



Virtual Training “Mobile Labs and Field Sequencing during outbreaks”

The Role of Rapid Response Mobile Laboratories (RRMLs) in the European and Global Health Security Architecture

13 April 2026

Presentation Plan:

- GOARN Strategic Group for Diagnostic Surge Capacities (GOARN DiSC).
- Minimum Operational Standards and Typology (MOST) for RRMLs.
- Quality Assurance of RRMLs.

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Health Security Division

WHO Regional Office for Europe

WHO expert with 20 years of leadership in global emergency preparedness and response settings. His career includes extensive field experience across the WHO AFRO, EMRO, and EURO regions, as well as work with international NGOs. Since 2016, he has spearheaded the WHO European Region's health emergency workforce, overseeing GOARN, the EMT Initiative, and the EOC-NET Forum.





**How many years of experience in
emergency response do you have?**



What emergency(s) have you been part of the response to?

Our world faces **health emergencies** of increasing frequency, intensity and complexity.

Climate change as a primary driver:

- **1.5 disasters per day** projected by 2030
- **Outbreak surge:** 187 epidemic events per year, and increasing
- **Protracted emergencies:** fragile and conflict-affected settings increasing
- **Increased Vulnerability:** > 100 million forcibly displaced

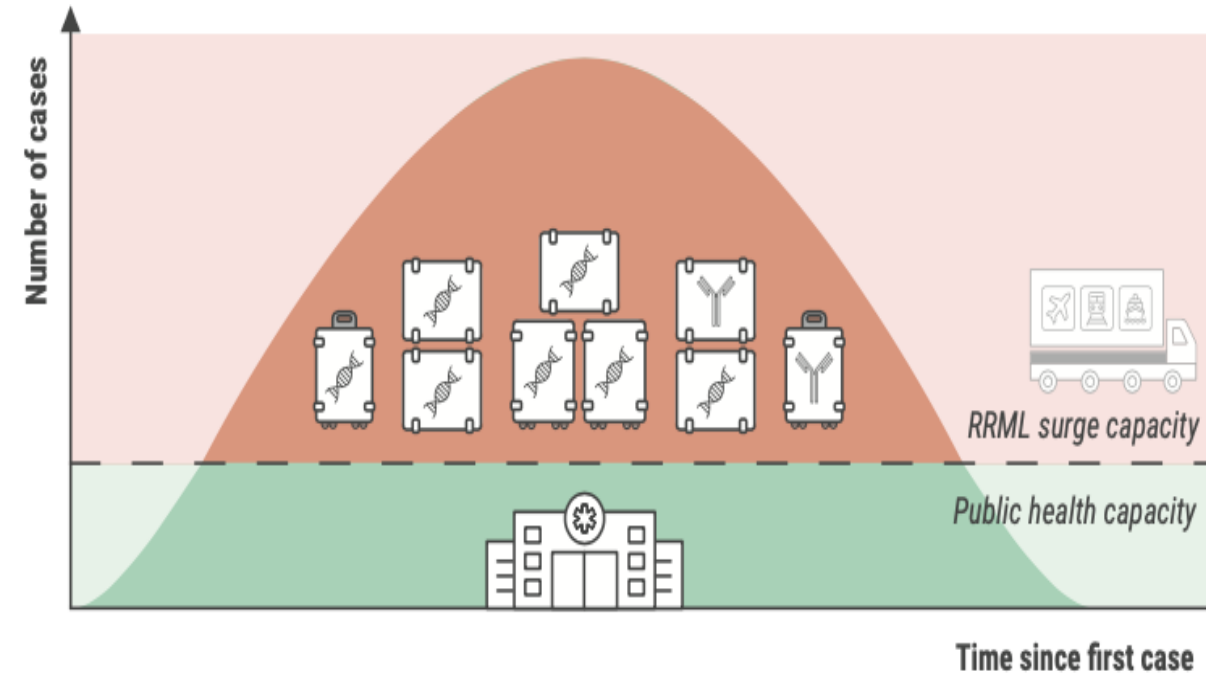


2019 – Change of health security landscape

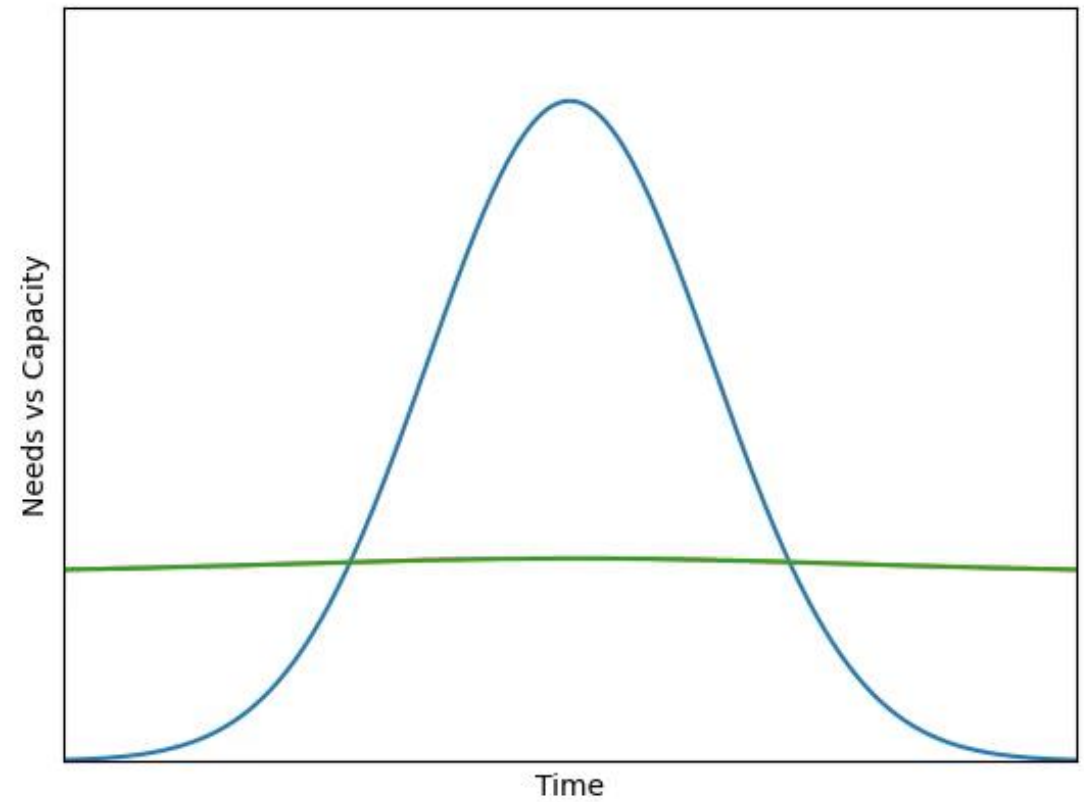
- Pandemic/outbreak response
- Earthquake
- Armed conflicts
- Migration crises
- Weather related events
- Mass gatherings
- Etc.



Traditional International solidarity model



National Surge Capacities model

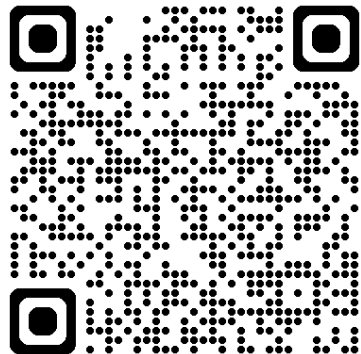
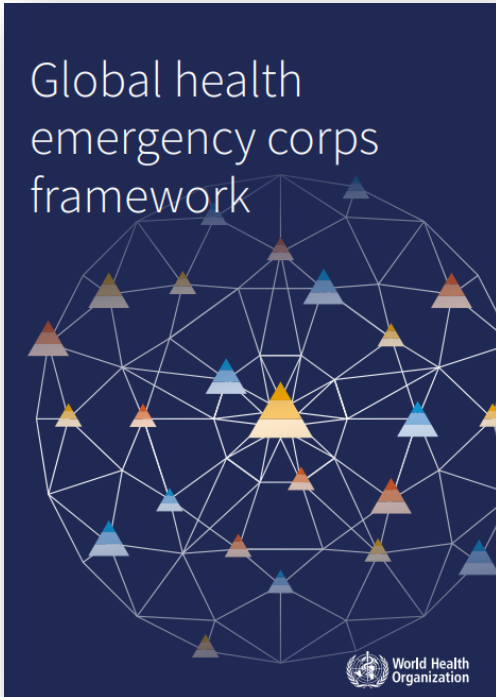




Paradigm shift
(balanced approach):

- International solidarity
- National health security

GHEC | The framework: localized response capacities



Suggests a **structured framework to strengthen national health workforces** for countries to adapt/adopt



Embraces an **approach to collaboration and coordination** across the five core health emergency capability areas (the '5Cs')



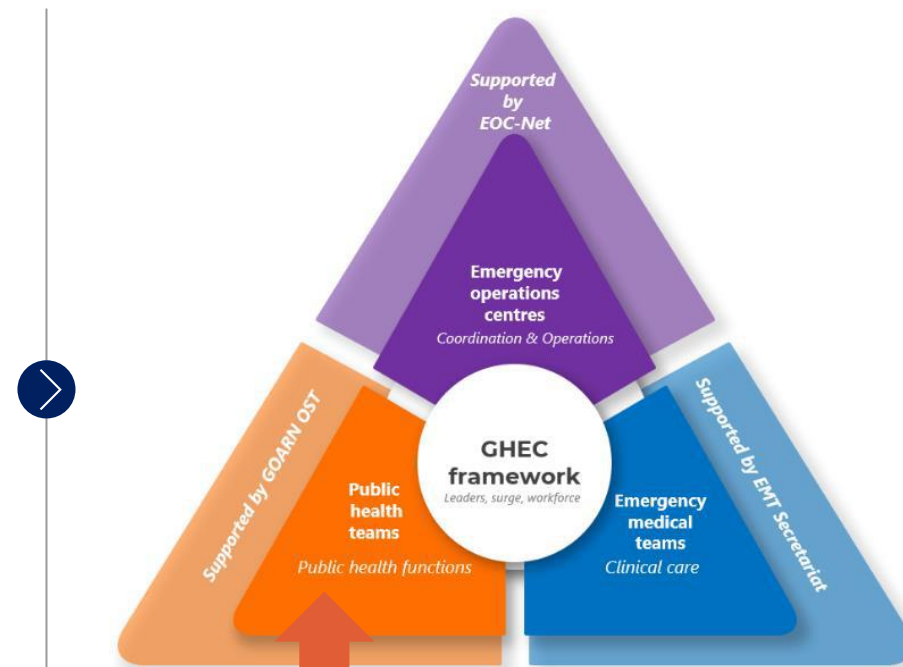
Identifies the **ecosystem of institutions and health emergency networks** through with countries collaborate and coordinate



Global Outbreak Alert and Response Network

GOARN – Network of networks

- Established in 2000: global network supporting national health authorities in public health preparedness and response.
- More than 350 institutions with diverse backgrounds and technical expertise.



History: GOARN Rapid Response Capacities





What makes an RRML a "Strategic Solution" for addressing diagnostic gaps in an emergency?

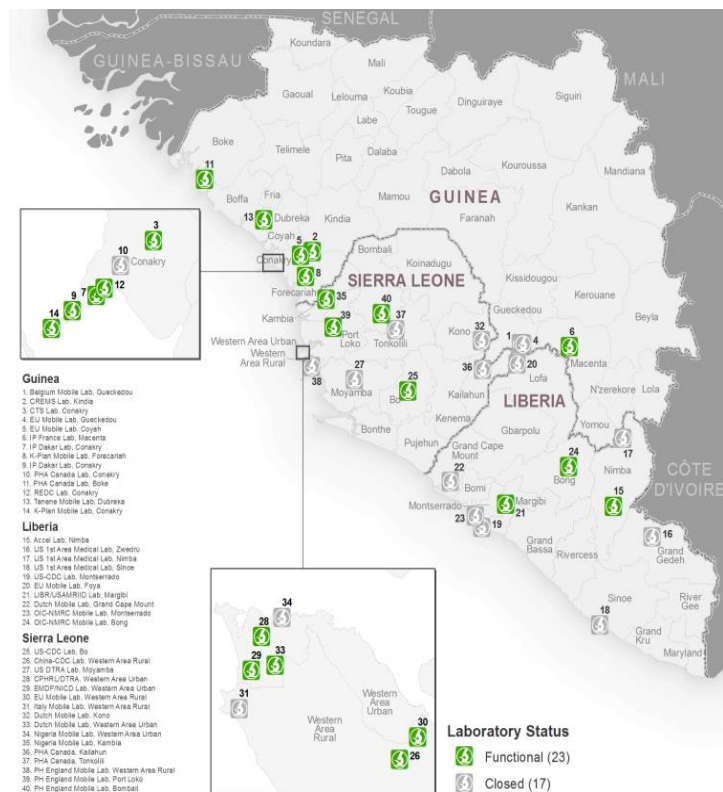
A person wearing a full-body white biohazard suit with blue trim, a hood, safety glasses, and a white respirator mask is working inside a large, transparent, cylindrical piece of medical equipment. The person is holding a white container. The equipment has various ports, cables, and a yellow biohazard warning symbol on its side. The background is dark and out of focus.

RRML
Deployments
in
Emergencies

**Diagnostic Surge Capacity
of GOARN**

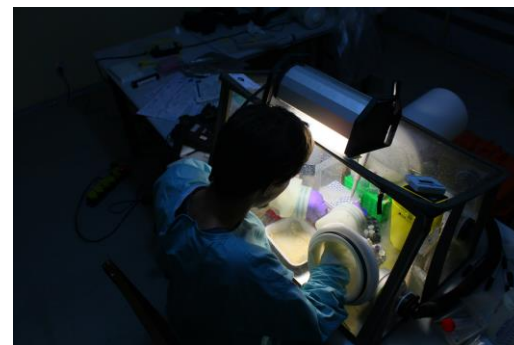
Deployment to remote areas- Ebola outbreak in West Africa

2014 - 2016



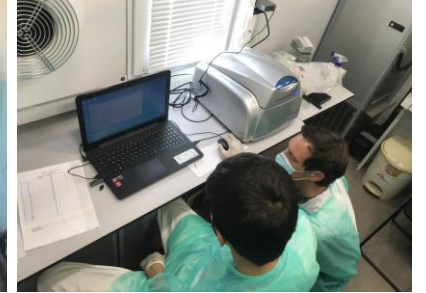
- Over 23 RRMLs deployed across 3 countries in West Afrika: Guinea, Sierra Leone, Liberia

- Ebola diagnostic for national and international treatment units



Strengthening national capacities – Covid-19 in Tajikistan

2020



Needs Assessment

- Need for additional laboratory capacities
- Development of a COVID-19 Testing Strategy aligned with EMT support
- Establishment of laboratory Supply Chains jointly with EMTs

Strengthening national Emergency Response

- Establishment of diagnostic Capacity in remote districts of Tajikistan
- Training of diagnostic experts
- Support national laboratories in diagnostic procedures and Biosafety



Joint logistic supply chains with EMTs and WFP

Humanitarian crisis – Refugee camp Kara Tepe 2 Lesbos, Greece

2021

Full integration in emergency coordination structure



- Defined reporting structure
- RRML coordinated by EMTCC supported by RRML coordinator

Full Interoperability with over 30 health actors in the camp (including EMTs)



- Alignment and application of EMT Minimum Data Set (MDS)
- Introduction and training of clinical health actors in diagnostic capacities and request

Scalable, need-based diagnostic modules



- Expansion from COVID-19 detection to clinical diagnostic
- Upscaling of test capacities from 100 to 250 daily



Capacity building – Republic of Moldova

Just in Time Training (JiTT)

- Capacity building in the context of the Ukraine crisis
- Operationalizing a national RRML
- Training of PH experts in RRML deployment and procedures
- Establishment of recommendations for future trainings

2022



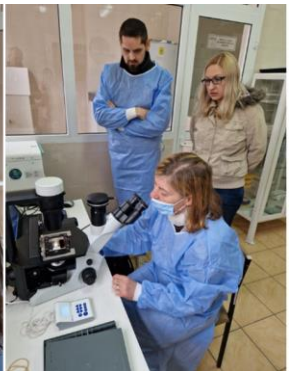
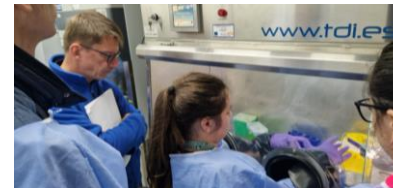
Training for Mobile Lab Practice - Chisinau

Fluorescence microscopy (FM)

Sample Reception

PCR Training StepOne Plus (RT-PCR)

PPE: Donning-Doffing

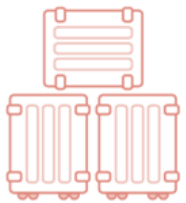


Training of coordination procedures with treatment units including EMTs

Natural disaster – Cyclone Chido, Mayotte, France

2025

Multi-national RRML (Type 2)



- **France:** Institut Pasteur
 - **Germany:** University Leipzig
 - **Belgium:** B-Life/UCLouvain
 - **Israel:** MOH
- RRML is Self-sufficient throughout the 6-week mission



Priority areas of support

1. Water-quality testing
2. Environmental surveillance for waterborne diseases
3. Waterborne disease testing (human)
4. Arthropod-borne disease testing

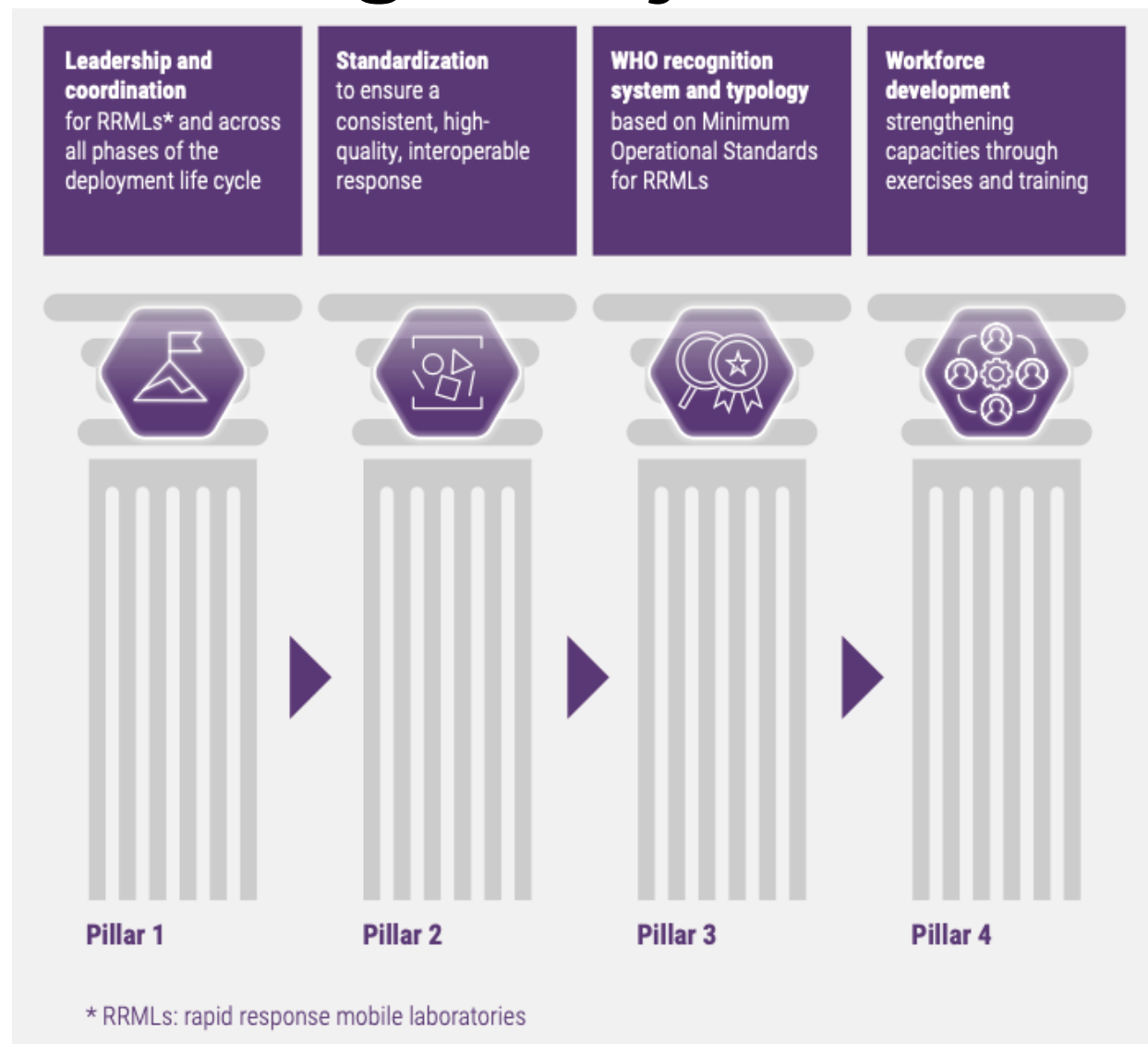


Full diagnostic support to type 1 and 2 EMTs



GOARN-DiSC

Strategic Objectives



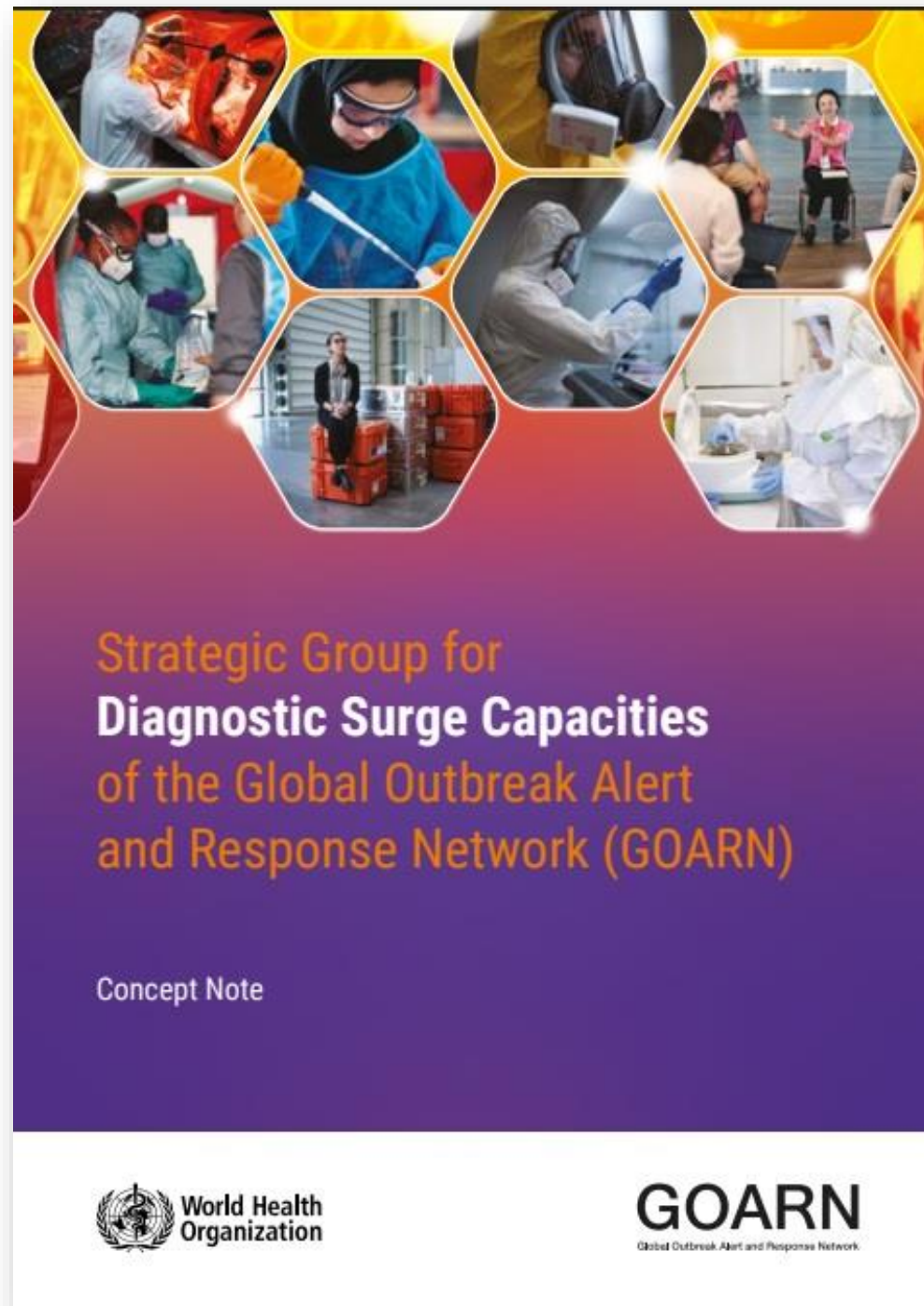
Leadership and Coordination



- **GOARN DiSC Establishment**
- July 2024, RKI, Berlin, Germany



Leadership and Coordination



2024

Interregional Field Exercise (IFX) Program: 2023-24

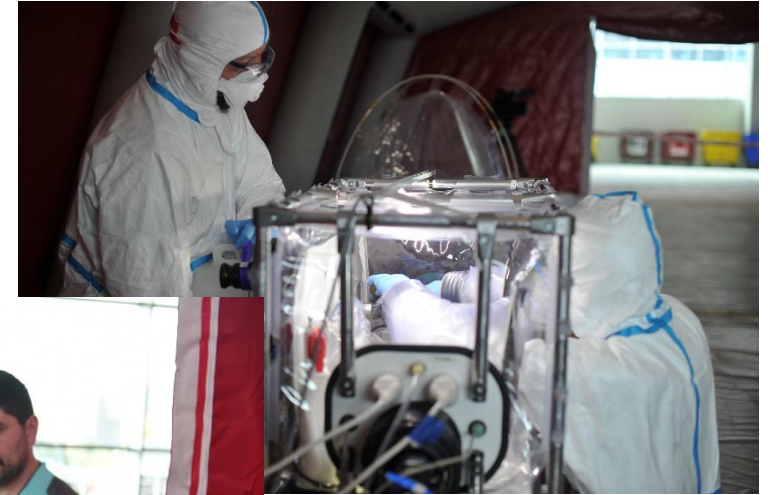


More than 200 participants

Table-Top Exercise: Germany

IFX.01: Türkiye

IFX.02: Georgia



32 Countries
5 WHO
Regions



Standardization:

Minimum Operational
Standards and
Typology (**MOST**) for
RRMLs



2025

MOST as a Normative WHO Document



RRML Life Cycle



Operational **C**oordination and **I**nteroperability (**OCI**)



Knowledge and **I**nformation **M**anagement (**KIM**)



Operational **S**upport & **L**ogistics (**OSL**)

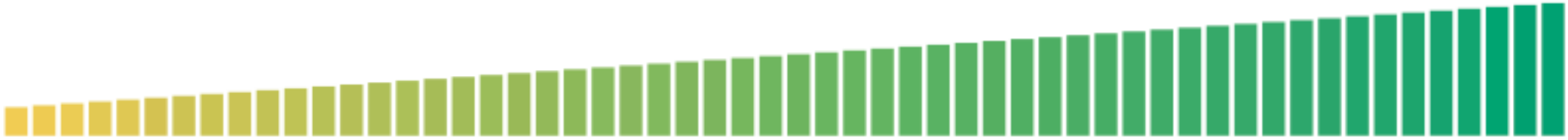


Biosafety & **B**iosecurity (**B&B**)



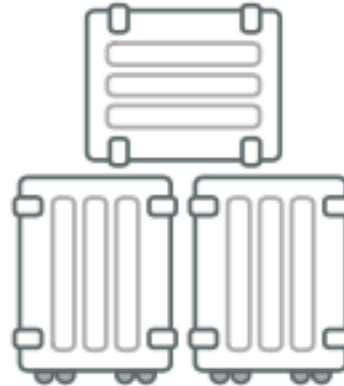
Quality **M**anagement **S**ystem (**QMS**)

RRML Typology: First Layer – Technical Infrastructure



Type I

Highly compact



Type II

Box-based



Types III–V

Container-based



RRML Typology: Second Layer - Diagnostic Capacities



1. Biological and Human Testing

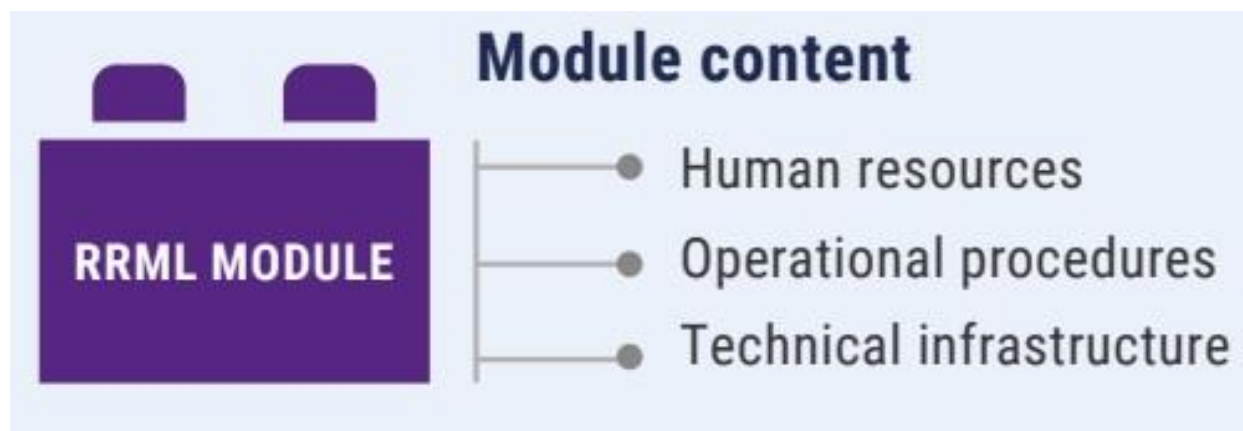
- Infectious Diseases (**ID**)
- Non-infectious diseases (**NID**)

2. Animal Testing (**AT**)

***high containment capabilities**
(high-consequence infectious diseases)

3. Environmental Testing (**ET**)

Combined





Examples of Applying the RRML Typology



Type II*, ID-AT

Type I, ET

Next Steps: WHO Recognition System for RRMLs (Quality Assurance)





Why do we need a Quality Assurance system for RRMLs?

The RRML recognition process: Benefits

Minimum operational standards and typology for rapid response mobile laboratories



- Ensured trusted rapid, quality laboratory support in public health emergencies
- Evidence-based RRML quality assurance with clear benchmarking system
- Global roster of "MOST-compliant" RRMLs
- Alignment with ECPP/UCPM certification

RRML Typology and Recognition building blocks

3 Layers of Typology



Self-Sufficiency / Interoperability

- Procedural
- Technical
- Human resources



Infrastructure



Type I



Type II



Types III-V



Diagnostic Capacities

MODULE CONTENT

- Equipment reagents, supplies
- Procedures
- Trained personnel

RRML MODULE

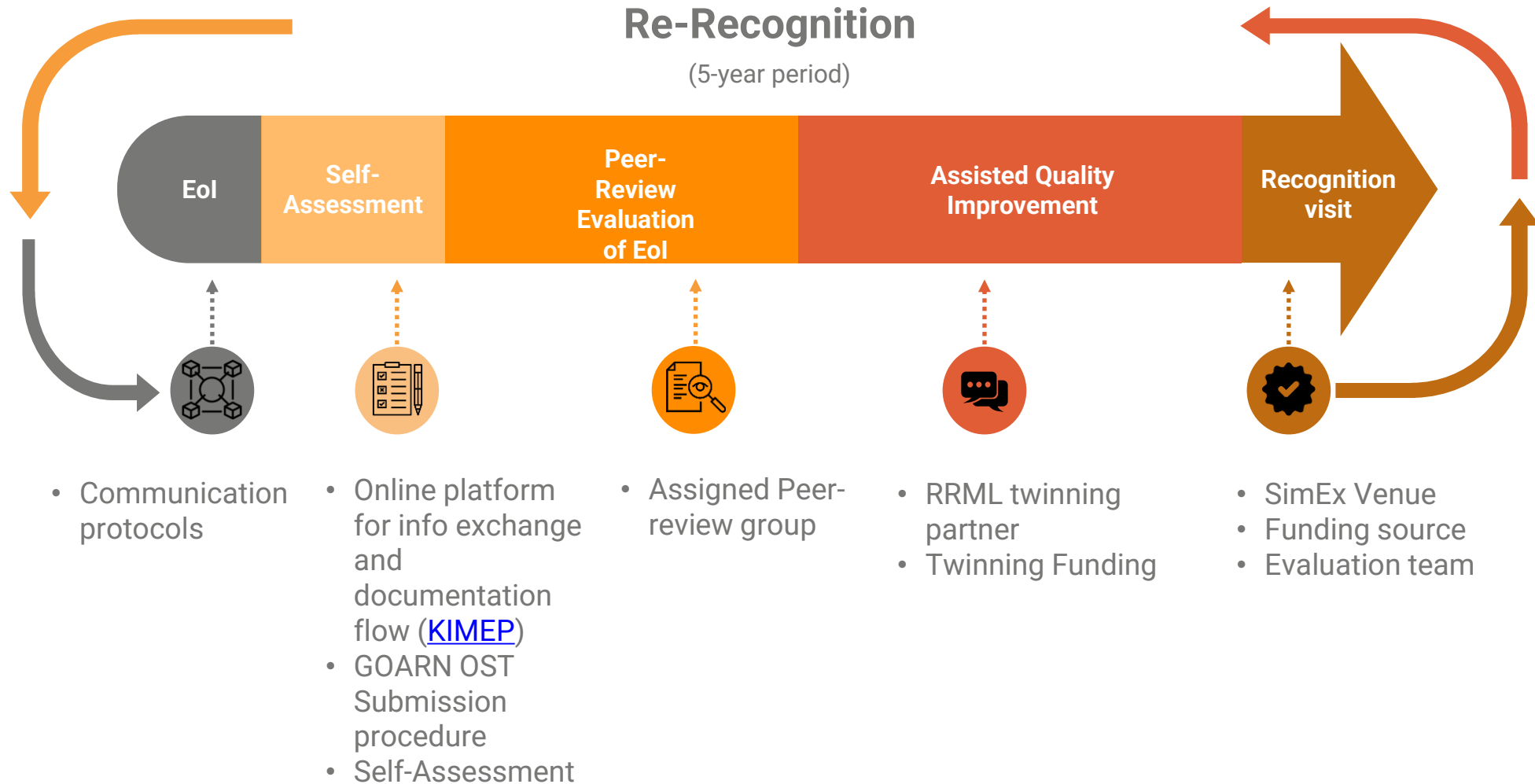
Typology Prerequisite

Typology Criteria

Added value

- Support of deployment decision making by applying **defined levels of Self-Sufficiency** and RRML typology
- Streamlined diagnostic quality **based on Minimum Operational Standards**
- Seamless integration into response operation using **defined Interoperability levels**
- Differ from EMT Classification by **focus on diagnostic capacities**

RRML recognition process: Required resources



Coordinated by the **GOARN OST**

Why join GOARN DiSC community of practice?



goarn@who.in

+

Enhanced Preparedness: Rapidly deployable, scalable diagnostic modules for swift containment of health threats

·
Standardization & Interoperability: Adherence to global RRML (MOST) standards for seamless coordination with national structures.

Community-Driven Impact: Strengthening national laboratory capacities and community protection.

Innovation & Technology: Integration of cutting-edge solutions like NGS for real-time genomic surveillance and outbreak tracking.



Acknowledgements

The creation of this training material was commissioned by ECDC to Institut Pasteur with the direct involvement of Dr Oleg Storozenko