

SILAB For Africa: LABs Information management System

Memorandum of Understanding

This document is an agreement between:

- Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (ICT) (to provide SW SILAB and support),
- Botswana National Veterinary Laboratory (BNVL) (Beneficiary Country),
- Namibian Central Veterinary Laboratory (CVL_N) (to provide training),

in order to use LABs Information Management System - SILAB in Botswana CVL.

Agreement purpose is to describe and define a common path in order to use SILAB in BNVL.

Product and Services description

SILAB is a software developed by ICT, used in house, in other Italian vet lab and in Namibian CVL, able to support of the diagnostic activity to get:

- the increase of the efficiency of the technical-scientific services;
- a support for the management of the technical-scientific activities (accredited);
- the qualitative increase of the report (Report of test);
- recording of all the "diagnostic phases " of the sample;
- standardization of users behaviour in diagnostic process;
- database normalized for the management and the control (alerts);
- integration with other enterprise databases.

Principal functionalities (see user manual for more details)

- **Sample reception:** On arrival, receptionist receives samples and inserts all information relevant to each sample (customer, owner, plan, request, specimen, species, additional information, so forth). It's possible to identify univocally (also in groups) all samples delivered to the laboratories for analyses.
- **Distribution of samples to lab sections:** The receptionist inserts sample's ID and selects test/method required, after prints a distribution tracking sheet for all sections involved.
- **Test results:** All analysts in a lab section can insert/modify their own test results. SILAB can be customized to suggest a list of possible results and measurement units. With one click, a long text result can be entered, saving time and reducing errors. A section head validates the results.
- **Test reports :** A Section Head can generate certificate of analysis in conformity with requirements of Laboratory Quality Assurance systems (ISO/IEC 17025 standard), and sheet for additional information and/or invoice. It's possible to correct test reports and to keep a copy of the old one or delete.

- **Capability to produce statistics and export data in pdf and excel file:**
 - for all tests performed in a section;
 - on a specific sampling purpose ;
 - for a specific disease;
 - for animal species and a specimen type;
 - all tests within a specified time period;
 - all tests not yet completed in each section.
- **E-mail alert facilities.**
- **Management of Database code-tables**, use of controlled terminologies. A controlled terminology is a finite, enumerated set of terms intended to convey information unambiguously. Use of controlled terminologies facilitates the aggregation of data during analysis phases.

Benefits of using SILAB

- Deliverable through Web (system runs 24 hours a day, seven days a week); completely free software based;
- able to support any language (National Language Support -I18N);
- easy to administer (Business Rules in table);
- secure accesses: users and roles. The password is encrypted using triple DES algorithm;
- highly customisable;
- compliant with ISO/IEC 17025:2005;
- inter-linkage with other systems e.g. LIMS; Epidemiology; analytical instruments; so forth.

Implementation Details

- Silab is a WEB application accessible with Mozilla Firefox 3 and later versions;
- it's can be a stand-alone installation in LAN;
- it can be accessed from another location via internet;
- it runs on Apache Tomcat web server using Java 2 Enterprise Edition (J2EE) technology platform. The Relational Database Management System (RDBMS) used is Oracle 10g Express. This free product requires a server with a CPU, 1 G of RAM and 4 G hard disk. Reports are generated with Jasper Report, an open source reporting tool. Due to the limitation of Database, it can collect data until 6-8 years depend on the amount of registration. (Namibian situation SILAB uses 500 MB/year so this Database could last more or less, 8 years). When the space is full there are some solutions:
 - use a double SILAB installation, one for historical data only;
 - use a Oracle Database 10g Standard Edition embedded in the software (ICT will support it);

- buy a basic licence for Oracle Database 10g Standard Edition One, an entry-level version of Oracle that includes the most commonly used options and features available with Oracle and supports two-processor systems (The country will pay for it) .
- it can run on every operative system not only on Windows e.g. Linux or Unix like; the clients are Windows.

SILAB doesn't require any license fee, it's free.

Constrains:

Organization restraints

- Is encouraged to visit Namibian CVL to understand SILAB modalities, organization and functionalities;
- a centralized sample reception and control is foreseen for each facilities;
- a management person from the laboratory who leads the project in Beneficiary country, he/she should be the key sponsor and spokesperson for the project;
- a local IT person for maintenance of LAN, local PCs and server and remote connection;
- an ICT person who leads the project in Italy;
- Namibian representatives for training.

Implementation restraints

- A local server (server with a CPU, 1 G of RAM and 4 G hard disk) linked to a LAN with section's PCs. A reception has to have PC and printer, the sections too;
- one INTERNET connection for a remote control. ICT assures that all data are private and confidential and ICT people don't use them;
- it's required that antivirus/malware software be installed and updated in server and PC connected via LAN. It's encouraged to install firewall.

Maintenance and Support

- ICT provides daily (from Monday to Friday) support: solutions to malfunctions, improvement of existing features is carried out directly from Italy via remote access;
- a helpdesk has been established at ICT via e-mail (silab.support@izs.it).

Customization

Italian ICT people will develop all agreed customizations.

Installing and domain tables

Italian ICT people install SILAB in the local server. It's in charge of local BNVL people to insert all Database domain table using SILAB tools; ICT can help the first massive feed of domain tables (1-2 weeks).

Training

On-site training by Namibian and/or Italian trainers (2-4 weeks). Part of the training can be carried out at CVL Namibia and the other part on site. There are structured courses for all relevant roles with final examinations and award of certificates. User manual for all relevant roles and FAQ are available on-line.

Costs:

SILAB doesn't require any license fee, it's free. Also Italian IT support is free.

C. Marobela-Raberoigwe

Head of BNVL



Signature

16-03-2012

Date



Head of ICT



Signature

27-03-2012

Date