Diagnostics Connectivity Solution Profile

DataToCare

DATATOCARE BY SAVICS

SAVICS

350 GeneXpert machines actively reporting and **600 additional** machines being connected

Software can be adapted to host any language

No license fees

Installation takes less than 10 minutes on client and server, IT qualifications are not required for installation or to run the software.

Installations in:

- Benin
- Burkina Faso
- Cameroon
- Central African Republic
- Democratic Republic of the Congo
- Indonesia
- Ivory Coast
- Liberia
- Mali
- Morocco
- Niger
- Philippines
- Rwanda
- Togo
- Zambia

Diseases currently monitored using the system:

- TB
- HIV
- Malaria
- Ebola
- HepB
- HepC
- FluA
- FluB
- Flu H1N1
- HRSV
- Meningitis
- COVID-19

Additional diseases can be added upon request
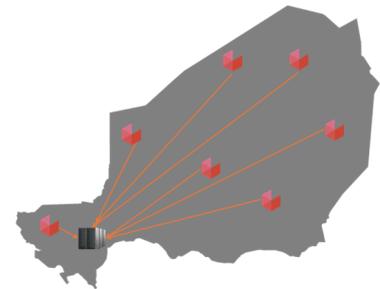
Countries currently using DataToCare
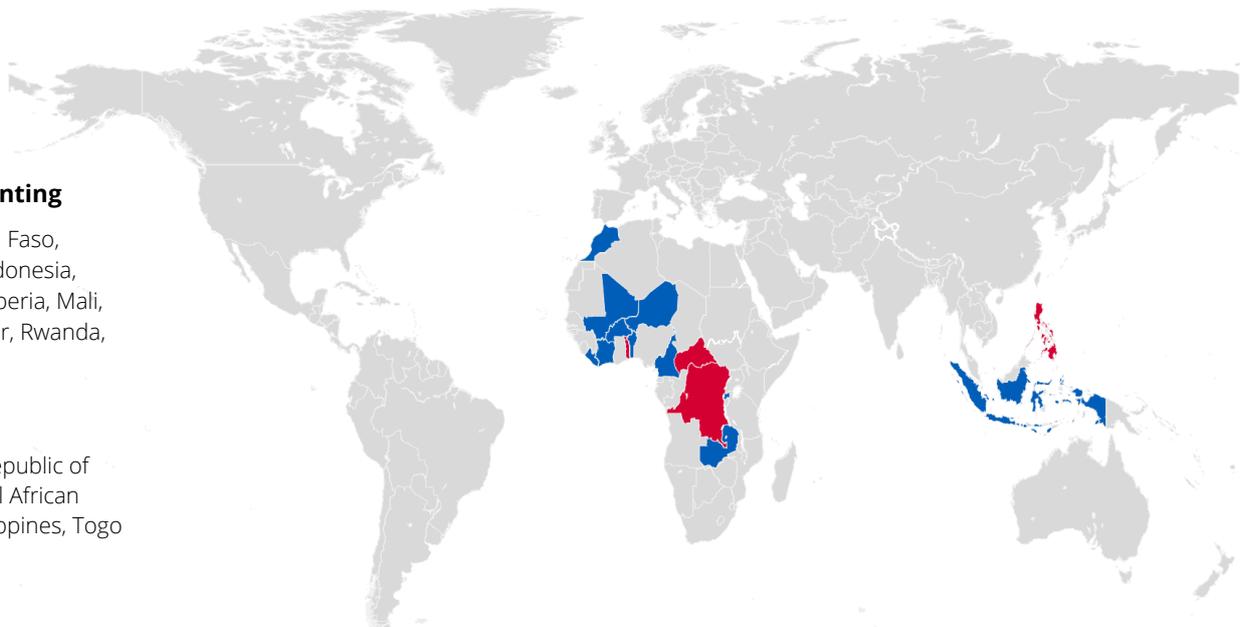
Implementing

Benin, Burkina Faso, Cameroon, Indonesia, Ivory Coast, Liberia, Mali, Morocco, Niger, Rwanda, Zambia

Piloting

Democratic Republic of Congo, Central African Republic, Philippines, Togo

Managing Diagnostic Device Networks

Device Usage Statistics

Displayed as charts with the number of tests per device for a timeframe defined by the user. The last laboratory connection timestamp is also monitored.

Device Utilization Rates

Shows utilization rates per lab for a timeframe defined by the user. The user can set a time threshold to receive in-app or email notifications when results are not received from labs.

Dashboard

Responsive design. Accessible from any connected device (desktop, web and mobile).

Display of Results

Shows results by device, including detection of MTB and rifampicin resistance, errors, invalids, no results. Medical and operational results coming from the tests are represented in a visual way and can be filtered by disease, location and timeframe. All information can be merged into customizable reports and either be visualized and downloaded or sent periodically to specific users.

Recommendations for Targeted Support

Recommendations can be made based on customizable quality indicator thresholds, for example too many errors. An in-app notification is shown and a customized email is sent to the people designated to receive it, to warn about the issue.

Connectivity

DataToCare can show the current connectivity and billing status of a SIM card. If an SMS modem is connected, the connection is tested and the billing status monitored (credit remaining). It's also possible to track the number of SMS/emails sent to prescribers.

Current connectivity status of router, modem or other communications device are also displayed. The router/SMS modem's connection is tested and the status monitored. An indicator turns green when ok or red when not connected.

Network Maintenance and Calibration

Records and displays calibration dates

In-app notifications displaying and reminding of machine calibration, maintenance or warranty deadlines. Notification time can be customized.

DataToCare tracks and displays warranty compliance information by device and by lab

Records and displays maintenance performed per instrument

Pre-warning notifications can be sent to lab staff to ensure compliance to maintenance schedules. Also records and displays the quality compliance status for each lab and allows manager to check for issues of several kinds.

Provides a report for instruments requiring calibration

Provides information about calibration deadlines by instrument (after a specified time or number of tests). Records the module serial number should calibration fail.

Results of quality checks can be sent directly to manufacturers for troubleshooting

Customizable quality indicator thresholds can be set and, if triggered, reports can be sent directly to manufacturers for troubleshooting. The user decides whether to send or not.

Manufacturers can request a specific account that only has access to relevant support and maintenance data - not patient data.

Improving Patient Management

Automated notification of healthcare workers

Notification is sent to the defined persons via SMS or email, as soon as test results are available and validated by the operator. The SMS or email with the results includes a link to access the patient medical records in one click as well as the patient phone number or email to make sure the physician can contact them as soon as possible,

Connection with clinical results reporting systems

DataToCare is set up to connect to external systems. All results can be sent via SMS to SMS Printers. Depending on the local devices connected, some customization may be required.

Captures patient demographic information necessary for clincial care and follow-up

The patient information digital form is always customized to the country needs to ensure that all information contained in the paper test requests/ reports is captured by the software.

Connection via API to Lab Information Management Systems, Electronic Medical Records and other case management tools (eTB)

DataToCare database structure complies with HL7 norms.
The system already connects with GeneXpert LIS (ASTM) in 15 countries, including eTBManager in Indonesia, DHIS2 in Benin, NADIS (HL7) in Morocco, ITIS in Philippines, Bacterio in Benin.
API can connect with any system.

Scheduled reporting of Rifampicin-resistant TB cases

Can send scheduled reports of rifampicin-resistant cases to supervisors to reduce loss-to-follow-up. Reports can be sent following a pre-defined schedule (weekly, monthly, quarterly, etc.).

Reports are customizable including can be case-based or of aggregated data.

Patient management features of DataToCare:

- Clinician can use the Patient Medical Record to add consultation information and to record a diagnosis

- Patient ID can be captured by the system

- System is able to merge patient IDs together and remove duplicates

Contact list feature for MOH staff, supervisors, healthcare staff and patients

An initial list of contacts can be defined by the NRL and NTP staff prior to software implementation. On an ongoing basis, prescribers, operators and other staff can be added/ edited/removed from the system database as well as their contact details. Each contact is linked to an entity to control the reporting flow.

Facilitating Supply Management

Records currently available inventory in an instrument site

Forecasts stockouts and cartridge expiration
Allows users to modify the forecasting model

Automatically alerts lab and stock managers when inventory is running low

Recommends stock reallocation to reduce stockouts and cartridge expiration

DataToCare

File   Management   Analytics   Tools   Help   cedric@savics.org

Management > Inventory > Lots

Lots   Products   Transfers

All products ▾   Search among lots   DELETE

	Product Name	Identifier	Expiration ▲	Quantity	Status	Actions
☐	Xpert MTB/RIF (50)	Xpert MTB/RIF (50)	15/12/2020	34	✓	EDIT CONSUME TRANSFER
☐	Xpert MTB/RIF Ultra (50)	Xpert MTB/RIF Ultra (50)	17/12/2020	12	✓	EDIT CONSUME TRANSFER
☐	Mask FFP2	Mask FFP2	08/01/2021	1000	✓	EDIT CONSUME TRANSFER
☐	Xpert MTB/RIF (50)	Xpert MTB/RIF (50)	15/04/2021	260	✓	EDIT CONSUME TRANSFER
☐	Xpert MTB/RIF Ultra (50)	Xpert MTB/RIF Ultra (50)	17/09/2021	150	✓	EDIT CONSUME TRANSFER
☐	Mask FFP2	Mask FFP2	23/12/2021	2000	✓	EDIT CONSUME TRANSFER

Enhancing Data Management

Brands of diagnostic instruments currently supported through plugins:

- Cepheid
- Abbott
- Roche
- Sysmex
- BD Phoenix
- Human

New instruments are easily connected using plugins. Manual capture of other tests results is also possible (culture, DST, microscopy,etc.)
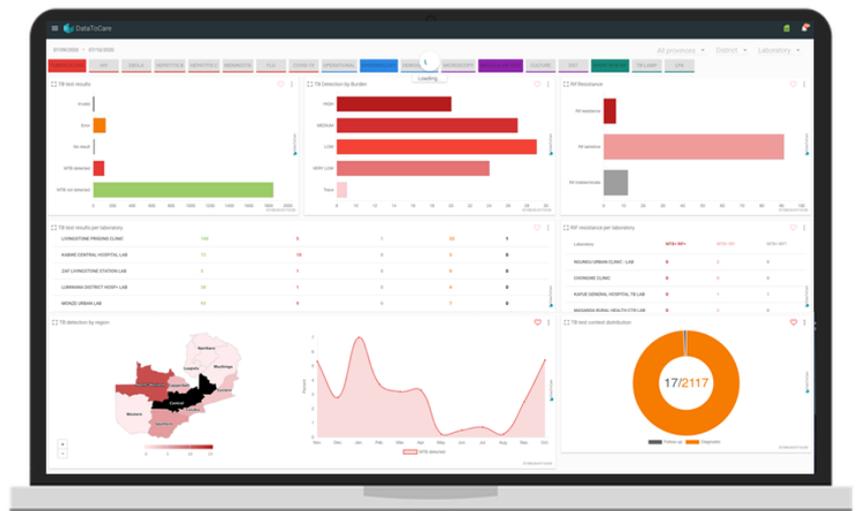
Ability to perform in settings with poor connectivity

Sends the information to the server using internet or SMS. In the absence of internet, DataToCare sends all information via SMS. If DataToCare is unable to send data, it will be kept locally until transmission is possible.

The software checks on a regular basis if all the data sent from a client is well arrived on the server to avoid data loss during transmission.

Data Control and Ownership

Data hosting can occur in-country and in a private cloud

Ministry of Health owns, and controls access to, data on the system

Multiple levels of data access can be granted upon permission by the NTP

So that relevant data can be viewed by laboratories, regional TB programmes, partner organizations, World Health Organization, etc.

Terms of Use (TOU)

- TOU identifies permitted and non-permitted uses of the data
- TOU is compliant with GDPR from the EU.
- TOU can be adapted to meet country data requirements, eg South Africa's Privacy of Personal Information law.

Sample Terms of Use available at www.savics.org/legal

Availability of Support

21 staff dedicated to developing this specific software

4 staff dedicated to providing IT support during and after implementation

Sample service level agreement available upon request

Available software support includes dedicated in-country and remote trainings, installation guides, user guides, videos, a software checklist, remote support via Whatsapp or other.

Initial installation and implementation support available

2-weeks of in-country trainings and pilot implementation. Server and software is installed on 5-10 machines with lab staff and super-users are trained. Then, depending on the needs, in -country support is provided for a countrywide implementation or remote support is provided for DIY installations.

Implementation support is provided to connect instruments in remote areas

Other components required to support the software

For an in-country server solution a dedicated space on a computer running 24/7 is required. This service can be provided by Savics if needed. There is no need for a public IP address for the server to access it from any connected device, although it is recommended.

No additional requirements for the hosted solution. A secure space required in the cloud to host the server is provided.

To send data from remote areas without internet, the only component needed is a USB dongle modem (one per assay) and SIM card. Usually, existing modems (including white-label ones) can be worked with.

Works on all major operating systems

Including Windows, Linux, Mac OS. The dashboard is accessible from any device connected to the internet using any browser. DataToCare mobile has been developed for Android.

Performance evaluation agreement is available upon request

Includes quarterly review of DataToCare performance, an annual impact assessment and customer feedback session as well as tailored capacity building sessions based on need.

Software Updates

Current Version:
Desktop: 4.0.0 (16/10/20)
Web: 3.0.0 (16/10/20)
Mobile: 1.0.0 (01/07/20)

Continuous software updates

How is the software updated?

Updates are provided over-the-air. The update is performed by running a setup on the client or the server. This is done in a few clicks and can be done by a non-IT person. Additional support can be provided when needed via support@savics.org, telephone, whatsapp, etc.

Planned product updates for patient management:

1. DataToCare Mobile being deployed, allowing lab operators to capture test results from a mobile device.
2. Connections with additional hospital, logistic and financial management systems and databases.
3. Patient treatment, adherence, and follow-up module.

Planned product updates for data management services:

Global SMS services to be able to provide data packages for all partnering countries.

Planned updates team and support:

Continuous recruitment of local developers, project managers and IT support. 80% of staff are located in the field.

Planned product updates for device management:

1. Integration with Savics' active case finding platform MediScout to find and refer patients for testing.
2. Prescriber can create a Test Request
3. Sample Management (tracking, location, etc).

Other short and mid-term activities planned for software updates:

1. Integration of mobile labs
2. Integrations of new diseases and diagnostic instruments when needed.
3. Adapt Texto DataToCare server- SMS online (Texto or web API)

External developers are welcome to contribute to the improvement of DataToCare