023	1.22	< 2 <i>ng/ml</i>		2013-12-17 10:19 PM	Published	
<input type="checkbox"/>	Dried Bloodspot	Vit D3	LC MS	15	1.45	10.34 <i>ng/ml</i>		2013-12-17 10:19 PM	Published	
<input type="checkbox"/>	2 NW Health	 Total 25-OHD	LC MS			40.00 <i>ng/ml</i>		2013-12-15	Published	
<input type="checkbox"/>	DBS13343-010-R1	Vit D2	LC MS	1.84	1.22	< 2 <i>ng/ml</i>		2013-12-15 03:16 AM	Published	
<input type="checkbox"/>	Dried Bloodspot	Vit D3	LC MS	58	1.45	40.00 <i>ng/ml</i>		2013-12-15 03:16 AM	Published	

Life-threatening conditions alert and automatic email notification to lab manager, doctor


Minimum Detection Levels, out-of-range values, % error








Late Analyses

Alerts






Analysis	Request ID	Client	Contact	Date Received	Due Date	Late
Ecoli Count	SOY-0001-R01	Suiza Dairy.	Jose Lazaro	2015-03-04	2015-03-04	122 days
Enterococcus count	SOY-0001-R01	Suiza Dairy.	Jose Lazaro	2015-03-04	2015-03-04	122 days
Total Viable Bacteria count	SOY-0001-R01	Suiza Dairy.	Jose Lazaro	2015-03-04	2015-03-04	122 days
R-OH 80%	MILK-0031-R01	Suiza Dairy.	Jose Lazaro			
Charm Analysis - NF/POS	MILK-0031-R01	Suiza Dairy.	Jose Lazaro			
pH Acidity % Max 1600	MILK-0031-R01	Suiza Dairy.	Jose Lazaro			

 **Late Analyses**

-  [Charm Analysis - NF/POS](#)
Mar 10, 2015
-  [pH Acidity % Max 1600](#)
Mar 10, 2015
-  [Temperature °C Sample Lab](#)
Mar 10, 2015
-  [Temperature °C - Charm 0-4 °C](#)
Mar 10, 2015
-  [Total Viable Bacteria count](#)
Mar 10, 2015






[164 More](#)

Sample Due

-  [MILK-0052-R01](#)
Mar 19, 2015
-  [BAR-0001-R02](#)
-  [AP-0001-R01](#)
-  [AP-0002-R01](#)
-  [AP-0003-R01](#)

[35 More](#)

To be verified

-  [AP-0004-R01](#)
-  [BW-0002-R01](#)
-  [BW-0003-R01](#)
-  [BW-0016-R01](#)
-  [BW-0022-R01](#)

May

Apr

May

May

Verified

-  [MILK-0001-R01](#)
-  [MILK-0038-R01](#)
Mar 12, 2015
-  [MILK-0039-R01](#)
Mar 12, 2015

Quality Control

You are here: [Home](#) > [Bika Setup](#) > [Instruments](#) > AA 1

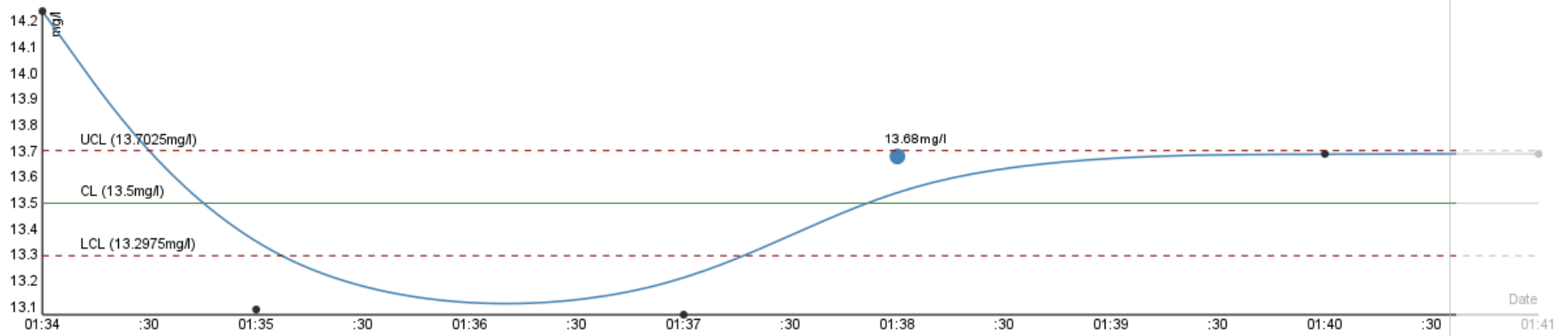
[Edit](#) [Certifications](#) [Internal Calibration Tests](#) [Certificates](#)

State: Active ▼



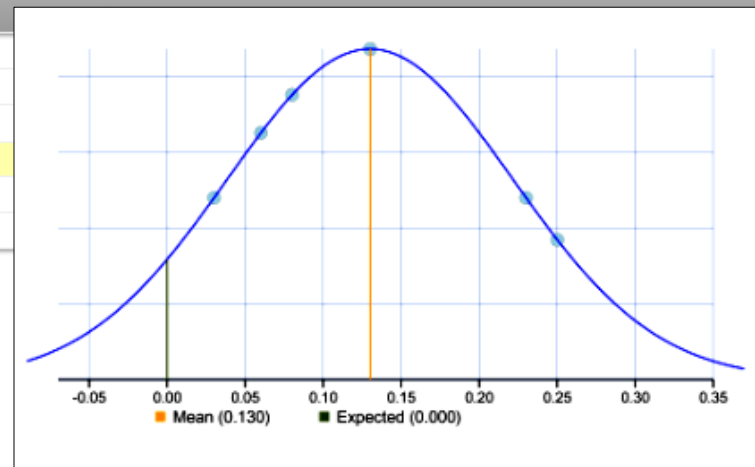
Internal Calibration Tests

Analysis Reference Sample Interpolation



6 results found

Analysis	QC Sample ID	Reference Sample
Ethanol	IQC-001-001	QC-001
Ethanol	IQC-001-002	QC-001
Ethanol	IQC-001-003	QC-001
Ethanol	IQC-001-004	QC-001
Ethanol	IQC-001-005	QC-001
Ethanol	IQC-001-006	QC-001



Reference standard graphs

Instrument Management and QC



4 instruments are out-of-date:

Rigaku Supermini XRF, Eltra CS-2000, Horiba JY ICP, Seal Analytical AQ2

View

Edit

Internal Calibration Tests

Certificates

Validations

Calibrations

Documents



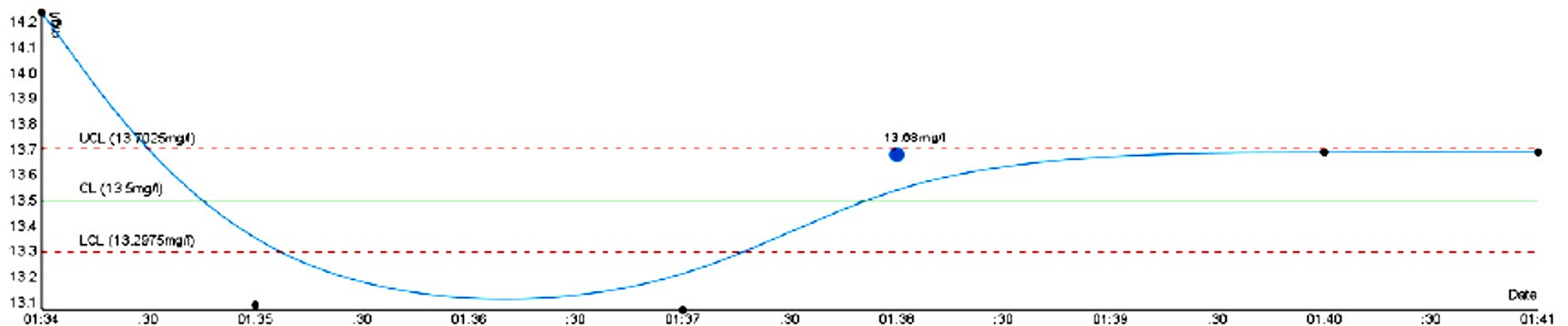
Fiastar

State: Active ▼

Calibration Certificates + Add

Cert. Num	Agency	Date	Valid from	Valid to	Document
IntCal 13-645		2013-07-05	2013-07-01	2014-07-01	FroidOpenInstrumentServerFunctionalSpec094.pdf
SANCal 11/8773	SANCal	2014-01-11	2014-01-11	2015-12-20	

Analy:



COA · Certificate of Analysis



თქვენი
ლოგო

Hugo Borges
Isle of Man strasse 119
Baden
Baden-Württemberg
6879
Germany
Phone: 021 453 8719
Fax: 021 453 8719

Indulac Laboratory
Chardon Avenue
San Juan
San Juan
00926
Puerto Rico
<http://www.indulac.com>

Summary



Request ID	CN-0005-R01
Sample ID	CN-0005
Client	Hugo Borges
Client SID	MFP2361
Sample Type	Canola
Specification	
Date Received	2015-06-23 02:58 AM
Date Published	2015-07-05 06:09 PM
Published by	(labmanager1@example.c

Results

Metals	Result	Value Range
Calcium	10.50 mg/l	9 - 11
Magnesium	10.50 mg/l	9 - 11
★ Zinc	9.50 mg/l	9 - 11

Water Chemistry	Result	Value Range
★ Temperature °C	10 Deg. C	9 - 11

QC results go here

Lab Manager 1

Mr »Lab Manager 1
Manager
labmanager1@example.com
021 555 1234
Chemistry

Email
PDF
SMS
CSV

* Result out of client specified range.
Methods included in the SAI schedule of Accreditation for this Laboratory. Analysis remarks are not accredited
Analysis results relate only to the samples tested.
This document shall not be reproduced except in full, without the written approval of Indulac Laboratory
Test results are at a 95% confidence level



Bika LIMS Configuration

 AR Priorities

 AR Templates

 Analysis Categories

 Analysis Profiles

 Analysis Services

 Analysis Specifications

 Attachment Types

 Batch Labels

 Bika Setup

 Calculations

 Container Types

 Containers

 Instrument Types

 Instruments

 Lab Contacts

 Lab Departments

 Lab Products

 Laboratory Information

 Manufacturers

 Methods

 Preservations

 Reference Definitions

 SR Templates

 Sample Conditions

 Sample Matrices

 Sample Points

 Sample Types

 Sampling Deviations

 Storage Locations

 Sub-groups

 Suppliers

 Worksheet Templates

Active Dormant All

Service	Category	Keyword	Instrument
<input type="checkbox"/> Mehlich-3			
<input type="checkbox"/> Metals			
<input type="checkbox"/> Calcium	Metals	Ca	Fiastar
<input type="checkbox"/> Copper	Metals	Cu	
<input type="checkbox"/> Iron	Metals	Fe	
<input type="checkbox"/> Magnesium	Metals	Mg	
<input type="checkbox"/> Manganese	Metals	Mn	
<input type="checkbox"/> Phosphorus	Metals	Phos	
<input type="checkbox"/> Sodium	Metals	Na	
<input type="checkbox"/> Test	Metals	T	AA 1
<input type="checkbox"/> Zinc	Metals	Zn	
<input type="checkbox"/> Microbiology			
<input type="checkbox"/> Particles			
<input type="checkbox"/> Waste			

Edit Magnesium (v1)

— Version Controlled

Description **Analysis** Method Uncertainties

Precision as number of decimals

Define the number of decimals to be used

Exponential format precision

Define the precision when converting to exponential format

Lower Detection Limit (LDL)

The Lower Detection Limit is the lowest value entered which are less than this value

Upper Detection Limit (UDL)

The Upper Detection Limit is the highest value entered which are greater than this value

Display a Detection Limit selection list

If checked, a selection list will be displayed for the value as a Detection Limit (LDL or UDL)

Report as Dry Matter

These results can be reported as dry matter

Attachment Option

Indicates whether file attachments, e.g. data capturing screens

Description **Analysis** **Method** Uncertainties

Allow manual entry of results

Select if the results for this Analysis Service can be set manually

Methods

The Analysis Service can be performed by using more than one method. Select the method to be used in the creation view for its selection when this Analysis Service is used

Allow instrument entry of results

Select if the results for this Analysis Service can be set using an instrument

Default Method

If 'Allow instrument entry of results' is selected, the method to be used by default will be displayed.

Use default calculation

Select if the calculation to be used is the calculation set by default

Duplicate Variation %

When the results of duplicate analyses on worksheets, carry over the variation percentage

Accredited

Check this box if the analysis service is included in the laboratory accreditation

Also tabs for:
 Results Options
 Uncertainties
 Container and Preservation

Road map

How deep are your pockets?

Bika LIMS 3.2

EduLIMS 3.0

Froid. Free Open Instrument Middleware

Vendor neutral to attract as many interfaces possible

Android Samp. Free and Open Sampling App

Standalone app for remote field sampling: sampling point & patient information, photos, GPS coordinates, field analyses.

Sample Storage and QC

Surveys

Work Picklists

HR

The logo for Bika LIMS, featuring the word "bika" in a stylized blue font with a green triangle above the 'i', followed by "lims" in a green font.

Review · Questions

Bika LIMS Functionality

Configuration

Samples and Analysis Requests

Analysis Profiles

Worksheets

Instruments

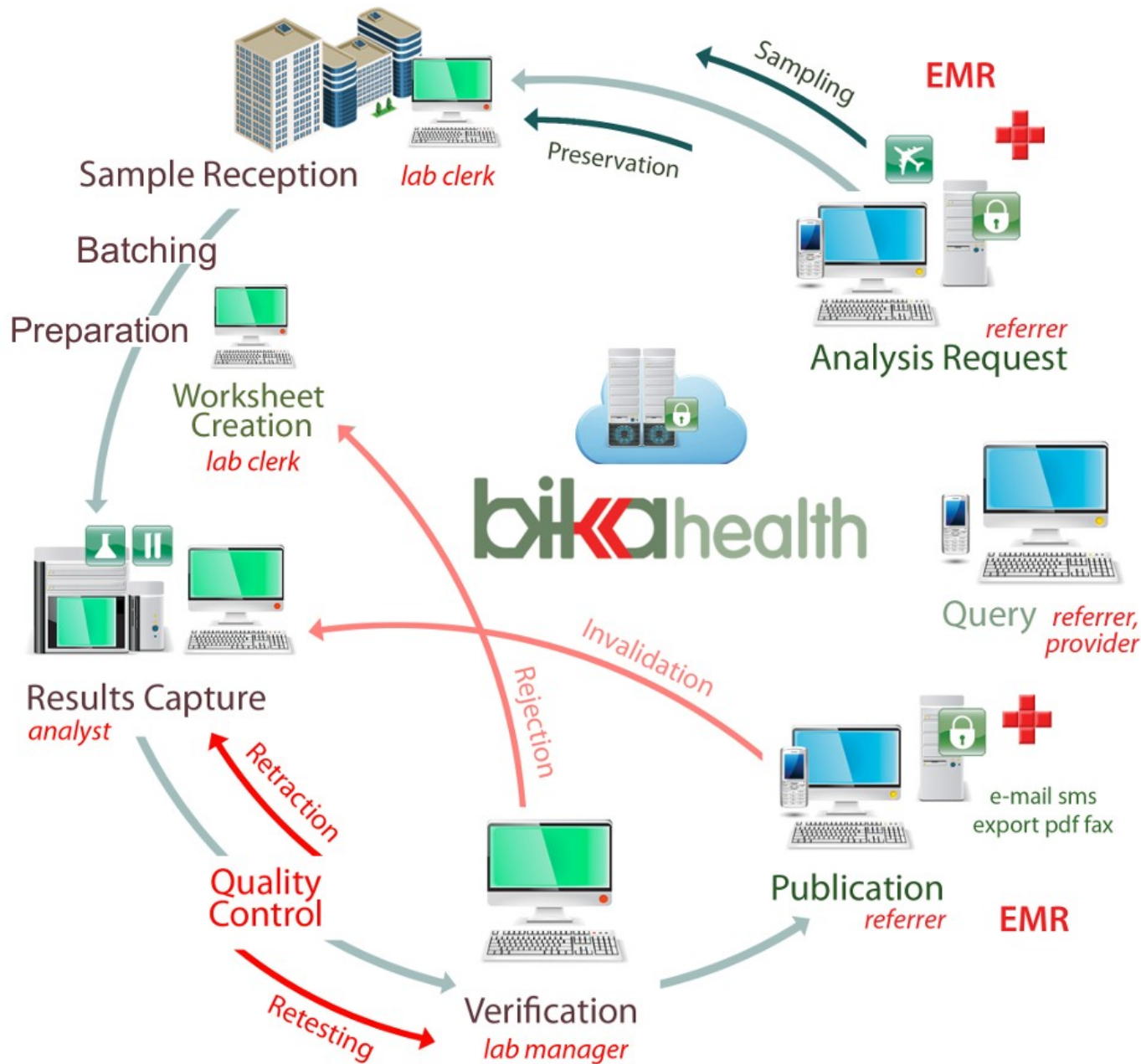
QC

Reports



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Bika Health LIS for health care laboratories



**ISO 17025 Bika LIMS
+ CLIA ready:**

Patients

Doctors

Clinical Cases

Features

Patient Privacy

Medical History

Patient history graphs

Life threat alerts

Results to Patient
Option

EMR and DHIS ready

Path Lab Request Form

DOCTOR AND REFERRAL INSTITUTION	
Referring Doctor	Antonio Díaz
Doctor's Code	D001
Copies to Doctors	
Hospital and Ward	Belville Medical Centre

PATIENT DETAILS	
New Patient	<input type="checkbox"/>
Patient ID. No.	
Patient Full Name	Abeni Fofana
Date of birth	1949/06/05 00:00:00 GMT+2
Birth date is estimated	<input type="checkbox"/>
Gender	Male
Home Phone	+27-21-4965790
Cell Phone	+27-82-5327606
Business Phone	
E-mail	abeni@example.com
Signature	

ACCOUNT TO	
Patient as guarantor	<input checked="" type="checkbox"/>
Guarantor ID Number	
Insurance Company	
Guarantor's Surname	
Guarantor's First Name	
Guarantor's Phone (home)	
Guarantor's Phone (business)	
Guarantor's Phone (mobile)	
Postal Address	
Country	South Africa
State	
District	
City	Viljoenskroon
Postal Code	Western Cape
Address	
P.O. Box 1859	

ANALYSIS REQUEST DETAILS	
Contact Person	
Priority	
Create new clinical case	<input type="checkbox"/>
Belville Medical Centre	
Sampling Date	
Sample Type	
Analysis Specification	

BACTERIOLOGY
Bacteriology - Identification
S1 <input type="checkbox"/> Bacterial Identification
Bacteriology - Molecular Methods
S2 <input type="checkbox"/> M. tuberculosis - RT-PCR
Bacteriology - Sensitivity Testing
S10 <input type="checkbox"/> KB Testing: Acinetobacter spp. - Tetracycline
S11 <input type="checkbox"/> KB Testing: Acinetobacter spp. - Tobramycin
S12 <input type="checkbox"/> KB Testing: Enterobacteriaceae - Amikacin
S13 <input type="checkbox"/> KB Testing: Enterobacteriaceae - Ampicillin

DATA ENTRY AND REPORTING
Not Tested
S115 <input type="checkbox"/> Not Tested
Referred
S119 <input type="checkbox"/> B. pertussis - IgA, IgM, IgG
S120 <input type="checkbox"/> B. pertussis - RT-PCR
S121 <input type="checkbox"/> Chlamydia - RT-PCR
S122 <input type="checkbox"/> Ciguatoxin testing
S123 <input type="checkbox"/> Fungi - Microscopy
S124 <input type="checkbox"/> Hantavirus RT-PCR
S125 <input type="checkbox"/> hPIV 1 - IFA

ENTOMOLOGY
Entomology - Resistance Testing
S107 <input type="checkbox"/> Mosquito Adult - Malathion (CDC)
S108 <input type="checkbox"/> Mosquito Adult - Malathion (WHO)
S109 <input type="checkbox"/> Mosquito Adult - Permethrin (CDC)
S110 <input type="checkbox"/> Mosquito Adult - Permethrin (WHO)
S111 <input type="checkbox"/> Mosquito Larvae - Temephos (CDC)
S112 <input type="checkbox"/> Mosquito Larvae - Temephos (WHO)
Entomology - Species Identification
S113 <input type="checkbox"/> Arthropod Identification - Microscopy

MYCOLOGY
Mycology - Identification
S114 <input type="checkbox"/> C. neoformans - Microscopy

Patients

Edit Analysis Requests Specimens Past Medical History **Immunization History** Drug History Travel History Log

Info Changes saved

C13-00001 (Malcolm Edison)

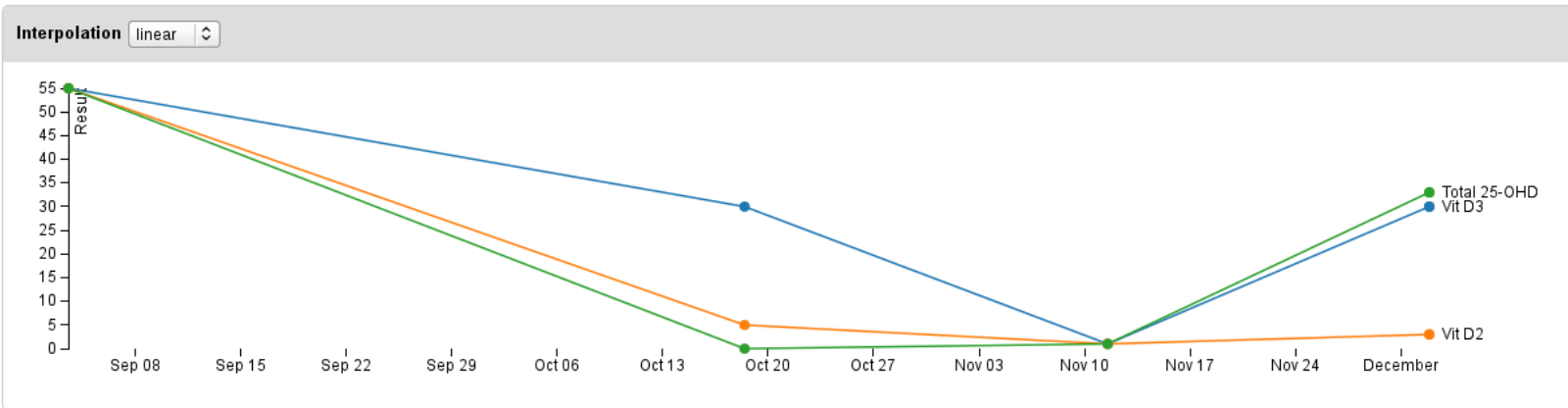
EPI Number

Immunization	Vaccination Center	Date
<input type="checkbox"/> 13vPVC	Josephine Thomas Health Center	1997-09-12
<input type="checkbox"/> Hepatitis A	Western Sea Hospital (Cape Town)	2005-05-13
<input type="checkbox"/> hepB	Western Sea Hospital (Cape Town)	2005-07-23

Add Delete selected Delete all

Save immunization history

Historic Results



Test	2013-09-03 01:19 PM	2013-10-18 11:01 AM	2013-11-11 12:43 PM	2013-12-02 09:14 PM	2013-12-02 09:39 PM	Units	Range
Dried Bloodspot							
Total 25-OHD (TOHD)	55.00		< 2	33.00	33.00	ng/ml	32 - 100
Vit D3 (25HVD3_MAPTAD)	55.00	30.00	< 2	30.00	30.00	ng/ml	

Can also be used with anonymous patients



Query *clinic, doctor*



Analysis Request *clinic*



Reception *lab clerk*



Workflow Creation *lab clerk*



Results Capture *analyst*



Verification *lab manager*



Publication *clinic*



Bika Health Roadmap



Bika Health 3.2

Inherits Bika LIMS 3.2, Froid and Samp

Planned new modules

More Instruments

Sampling kit assembly and distribution

EMR and DHIS 2 implementation

MIABIS compliance

ISO 15189



Review · Questions

Bika Health Functionality

Configuration

Patients

Cases

Doctors

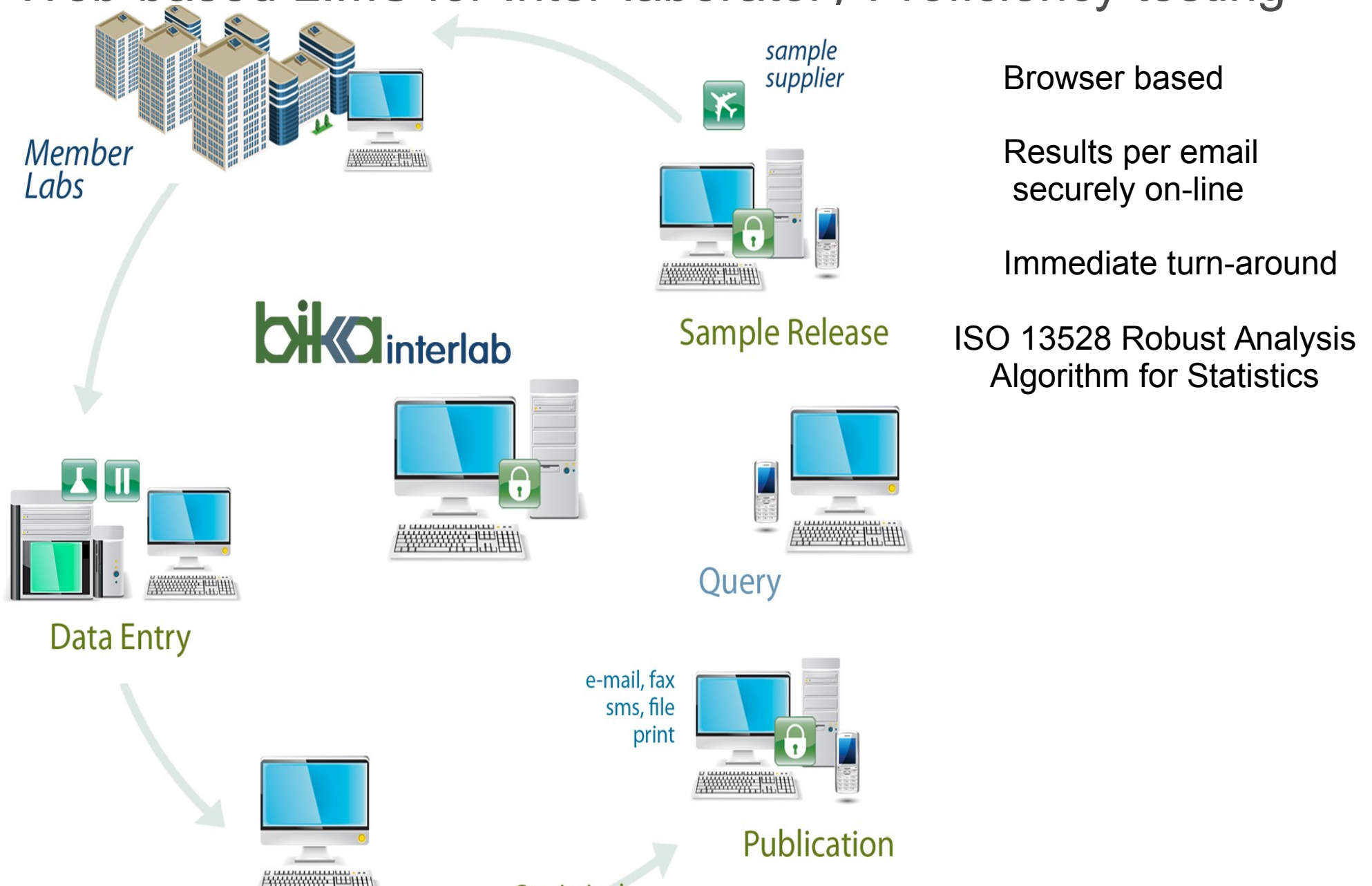


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Bika Interlab

Web-based LIMS for Inter-laboratory Proficiency testing



Bika Interlab · Creating a PT Round

Navigation

- Home
- Bika Setup
- PT Organisation
- Member Lab(s)
- Samples**
- Analysis Services
- Methods
- Sample Types
- Sample Conditions
- User Manual
- Emails

You are here: [Home](#) / [Samples](#)

Samples
by [admin](#) — last modified Nov 06, 2014 05:41 PM — [History](#)

created released closed all

Name	Sample Type	Date released	Start date	Date closed
2014 Oct: 01	Late Harvest		2014-10-01	
2014 Aug: 15	Dry Red		2014-08-15	2014-08-21
2014	Sweet	2014-07-22	2014-07-22	2014-07-29

Add Sample
A sample set up by the PT organisation and sent to the labs

Round year

Round month

Round number

Sample Type

Start Date / / :

End Date / / :

Release Notes

Internal Remarks

Releasing the sample

2014 Nov: 01
by [lemoene](#) — last modified Nov 11, 2014 10:08 AM — [History](#)

State: Created

Sample type: Sparkling White
Date released:
Start date: 2014-11-18 09:00
End date: 2014-11-25 15:00
Date closed:
Participants:

Email notification to participants

Interlab Results Capture

2015 May: 10

Dry White Unlabelled White wine

Measurement	Technique	Result	Unit	Lab bias	% diff	z	Perf	Signal	Robust average	Robust std dev	Results submitted
Alcohol	Distillation	11.34	% vol	-0.109	-1.0	-0.84	A		11.45	0.13	41
Clarity	NTU-TUNG	0.68	NTU	-0.043	-6	-0.16	A		0.7230	0.2620	24
Density	Pycnometer	1.0022		0.00005	0.000	0.05	A		1.0004	0.0003	24
F SO2 (Aspiration)	Continuous flow	25.0	mg/L								
F SO2 (Ripper)	Manual Titration	29.0	mg/L								
Fructose	Enzymatic	12.61	g/l								
Glucose	Enzymatic	11.23	g/l								
Lactic Acid	FTIR	0.19	g/L								
Malic Acid	FTIR	3.47	g/L								

View **Manage Results** Comments

2014 Mar: 05

by [Simone Noble](#) — last modified Mar 26, 2014 02:39 PM

Analysis	Method	Result	Unit
Alcohol	FTIR	18.312	% vol
Clarity	Turbidity meter		NTU
Copper	not tested		mg/L
Titrateable Acid	not tested		g/L
Total Extract	not tested		g/L
Volatile Acid	not tested	21.065	g/L

submit reset



Bika Interlab Roadmap



Interlab 2.1

Planned new modules

Sample preparation management

ISO 1403 Compliance

Bika LIMS Integration

Export to 3rd party LIMS



Review · Questions

Bika Interlab Functionality

Participants

Rounds

Results

Bika Interlab Services



BikaPT.com

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Thank you for the opportunity to present Bika LIMS

Professional Open Source

Functionality



Roadmap

www.bikalims.org

Until next time!

