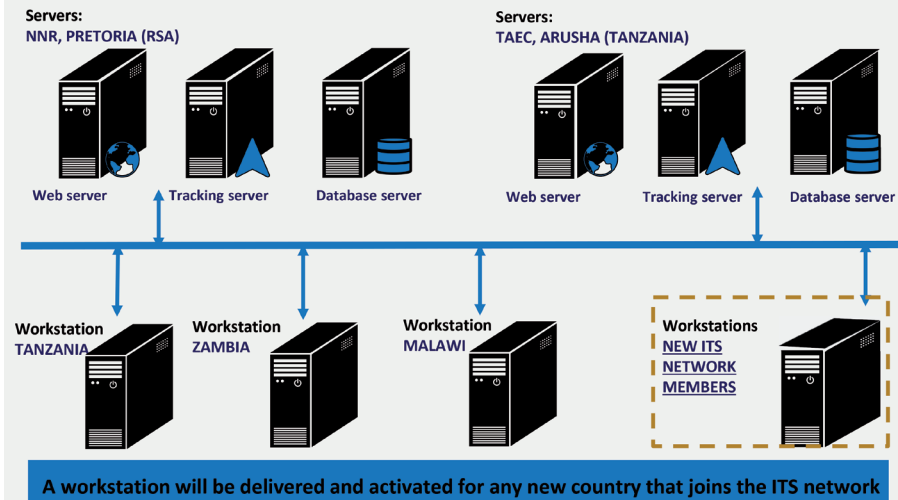


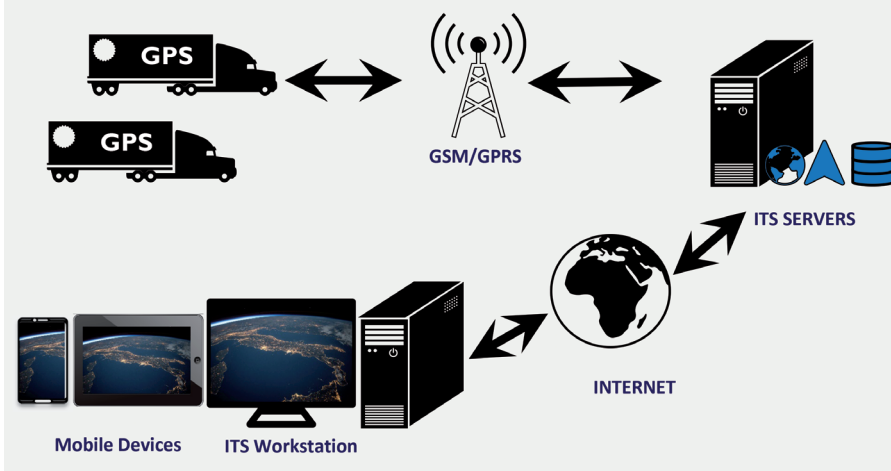
THE WEB-BASED INFORMATION TRACKING SYSTEM

Initiated by the EU-funded project *Support to Southern African States in Nuclear Safety and Safeguards*, the Information Tracking System (ITS) was designed and developed as a web-based tool that enables the monitoring and control of the transportation of nuclear and radioactive materials within and beyond the national borders of the project pilot countries – Malawi, Tanzania, Zambia and Namibia. The system allows regulatory authorities to collect and evaluate all relevant transportation data in a fast, continuous, comprehensive and consistent manner. It provides an opportunity for information sharing among the responsible authorities of the project countries, while allowing access to the system to other users from SADC member states upon their request.

ITS NETWORK LOCATIONS



ITS NETWORK AND DATA FLOW



ITS ADVANTAGES:

- ✓ Easy installation on a server.
- ✓ No need to install additional software on the workstations. The ITS is accessible via web browser.
- ✓ Intuitive and friendly user interface. All ITS modules have the same layout design.
- ✓ The ITS is built on modular principles & can be easily enhanced to cover more counties or additional requirements.
- ✓ The system can also be enhanced to track other sources.

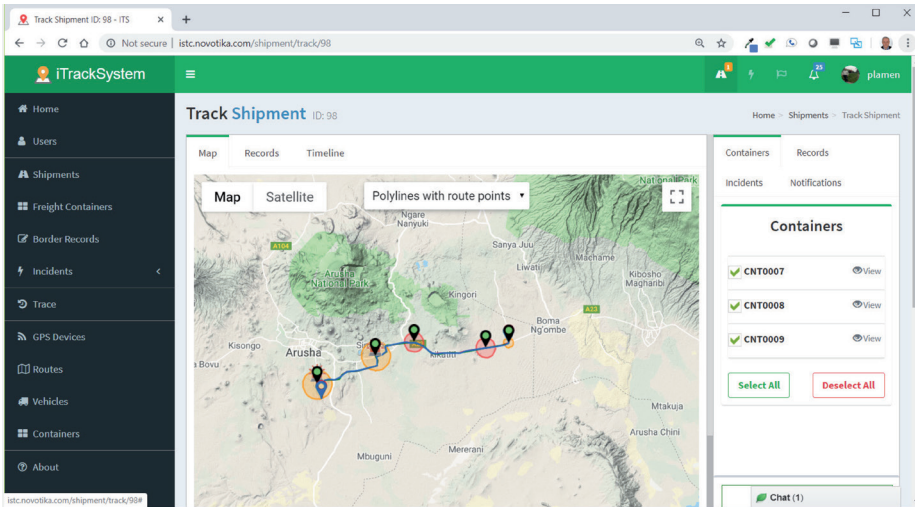
ITS MODULES

- Users:** Module for managing the user account system.
- Routes:** Utilities for control points definitions. Functionality for route definition
- GPS devices:** Module for defining, viewing & editing GPS
- Border records:** generates records, based on information from the drivers after crossing border points
- Incidents:** reporting module, based on notifications from the drivers
- Shipments:** Module to define, view and edit a shipment.
- Freight containers:** Module to define, view and edit containers assigned to shipments
- Vehicles:** Module to define, view and edit the vehicles.
- Containers:** To define, view & edit containers before they are turned into freight containers
- Communication system:** for use by registered users only
- Trace:** Module to trace changes in all shipments



Funded by the European Union



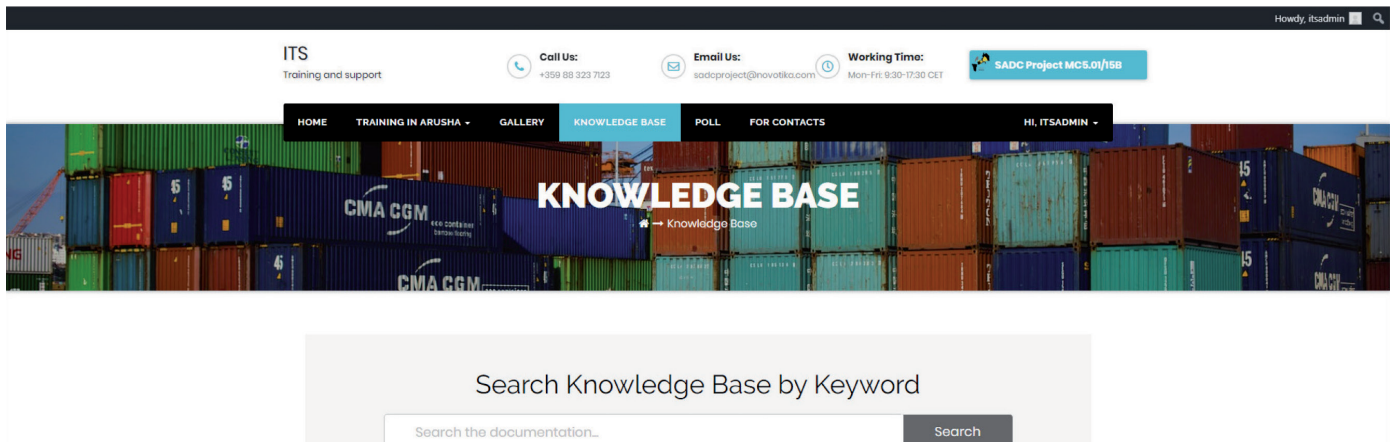


The Traccar on-site is selected as a GPS Tracking Platform. Google maps is used in the tracking view. The Platform offers real-time GPS tracking of multiple vehicles in a web browser. A live view of the entire vehicle fleet gives you control. Specific vehicles can be followed when required.

ITS TRAINING AND SUPPORT WEBSITE URL: [HTTPS://SADCPROJECT.NOVOTIKA.COM](https://sadcproject.novotika.com)

The training and support website, created by the ITS provider, the Software Company Ltd., contains general information, accessible to everyone, about the trainings conducted so far in Tanzania and in Zambia. The training sessions include a Train-the-Trainer course and a real-time

simulation of a shipment lifecycle – from creating shipment to its completion. An exam is administered at the end of the training. To pass, a student must answer correctly at least fifteen from all twenty questions. A passing grade earns certification for the acquired skills to use the ITS.



The Knowledge Base pages from where all materials related to the ITS, including user guides and software can be downloaded, are accessible to registered users only.

Similarly, only registered users can access the special Poll page; there they can answer the questions and make suggestions for further development of the system.

SECURITY CONSIDERATIONS. The development of the ITS was awarded to the Software Company Ltd, after an open tendering process. To ensure the appropriate levels of security, the developer has used various technologies. The system has been built

on PHP 7.2; uses MySQL database v8.0.15 to store data; jQuery, HTML 5, JavaScript, CSS 3 for UI; Zend Framework 3 set of libraries; Apache HTTPD web server. The information relayed in ITS is well encrypted and therefore cyber security is ensured.

THE FUTURE MANAGEMENT AND GOVERNANCE OF THE ITS

The design, development and delivery of the ITS was completed in time according to the specification and the implementation schedule. It included installation of the test version of the system; trial operation of the system by the assigned personnel; external testing and bug fixing. The Software Company is providing continuous advice and support to the authorities that are hosting ITS servers and workstations. The company also makes improvements based on feedback from the users: experts from the Tanzania Atomic Energy Commission (TAEC), the Zambia

Radiation Protection Authority (RPA), the National Nuclear Regulator (NNR) of South Africa, the Atomic Energy Regulatory Authority (AERA) in Malawi. The ITS can be easily expanded to include additional users. It may also be made compatible with other existing incident management web-based communication systems. While more Southern African countries are considering joining the ITS, the Secretariat of the Southern African Development Community is currently kept informed about the possibility to make this tool available to all member states soon.