Exterior highlights

Solar Panels
Mounted on the roof and serve to complement the energy supply

Silent generator and lithium batteries
Powerful generator and state-of-the-art lithium-ion batteries on board to guarantee full operational autonomy

Secured sample hatch
- To bring infectious samples directly into the isolator
- Badge access for lab door and sample hatch, authorized personnel only

Hydraulic Levelling System
- Using a control panel located inside the cabin or with the hand-held remote control, it automatically stabilizes the lab to a completely level position in under 5 minutes
- Specialized stabilisation tiles allow for deployment on soft and uneven terrain

PRAESENS

The Praesens Foundation is created by serial biotech entrepreneur Dr. Rudi Pauwels. It has the aim of raising philanthropic funds to promote, provide and implement the use of integrated solutions to improve rapid response capabilities and surveillance in areas regularly affected by epidemic and endemic diseases. Our solutions have been designed to overcome field challenges during public health emergencies, such as limited access to healthcare in remote and rural areas, sample transportation issues, poor connectivity, unreliable power outages and little biosecurity measures.
We want to drive change and make countries safer from epidemics - by working not only for but in particular with our local partners- with the aim to create more sustainable solutions and further expand the local healthcare capabilities.
The Latin-derived name of the Foundation refers to the notion of "being present here and now in order to make an impact".
The Board of Directors is composed of Dr. Rudi Pauwels, Prof. dr. Peter Piot and Steven Pauwels.

Our Mission
Praesens' mission is to enable local organizations and authorities to detect and contain current and future health threats by developing innovative approaches to deliver (mobile) health services to populations that are traditionally underserved. We believe in investing in health security capabilities in a holistic approach, including: reliable, sensitive real-time disease surveillance systems; safe, secure, and strong laboratories; a well-trained workforce; capable information systems; a command structure to coordinate an effective and focused response; and multi-sectoral collaboration.

Praesens Foundation
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Praesens Mobile Biosafety Laboratory: Local healthcare capacity building with a focus on field diagnostics

PRAESENS

Discover Praesens Mobile Lab

Past and recent disease outbreaks (e.g. SARS, MERS, Ebola, Zika, Dengue) have shown that infectious diseases constitute to affect lives of people while also representing national, economic and health security threats that can quickly evolve into global health crises. Diagnostic needs for pathogens with epidemic potential need to be addressed ahead of the next epidemic. By doing so, we can create a preparedness ecosystem that will allow the shift from a cumbersome, costly emergency response to rapid, cost-effective action for both known and unknown pathogens.

The Praesens Foundation is therefore developing, providing and implementing easy to train and use solutions that contribute to **better epidemic preparedness, early warning and rapid response for existing and emerging infectious diseases and medicine in general.**

We developed a range of fully autonomous, all terrain, mobile laboratories that can be deployed readily and provide a compact, yet safe and comfortable laboratory environment to perform accurate molecular and other diagnostic testing under controlled conditions with the capacity to communicate data and results in real-time. The fully equipped Mobile Lab thus aims to take the full power of the traditional lab to a site in immediate need, enabling more rapid access to sample testing in the most isolated areas and real-time results that are critical in detecting the threat and making faster and more accurate medical decisions. It is therefore crucial to adopt a syndromic approach to detect and differentiate both known and unknown pathogens and co-infections in clinical settings while safeguarding the affordability and access of these assays to the communities who need it most. Our Mobile Lab is ideally suited for disease surveillance activities and can be rapidly deployed in case of an outbreak.

The Mobile Lab uses an all-terrain vehicle which is equipped to handle pathogens up to level IV using a closed, under-pressured biosafety isolator with an external, pressurized entry port to enter infectious samples in the unit. The Mobile Biosafety Lab can easily be moved and redeployed between different sites, avoiding transportation of infectious clinical samples to centralized laboratories which is useful during an epidemic investigation or when conducting surveillance campaigns. The uniqueness of our solution lies in the fact that it is an **open platform, fully customizable and modular to meet our partners' specific needs.** The configuration of our spacious mobile lab allows adjustment and welcomes the integration of modern advanced and emerging technologies (e.g.:molecular technologies, multiplex pathogen assays and NGS applications).

First field project with early believers: From a sketch to reality in less than two years

A fully equipped Mobile Lab designed and owned by the Praesens Foundation has been deployed in Senegal in collaboration with Institut Pasteur de Dakar (IPD) for extensive field evaluation for over 2 years..
The main objective of this study is to train local teams and evaluate a Mobile Laboratory dedicated to the detection and identification of infectious diseases in areas that are hard to reach and with a very limited or non-existent health infrastructure. While complementing IPD's current ecosystem of fixed labs, field stations and surveillance networks, the Mobile Lab was evaluated thoroughly on its performance against field conditions, robustness and its technical and operational sustainability in order to gain insights and further improve our solutions. With extensive training and knowledge sharing, this experience perfectly illustrates that by investing in local capacity building efforts, it will enable a country to take local ownership of potential future outbreak responses and address regional laboratory testing needs in an autonomous way.

Institut Pasteur de Dakar

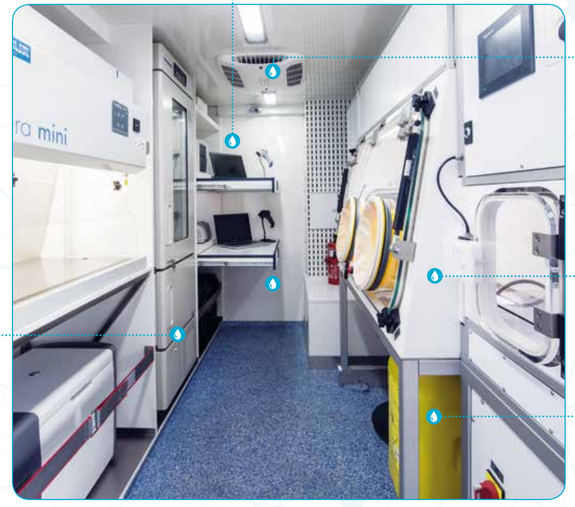
PRAESENS

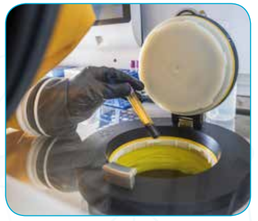
Interior highlights

Customizable Open Platform
Flexible work space and various diagnostic instruments ranging from fully-automated PCR-based molecular diagnostic systems, RDT, ELISA, NGS-based systems for wide-spectrum detection: e.g. Tropical Fevers, HIV/TB/Malaria etc.

Lab fridge and portable freezer
Cold chain capabilities ranging from +4°C to - 20°C and -80°C allow to preserve inactivated samples, reagents and/or vaccines.

Telecommunication system
- Permanent connectivity possible by using rooftop mounted cellular and satellite network connection
- Worldwide secured satellite communication system between the on-field mobile lab and the external world





Biohazard waste container safely connected to the inside of the isolator

Lab air conditioning
The lab room is kept at controlled temperature even in hot (up to 54°C) and humid environments

Closed, under-pressured biosafety isolator and BSL-II laminar flow for handling all classes of infectious pathogens that protect both the user and the sample.
H2O2 decontamination system for isolator and lab space.