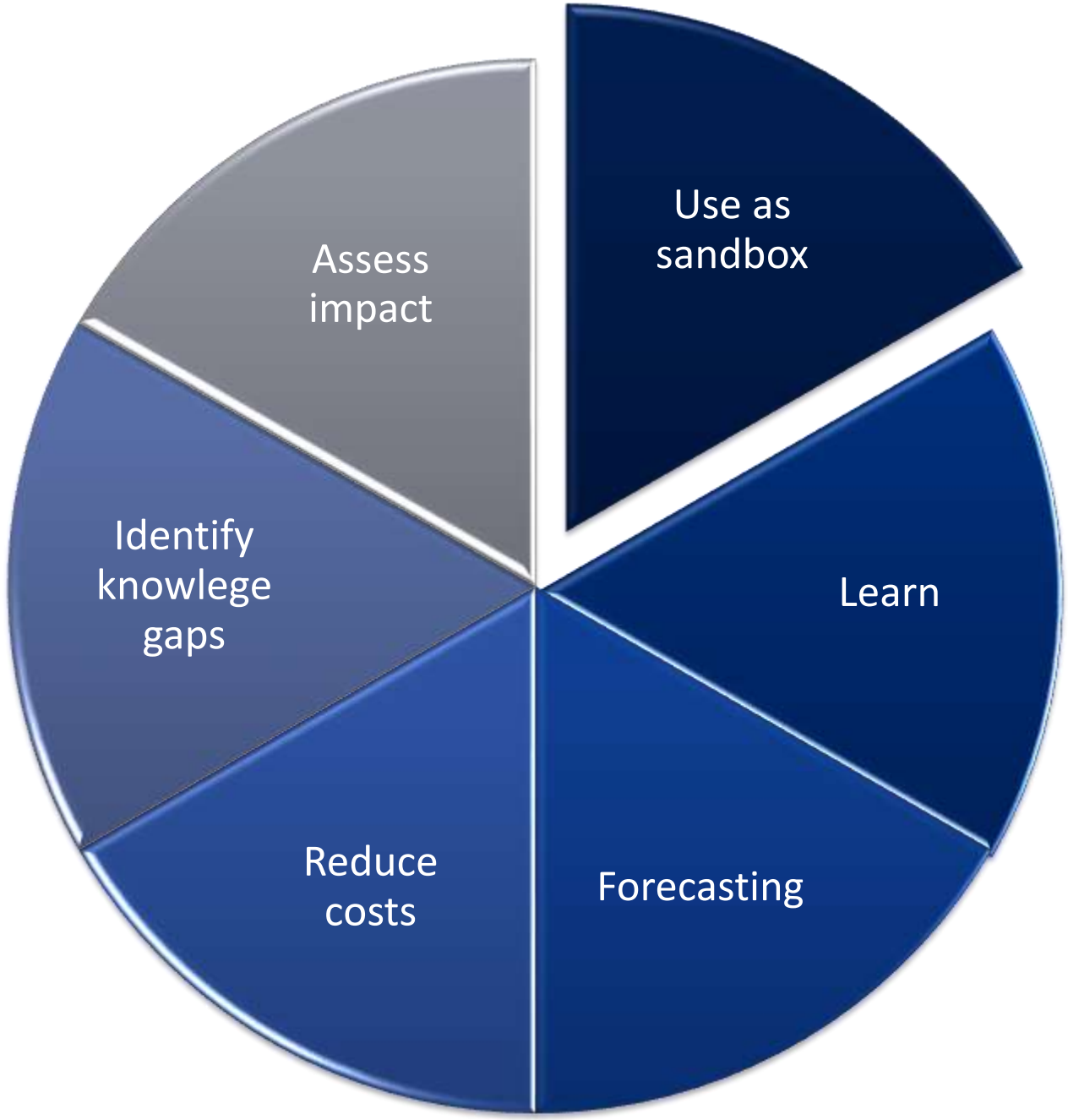
CEPI
Coalition for Epidemic Preparedness Innovations

Global South Leaders in Epidemic Analytics and Response Network (GS LEARN)

The global modelling gap and what is needed

For intended recipient only

Why is modelling important?



The global modelling gap

- COVID-19 raised global awareness of disease modelling among policy makers and the general public
- It has also highlighted substantial differences in the capacity to conduct disease modelling between countries, particularly the apparent lack of such capacity in many LMICs to conduct such activities to produce timely modelling evidence.
- Low- and Middle-Income countries (LMICs) face several challenges in computational skills and modelling.
- LMICs still face a disproportionately high infectious diseases burden.

What is needed?

To fill the gap in technical expertise in the global south in infectious disease modelling

- Most of the global leaders in epidemic and infectious disease modelling are in high-income settings
- Many high-risk pathogens originate and/or affect settings in the global south
  - ➢ Local context driven models and modellers are needed for fast and efficient epidemic responses and to inform policy

To create and foster global south leaders through key partnerships (matchmaking)

- Modelling institutions often work in silo - not linked with key partners in endemic regions
  - ➢ Need to facilitate matchmaking to connect partners (N-S and S-S)
  - ➢ Ensure diverse/geographic representations and expertise
  - ➢ Establish sustain long-term partnerships - work together on projects leveraging others' strengths and experiences

GS LEARN Objectives

CEPI objectives:
100 Days mission, Global South, Equitable Access

100 days mission	Global South	Equitable access
CEPI's aspiration is for the world to be able to respond to the next Disease X with a new vaccine in just 100 days.	Strengthen global outbreak and preparedness and response capacity and capabilities in the Global South Establish, coordinate and build relationships with key partners to fill gaps	Sharing knowledge and investments in human capacity strengthening through education, training, internships, and sponsorships are essential to improve the collective knowledge base in LMICs and speed up diversification and access to interventions for all.

GS LEARN Objectives

100 Days Mission

- **Connect resources and capacities** within and across regions and countries of all income characteristics through collaboration and partnerships, **spreading best practice**
- **Foster ongoing partnerships** with Africa CDC, EDCTP, PAHO, ICMR, HITAP (TBC)
- **Building regional expertise** in lower resource settings and priority pathogen endemic countries will **optimize capacity for quicker and efficient epidemic responses** by rapid data analysis and modeling.

Equitable Access Framework

- Connect South to South and South to Global to enhance and expand global collaboration
- **Connect** institutions with complementary expertise/resources - **diverse geographic representation** & expertise
- Strengthening and leveraging capacity and capabilities in infectious disease modelling and computational skills will **enable the global south** to **prepare for responding to epidemic/pandemics**

GS LEARN objectives

Build, strengthen or leverage capacity of researchers in the Global South

- Deliver high quality training to equip members with essential skills/knowledge
- Standardised training materials to maintain consistency and effectiveness across regions

Enhance interdisciplinary collaboration between and across groups

- Connecting individuals/organisations with complementary expertise and resources
- Diverse collaborative environment where members can leverage each other's strengths and experiences

Establish a pool of researchers who can provide modelling to help inform policy

- Provide modelling outputs for both known and emerging pathogens during outbreaks, at the national, regional and international levels
- Effective strategies and management of endemic diseases to reduce burden

What will CEPI and BMGF facilitate?

Directly or indirectly through regional facilitators

- **Funding** (CfPs for partners and S-S and S-N fellowships/exchanges (and equipment, infrastructure?)TBC)
- **Coordination** by bringing together researchers, institutions from different global south
- **Network establishment** and expanding the network
- **Organising and/or facilitating regional meetings** bringing together modelling partners and policy makers
- **Connect global partners (match-making)** with other research institutions, international organisations, other stakeholders
- **Monitoring and evaluation** progress and impact of the network, identifying gaps and roadblocks for other partners to intervene (infrastructure, hardware, etc)

Stakeholder value flow

KEY
Knowledge/faciliation flow
Funding flow

Training between partners to fill knowledge gaps

Regional facilitators

Knowledge, expertise, and network sharing

Matchmaking and facilitation of partnerships

Potential implementing partners

Building modelling expertise

Trainees may use received expertise to train future institutions (GS to GS partnerships)

Funding partners/facilitating creation of partnerships

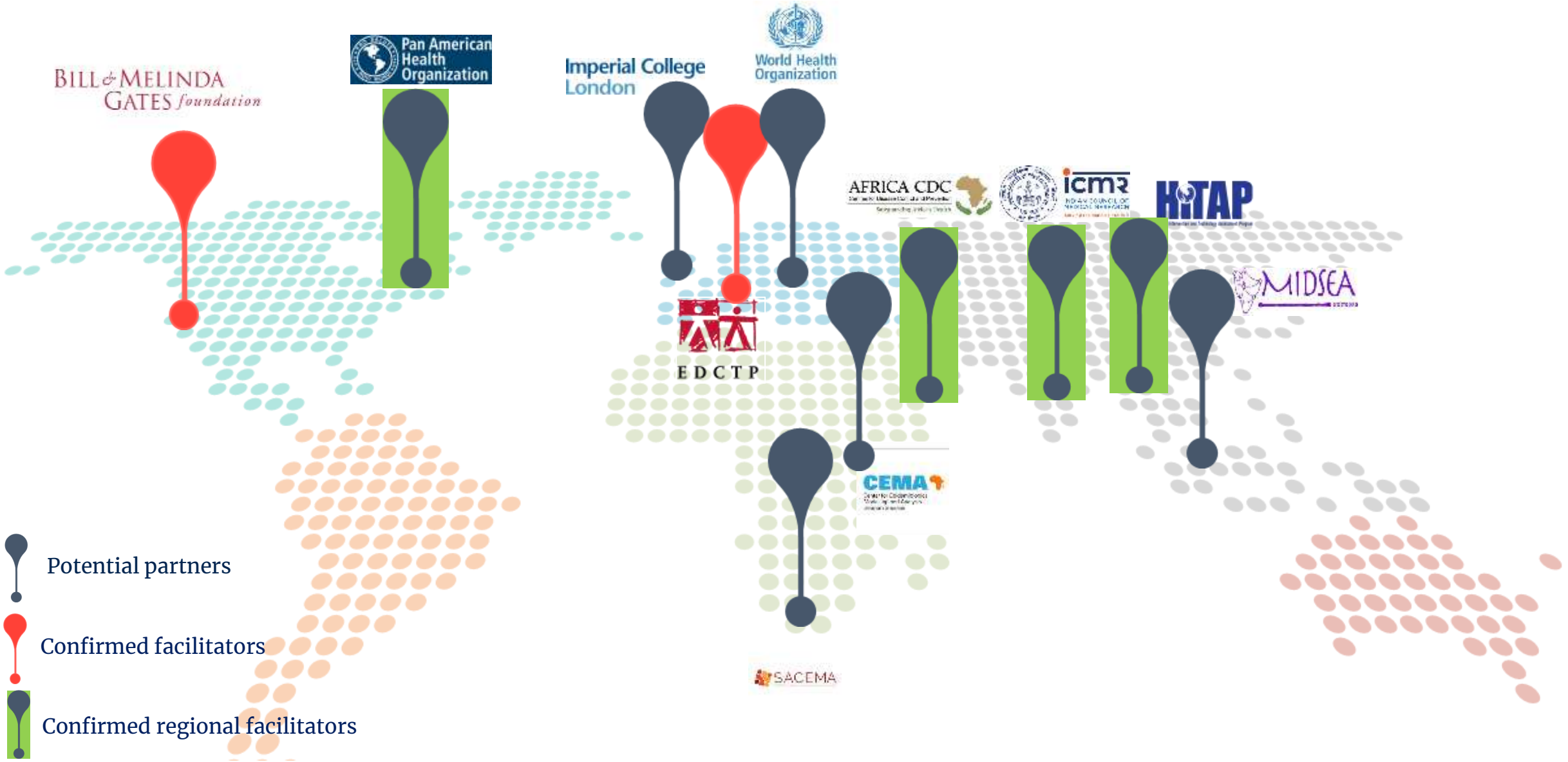
Funding joint CfP with EDCTP

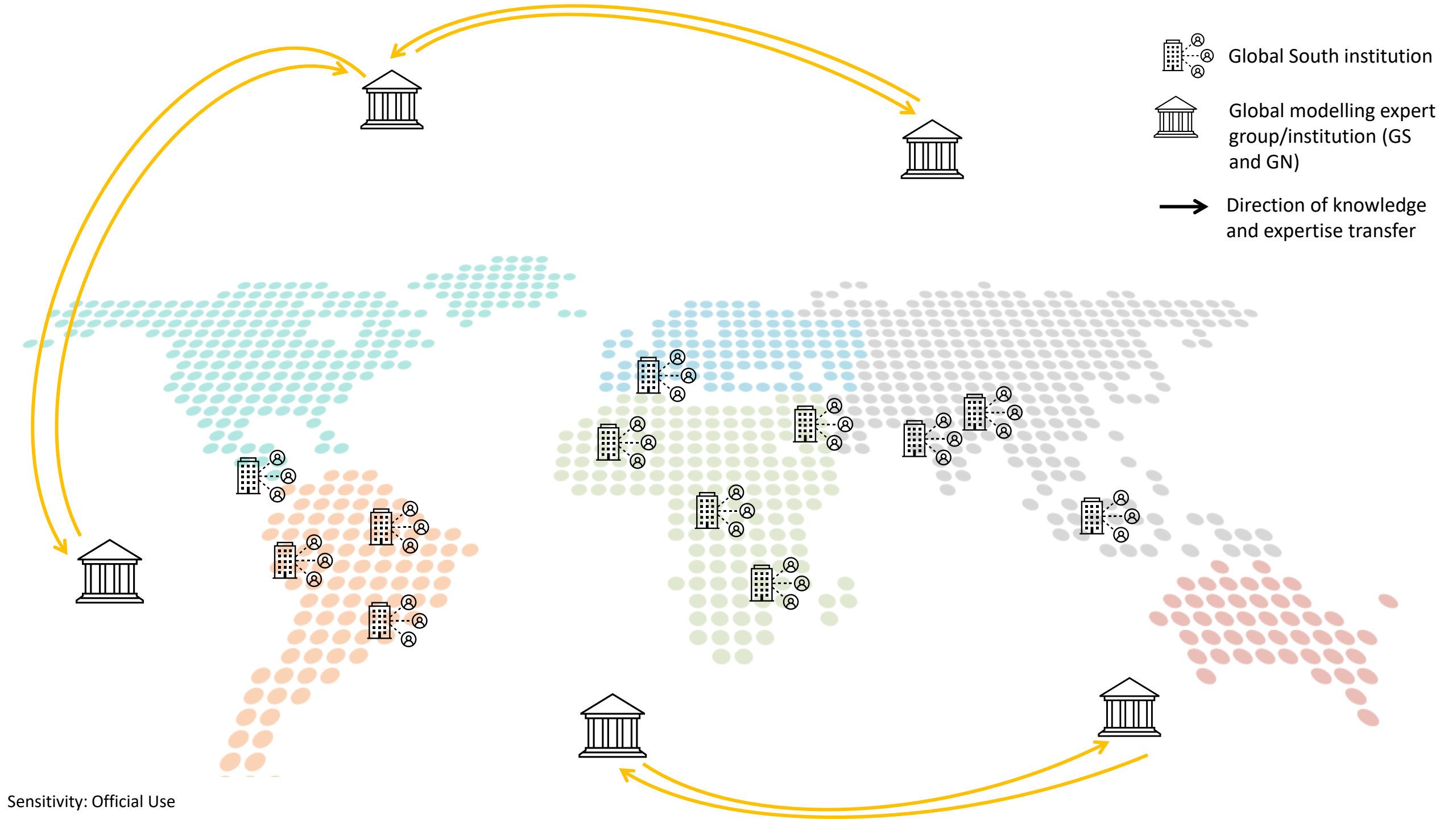
EDCTP's network will provide capacity to connect with organisations in EU horizon African countries

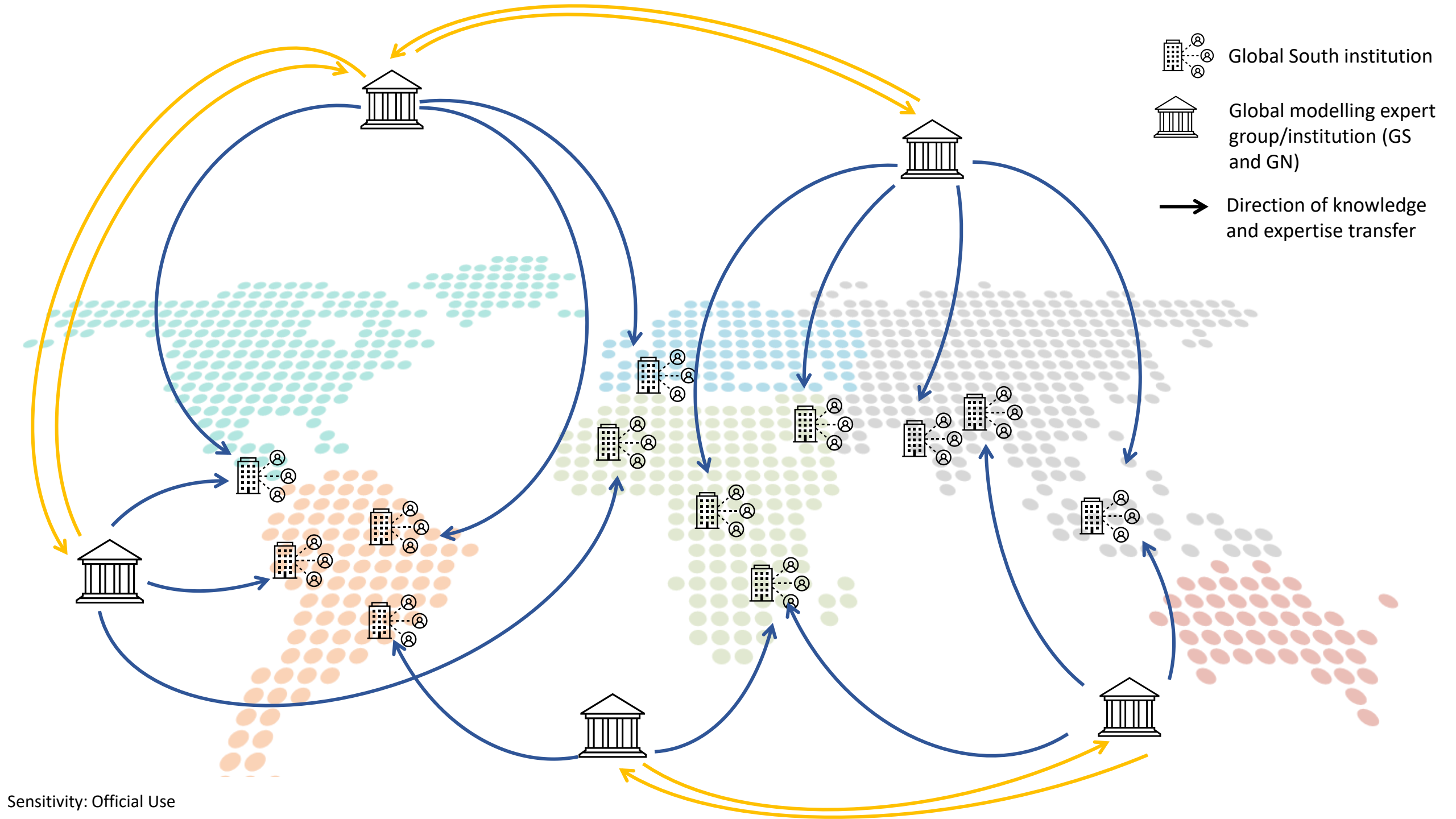
Identified through call for proposals

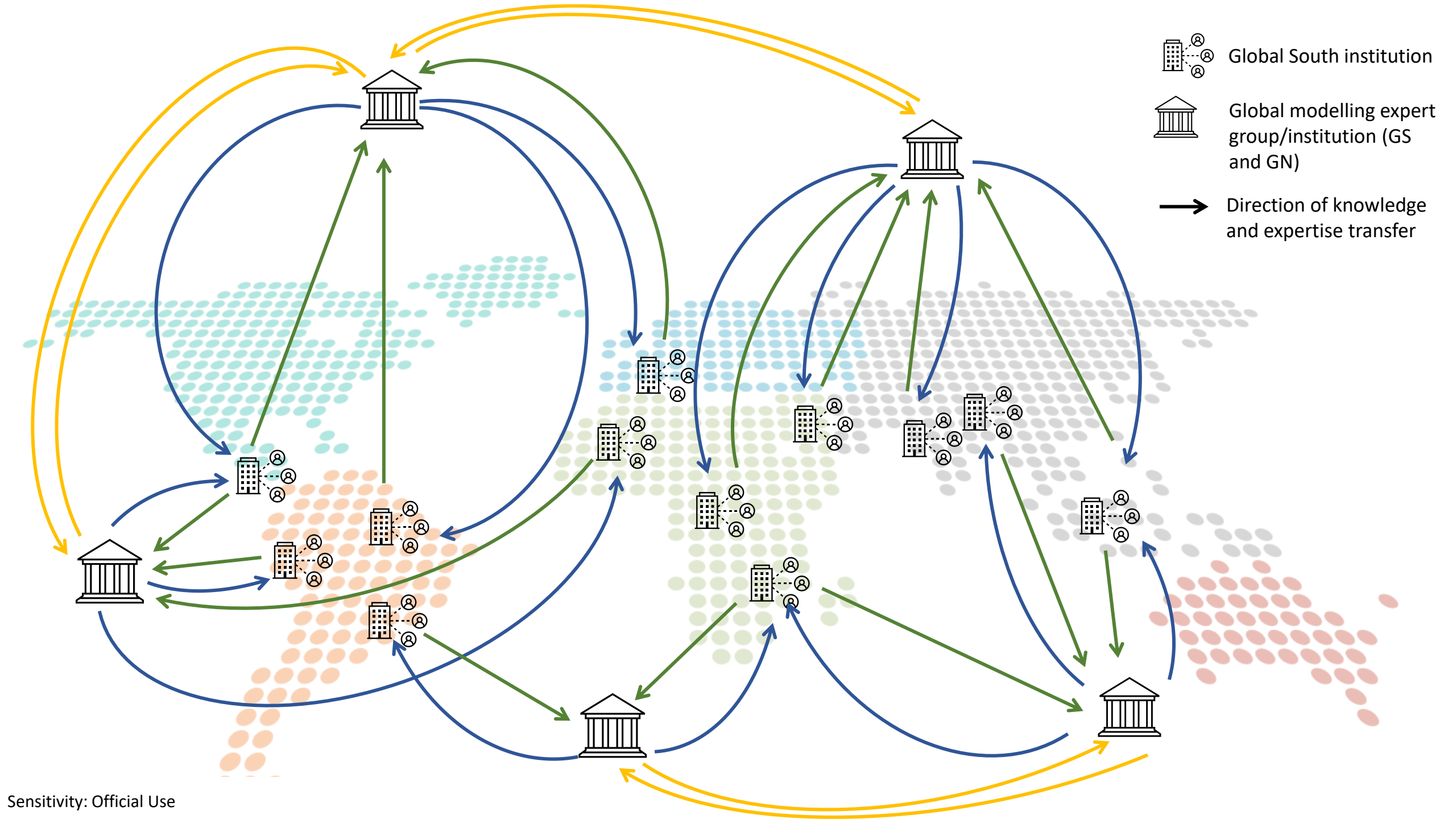
Trainee organisations
(matchmade with input from regional facilitators)

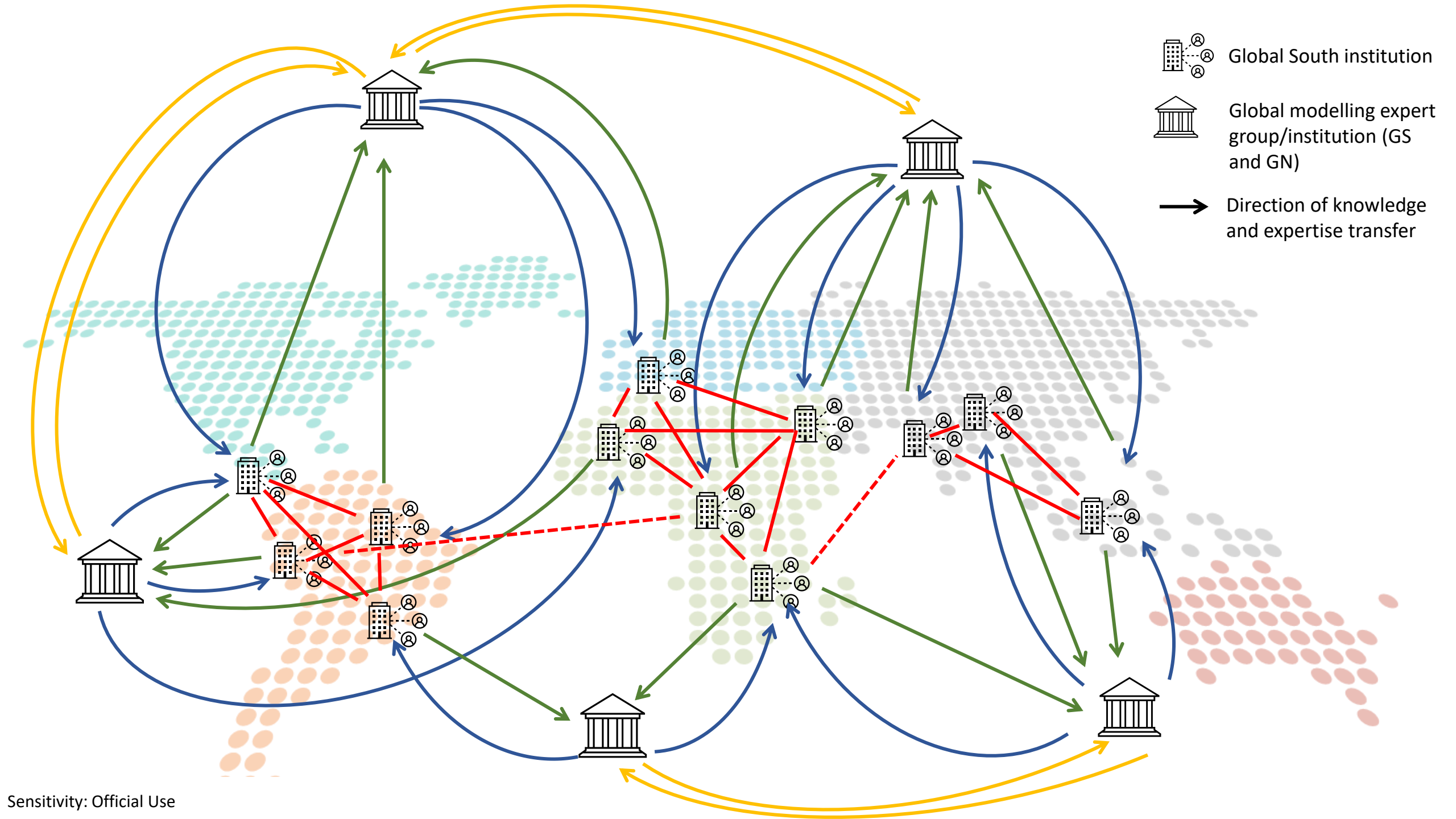
Network structure visualisation











Potential impact of network

- Global connection and formation of new and key partnership (South-South, South-North)
- Long term partnerships and collaborations (within and across regions)
- Empower Global South-based researchers – expertise in infectious disease modelling and related computational analysis.
- Skills development through training opportunities/fellowship programs and knowledge exchange through interdisciplinary collaboration.
- Strengthen and leverage preparedness and response capacity and capabilities to respond effectively to outbreaks and pandemics.
- Informing evidence-based public health policies and decision making for local governments.

Call for Proposals (CfP)

For intended recipient only

Objective

The primary objectives of this call for proposals are:

1. To identify partners capable of delivering comprehensive training programs to strengthen and leverage capacity of Global South lead researchers and professionals in epidemic and pandemic data analytics and modelling response.
2. To create and foster relations, key partnerships and collaborations between partners within and across regions creating entities that can share resources, knowledge and expertise benefiting everyone involved.

Success Measures

Short term (<1 year)

- Approval of funding
- At least two signed agreements with awardees
- Official launch and establishment of network
- At least two partnerships set up with awardees

Mid-term (1-3 years)

- At least three new member institutions and partnerships formed in addition to those formed in short term
- Successful implementation of shared platform by partners
- At least one regional meeting held per region
- Contributions to infectious disease modelling and public health policy through publications, case studies and impact on public health outcomes

Long-term (>3 years)

- Partners in the network encouraged to collaborate on other related non CEPI-funded activities from other stakeholders for network sustainability
- Retention of trainees in original or other relevant institutions and involvement in international policy discussions and collaborations with global health organisations
- Continued contributions to infectious disease modelling and public health policy through publications, case studies and impact on public health outcomes
- At least one trained trainer in the network to provide training to internal departments/teams within their institution (train the trainer)

Timelines

	2024				2025	
Activity	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**
CEPI Internal presentations						
Identify CEPI working group groups/teams						
Identify other stakeholders/meetings						
CEPI governance process						
Launch of CEPI/BMGF CfP						
Selection process for applicants						
Launch of CEPI/EDCTP CfP						

Coalition for Epidemic Preparedness Innovations

Scope of work

Partners/applicants should be able to deliver any of the following:

- Develop training material and modules that cover key aspects of infectious disease modelling, including but not limited to:
  - Mathematical and statistical modelling techniques
  - Scenario planning and model forecasting using LIMC data where applicable
  - Integration of modelling output into public health policy and response strategies for LMICs.
  - Communicating modelling outputs to policy makers
- Deliver training sessions, workshops and seminars either virtually or in person considering the different skill levels of the trainees. The training should be on key topics related to infectious disease modelling, communication of modelling outputs to policy makers, modelling that supports vaccine development, any relevant aspects of Disease X (an unknown pathogen that could emerge in future and cause a serious international epidemic or pandemic).
- Provide mentorship and support to facilitate the application of acquired skills in real world settings for key LMIC implementors.
- Develop a research fellowship exchange programme including hosting and providing fellows for a pre-agreed duration during which they will work on a relevant project.

Eligibility criteria

Applicants must be a multidisciplinary team of experts with proficiency in mathematical modelling, public health and related disciplines. The other essential eligibility criteria are that they must be able to demonstrate expertise in one or more of the following:

- Experience working collaboratively particularly with Global South institutions and stakeholders.
- Track record of conducting successful training programs in the different aspects of disease modelling, particularly in endemic settings.
- May be a single institution (with proposed Global south training recipients) or a network which is led by or includes partnership with institutions in the Global South.

Regional facilitators - roles and responsibilities

- Regional facilitators will work closely with CEPI project core team and implementing partners.
- The roles and responsibilities of regional facilitators include, but not limited to:
  - Identifying potential partners (to match make with) within and across regions.
  - Identify potential recipients of training (e.g. public health institutes) from their respective regions.
  - Organizing and/or facilitating of regional meetings - bringing together modelling partners (awardees) and policy makers for presentations and tabletop exercises.
  - Connecting partners (academic research institutions, international organizations, local governments etc.)
  - Monitoring progress of the network in their respective regions

Alignment with 100 days mission

Projects funded will help fill an existing gap in technical skills in infectious disease modelling in the global south which will significantly improve response efforts to outbreaks/pandemics and facilitating better data sharing through collaborations and building trust among partners, improved communication leading to informed decision making with local policy makers.

Other known initiatives

Pathogen agnostic networks

- Global Outbreak Alert and Response Network (GOARN)
  - GOARN assists in increasing global health security through rapidly detecting, verifying and responding to outbreaks of emerging infectious diseases with potential for international spread; ensuring that the requisite technical support reaches affected areas immediately; providing support for long-term epidemic preparedness and capacity-building.
- Outbreak Analytics & Disease Modeling Network (OADMN)
  - focused on developing powerful tools for public health decision makers so that they can better understand the trajectory of the next outbreak
- Centre for epidemiological modelling and analysis (CEMA)
  - multidisciplinary consortium of epidemiologists, infectious disease specialists, clinicians, mathematicians, statisticians, computer scientists and data scientists using data-driven approaches to control infectious diseases and improve health in Kenya and the African Continent.
- European & Developing Countries Clinical Trials Partnership (EDCTP)
  - Training of epidemiologists and biostatisticians
- Modelling Infectious Diseases in Southeast Asia Network (MIDSEA)
  - brings together modellers, broadly defined, from the region to share ideas, learn from each other, and contribute to controlling outbreaks in Southeast Asia through our research.

Pathogen specific networks

- The Applied Malaria Modelling Network
- sub-Saharan African Network for TB/HIV Research Excellence consortium
- Neglected Tropical Disease modelling consortium