ERINHA provides the expertise, capacities and functions required to lead or support research studies into human diseases caused by the most highly pathogenic agents, as well as applied research to develop new countermeasures and other interventions against these diseases. ERINHA provides access to cutting-edge research facilities including unique BSL-4 in vitro and in-vivo capacities to perform animal experimentations thus allowing excellent science to be performed. A pool of trained specialists to perform research as well as renowned senior scientists are part of ERINHA. ERINHA members have historically well-established collaborations and strong connections with countries and local expert institutes, e.g. numerous bilateral collaborations with countries from the African continent where Risk Group 4 (RG4) pathogens are more broadly present. ERINHA’s experts have extensive field experience and have been involved as members or coordinators in several Mobile Laboratory projects. ERINHA systematically reassesses its capacities as well as gaps to better respond to unmet needs in the field of research and improve (through shared investment) or enlarge (through new memberships) its capabilities and expertise. Its internal research projects carried out in collaboration across distributed sites provide it the tools and generic capabilities which allow to host ambitious projects in collaboration with Academia and Industry, focusing on increasing European and global preparedness for outbreaks of high consequence pathogens. ERINHA produces the ideal environment to facilitate coordination of research on RG4 agents in Europe. The infrastructure will contribute to the enhancement of the European and global capacity, capability and emergency preparedness in response to global outbreaks and will thus constitute a key European contribution to global health research and innovation.
ERINHA has developed its scientific strategy – a Research Portfolio, which is an evolving strategy with systematic updates to match with European and Global Research and Innovation and Public Health needs. The table below presents ERINHA’s prioritized pathogens, built on the WHO R&D Blueprint:

### The Agents

<table>
<thead>
<tr>
<th>THE AGENTS</th>
<th>DIAGNOSTICS</th>
<th>PROPHYLAXIS</th>
<th>THERAPEUTIC INTERVENTIONS</th>
<th>MORTALITY RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EBOLA</strong></td>
<td>Molecular testing, antibody or antigen detection, virus isolation</td>
<td>Clinical phase trials</td>
<td>Clinical phase trials</td>
<td>Up to 90%</td>
</tr>
<tr>
<td><strong>MARBURG</strong></td>
<td>Molecular testing, antibody or antigen detection, virus isolation</td>
<td>No vaccine</td>
<td>No therapeutic intervention</td>
<td>Up to 88%</td>
</tr>
<tr>
<td><strong>LASA FEVER</strong></td>
<td>Molecular testing, antibody or antigen detection, virus isolation</td>
<td>No vaccine</td>
<td>Ribaevin</td>
<td>Up to 15%</td>
</tr>
<tr>
<td><strong>CCHF</strong></td>
<td>Molecular testing, antibody or antigen detection, virus isolation</td>
<td>No vaccine</td>
<td>Ribaevin</td>
<td>Up to 40%</td>
</tr>
<tr>
<td><strong>NIPAH/HENDRA</strong></td>
<td>Molecular testing, antibody or antigen detection, virus isolation</td>
<td>No vaccine</td>
<td>Equine vaccine, no human vaccine</td>
<td>No therapeutic intervention</td>
</tr>
<tr>
<td><strong>UNKNOWN AGENT</strong></td>
<td>Tests not produced yet</td>
<td>No vaccine</td>
<td>No therapeutic intervention</td>
<td></td>
</tr>
<tr>
<td><strong>BACTERIA</strong></td>
<td>Standardised molecular testing</td>
<td>Vaccine prevalence decreasing</td>
<td>Increasing resistance to therapeutics</td>
<td></td>
</tr>
</tbody>
</table>

### References

5. Nipah virus outbreaks in the WHO south-east Asia region, 2018, WHO, consulted from https://www.who.int/news-room/fact-sheets/detail/nipah-virus

*Up to 90% (1)
*Up to 88% (2)
*Up to 15% (3)
*Up to 40% (4)
*Up to 90% (5)
*From Tuberculosis TBR

*Up to*
FROM DISCOVERY TO PREVENTION - ERINHA’S RESEARCH APPROACH

REINFORCING EUROPEAN RESEARCH CAPACITIES FOR GLOBAL EPIDEMICS

01 PROVIDING DIAGNOSTIC CAPABILITIES
- Maintain diagnostic pipeline for all newly identified agents of global concern
- Share reagents and methods
- EQA schemes on developed diagnostics
- Test rapid diagnostic provision capability
- Increase epidemiological knowledge
- Provision of diagnostics for field studies
- Input from Academia and Industry on new diagnostic methods.
- Sequencing and Bioinformatics

02 INCREASING THE UNDERSTANDING OF THE DISEASE
- Development of immunological tools for identification of correlate of protection discovery
- Vaccine target discovery, development and efficacy testing capability using animal models
- Therapeutic target discovery, development and efficacy testing
- Infection control practice development

03 DEVELOPING NEW INTERVENTIONS
- In vitro modelling capability
- Provide small animal models of infection
- NHP modelling
- Host animal modelling
- Vector competence studies
- Understanding blood chemistry
- Modelling survival in body fluids (blood, urine, semen)
- Modelling survival on surfaces

04 TRANSLATING INTERVENTION TO THE MARKET
- GLP testing for intervention manufacturers
- Analytical capability for clinical trials
- Testing existing therapeutics against emerging agents
- Efficacy data on disinfectant efficacy
- Applied research on infection control

THE OUTPUTS
- DIAGNOSTIC TOOLS
- VACCINES
- THERAPEUTICS
- INCREASED KNOWLEDGE
- EVIDENCE-BASED INFECTION CONTROL
ON SCIENCE
ERINHA contributes to European Scientific excellence by reinforcing European research capacities for the study of highly infectious diseases and enhancing coordination of BSL4 and complementary facilities.

A large range of unmet scientific questions will be answered, such as better understanding of disease processes, new animal models and new therapies.

ERINHA will contribute to the overarching aim of protecting human health by increasing Europe’s preparedness for and capability to respond to an existing severe infectious disease or a newly emerged infectious disease threat.

ON HEALTH
ERINHA’s main scientific advancements will have the highest impact on health as in the field of RG4 pathogens limited countermeasures are available and there is a lack of standardized diagnostic tools.

ERINHA aims to be an essential source of state-of-the-art knowledge and expertise, consulting, education and training (pathogens, biosafety, and decontamination).

It provides an environment of highly qualified and trained personnel able to be quickly involved in outbreak response activities.

Research carried out in the infrastructure is intended to contribute to the overarching aim of protecting human health by increasing Europe’s preparedness for and capability to respond to an existing severe infectious disease or a newly emerged infectious disease threat.
• ERINHA’s operational procedures are based on the business model and legal statutes.

• ERINHA’s operational procedures are based on the business model and legal statutes.

• The Central Coordinating Unit ensures the access to ERINHA RI.

• Project Submission: projects can be submitted by academic, public and industrial users or ERINHA members.

• Projects are selected based on scientific excellence and should match with ERINHA’s scientific strategy.

• Selected projects are allocated to the relevant and available research facilities within ERINHA Research Infrastructure.
How is ERINHA organized?
ERINHA was officially awarded the AISBL statutes by a Belgian Royal decree approval in July 2017. Its governing bodies are General Assembly (ultimate decision-making body), Executive Board (Executive Body), CCU and Director General (daily management responsibilities). The access to the ERINHA RI is organized through its CCU. The main scientific and technical services of ERINHA are provided by its members’ facilities (national nodes) which are linked to ERINHA by Service level agreements.

How to become an ERINHA node?
Any application for (Full or Associate) membership shall be sent to the Central Coordinating Unit (CCU). Such letter shall include information on the applicant’s corporate status and its activities. ERINHA CCU submits the application to the Executive Board for a discussion and the final decision is made by the General Assembly of ERINHA AISBL.

What is an ERINHA node?
A national or international research institute or a network of institutes located in a Member country that enters into a Service Level Agreement with ERINHA, upon the fulfilment of the conditions and procedures established by the ERINHA General Assembly, to provide services with European dimension and that have an added value for ERINHA.

What is the advantage of working with ERINHA over working with an independent lab on a bilateral basis?
ERINHA allows conducting projects which are broad in scope, ambition and require a range of capabilities inside and outside of BSL4 facilities that no single laboratory can provide on its own. Common governance makes access to the infrastructure’s facilities quicker and easier. It also provides a pool of trained specialists and scientists on RG4 pathogens which no single European capacity is able to do. Moreover, ERINHA ensures sustainable support functions and quality audit of its member facilities to provide excellent research corresponding to European and international standards and requirements.
CONTACT

ERINHA management team
contact@erinha.eu
@ERINHA_RI

For further information, please visit:
www.erinha.eu