Preparedness & response for emergency situations: joined forces of H2020 projects in the PREPARE cluster

Workshop - European Public Health Conference 2022

www.phiri.eu

Aim of the workshop

To present the actionable outcomes of the **PREPARE cluster** projects providing key-input for political decision-making in preparedness and response scenarios

PHIRI
Population Health Information
Research Infrastructure

PREPARE Cluster

Cluster Preparedness and Response to Emergency Situations in Europe

- Cluster of *13 projects*
- With a total budget of *78 millions*
- Collaborating together to increase *reach and impact* of the outcomes developed
- To be *better prepared for future crises*

STRATEGY
Interoperability for crisis management

EUR3KA

STAMINA

COVID X

PHIRI
Population Health Information
Research Infrastructure

CO-VERSATILE

RISKPACC

LINKS
Strengthening links between technologies and society
for European disaster resilience

NO-FEAR

PANDEM-2
PANDEMIC PREPAREDNESS AND RESPONSE

periscope

COVINFORM

PathoCERT

PHIRI
Population Health Information
Research Infrastructure

Speakers

PHIRI: Population Health Information Research Infrastructure for COVID-19 - *Claudia Habl - Austria*

PANDEM-2: PANDEMic preparedness and response - *Claudia Houareau - Germany*

STAMINA: Demonstration of intelligent decision support for pandemic crisis prediction and management within and across European borders - *Brigita Kairiene - Lithuania*

COVINFORM: COronavirus Vulnerabilities and INFOrmation dynamics Research and Modelling - *Jil Molenaar - Belgium*

NO FEAR: COVID 19: What have we learned? Lessons observed by NO FEAR - *Chaim Rafalwoski – Israel*

Mentimeter

What are the first words that come to mind when thinking about *pandemic preparedness*?

Go to www.menti.com
and use the code
67 76 88 6

PHIRI
Population Health Information
Research Infrastructure

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Population Health Information Research Infrastructure
for COVID-19

Claudia Habl

11 Nov. 2022

www.phiri.eu

PHIRI

The Population Health Information Research Infrastructure for COVID-19:

PHIRI
Population Health Information Research Infrastructure

- a **European mechanism**, that aims to

- facilitate and support **data-driven population health research**

- and **exchange of best practices**

- to support **decision making**
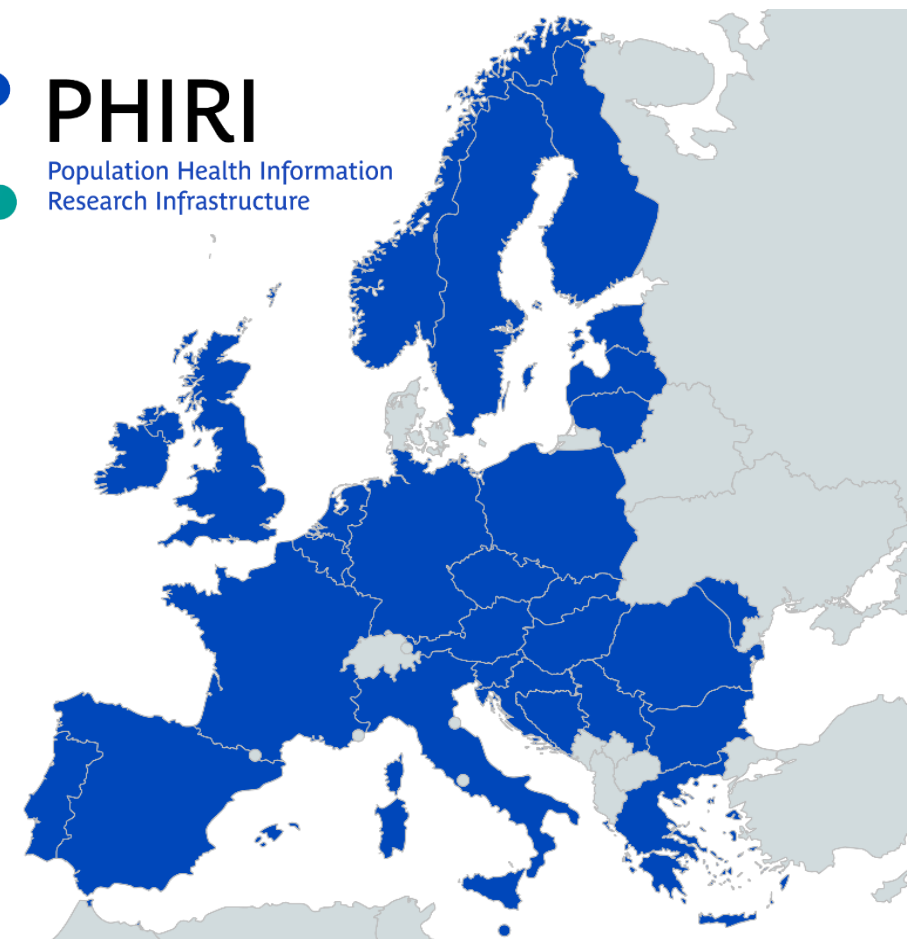
41 partners

30 countries

3 years

Map of PHIRI Partners

PHIRI
Population Health Information Research Infrastructure

www.phiri.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

European Population Health Research

What is needed to tackle population health challenges?

Connect networks and stakeholders

Enable top level research: to identify sources, access sources, assess quality of source and reuse data
(linked data, access systems, processes and capabilities, ….)

| Policy change | Practice change | Technology change |

Improved health and other outcomes

Achievement of outcomes at lower costs
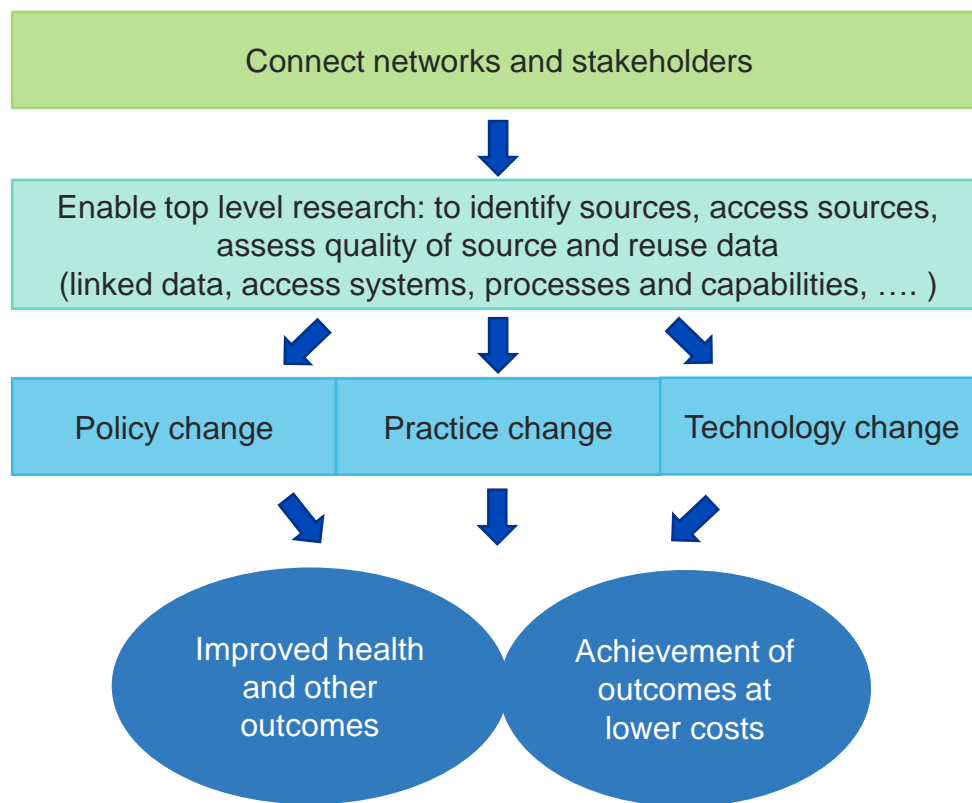
There is a need for a mechanism for structured exchange: a population health information research infrastructure

PHIRI for COVID-19

Catalogues

Expertise

Inter operability

Policy

Training

PHIRI
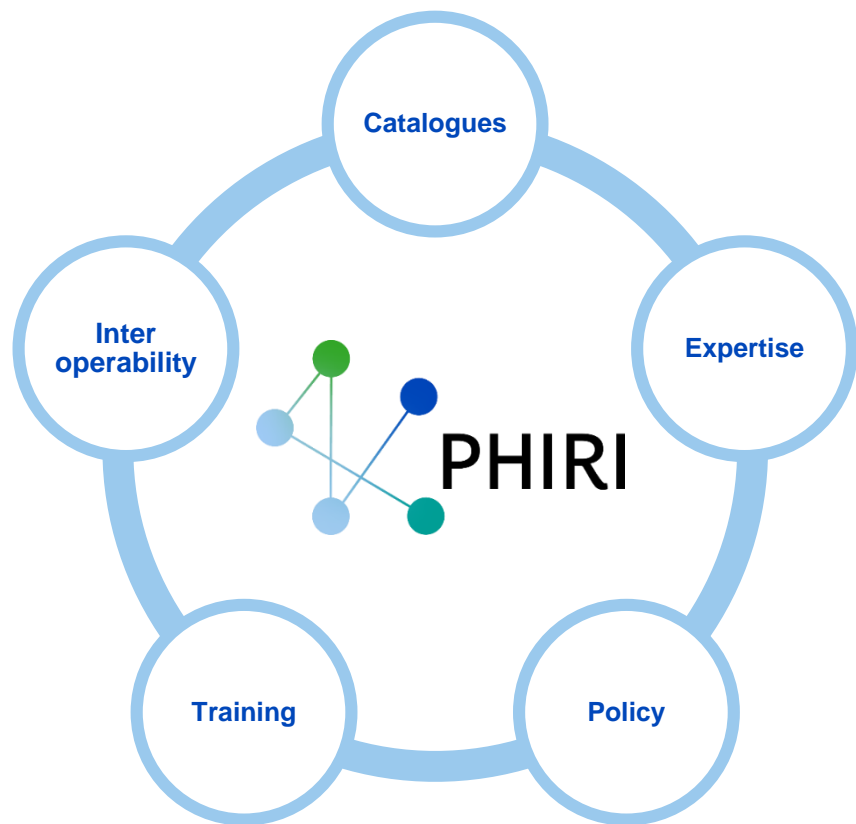
Objectives:

1. To provide a **Health Information portal** for COVID-19 with FAIR catalogues. To link different data sources and to use Pan-European data in a GDPR compliant, federated way.

2. To provide structured exchange between countries on COVID-19 **best practices and expertise**.

3. To promote **interoperability** and tackle health information inequalities. PHIRI support COVID-19 research queries and provides **capacity building**.

sciensano

Gesundheit Österreich GmbH

PHIRI's services

HEALTH INFORMATION PORTAL

FEDERATED RESEARCH

HEALTH INFORMATION SUPPORT

TRAINING

- ❖ Health information sources
- ❖ Publications and reports
- ❖ International guidelines, initiatives and projects
- ❖ Training material and courses
- ❖ Ethical and legal tools
- ❖ Experts on health topics

Use cases
- ❖ Vulnerable populations
- ❖ Perinatal health
- ❖ Delayed cancer care
- ❖ Mental health

Federated platform for queries

- ❖ Rapid exchange forum
- ❖ Research methodologies to assess the impact of Covid19
- ❖ Foresight: modelling and scenarios
- ❖ COVID-19 Health information system assessments

European School on Health Information
- ❖ Foresight
- ❖ Infodemic management

Data hubs developer training

- ❖ Health Information System assessments
- ❖ Digital tools
- ❖ Research methodologies

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Population Health Information
Research Infrastructure

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Gesundheit Österreich
GmbH

www.phiri.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

10

The European Health Information Portal

www.healthinformationportal.eu

A one-stop shop that facilitates access to population health and health care data, information and expertise across Europe.
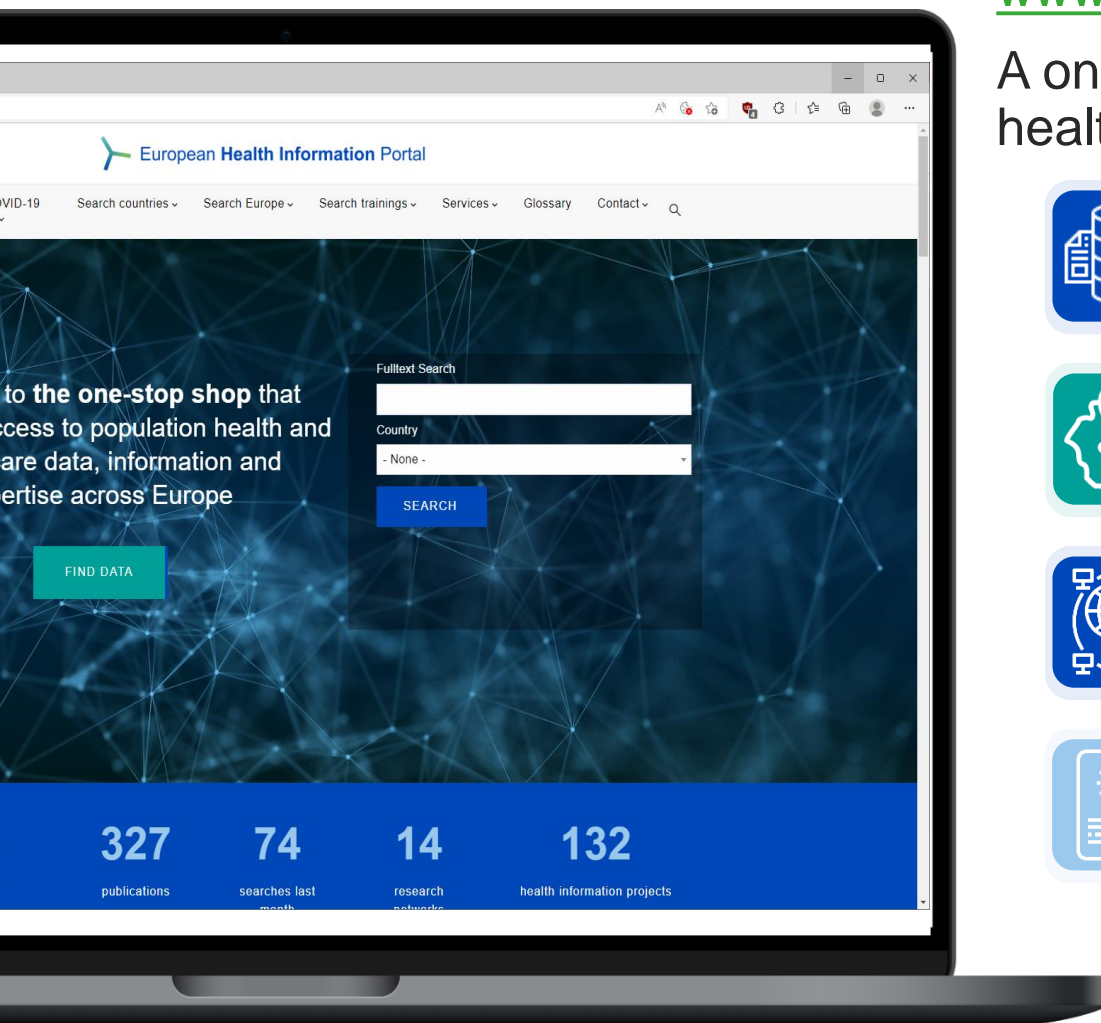
|	
Health information (data) sources	**Publications**
Countries and national nodes	**Trainings in all areas of population health**
Research infrastructures, Research networks	**COVID-19 Policy measures**
Health information projects	**COVID-19 Rapid Exchange Forum**

Bi-weekly Rapid Exchange Forum as an information provider

Regular collection and mapping exercise of

- Experts (by thematic fields)

- Policy and impact measures
  and

- Guidelines, initiatives, projects and information
  sources related to the COVID-19 pandemic in EU
  Member States by web search and interviews

**→ Disseminated via REF-meetings, phiri.eu, webinars,
conferences and the Health Information Portal**
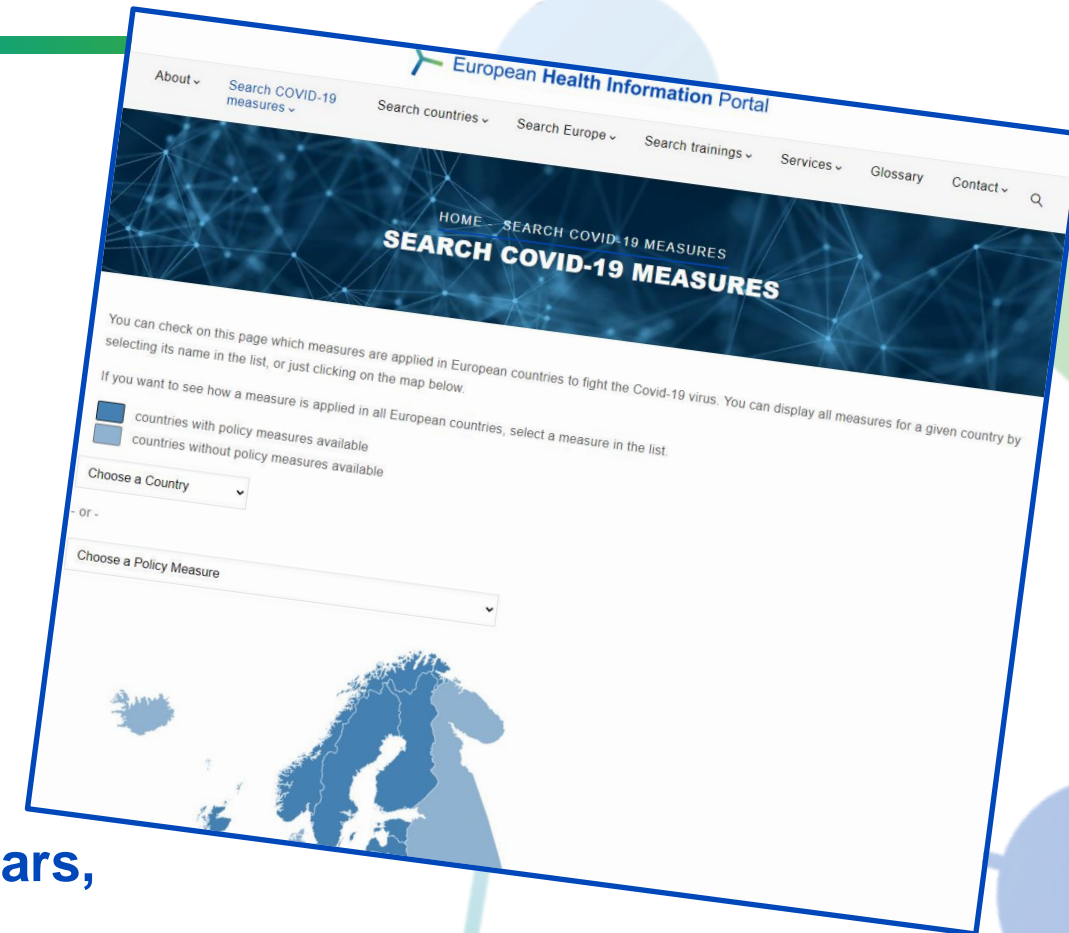
PHIRI – Research Use Cases

4 real life research use cases measuring the impact of COVID-19 on population health

Direct and indirect determinants of COVID-19 infection and outcomes in vulnerable population groups with reference to inequalities

COVID-19 related delayed care in breast cancer patients

The impact of COVID-19 on perinatal health and perinatal health inequalities

COVID-19 related changes in population mental health

Demonstrate how a broad variety of secondary data (e.g. administrative and survey data) can be pooled and/or reused in a distributed way across Europe:

a) **Conduct research** through use cases of immediate relevance on the consequences of the COVID-19 pandemic on European population health

b) **Pilot activities** for the benefits and added value of a research infrastructure by bringing together data from different European countries

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PHIRI's end users

- **Researchers** in the public health sphere, working in public health institutes, universities, other research institutes etc: researchers in public health and population sciences as well as epidemiologists, statisticians, pharmacists, health professionals, data scientists, ethicists, sociologists etc.

- **Policy and decision-makers** at regional, national and international level

- **Non-governmental organisations and civil societies** in the public health and healthcare area

- **Data providers and developers** in various health information domains

- Media and journalists

- **Students and educational organisations** of population health and health services

- General population

- Industry and private sector
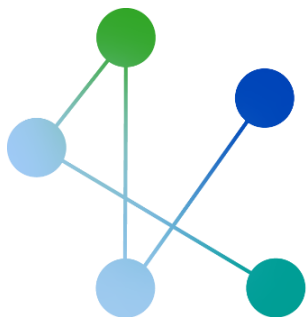
Name: Claudia Habl, Petronille Bogaert
E-mail: PHIRI.Austria@goeg.at, PHIRI.coordination@scienano.be
Follow us on Twitter: @PHIRI4EU

www.phiri.eu

Background to PANDEM-2 research project

› PANDEM phase 1

    focused on research gaps in **surveillance, communications and governance** for large scale pandemics (2015 – 2017)

› Major gap identified

    IT systems to support **preparedness and response to cross border threats** in   EU member states

PANDEM-2
PANDEMIC PREPAREDNESS AND RESPONSE

PANDEM-2 Aim and objectives

Aim: enable EU member states to **better prepare** for **future pandemics** through **innovations** in **IT** and **training**

Objectives:

PANDEMIC MANAGEMENT DATABASE
To identify, map and integrate pandemic-related data from multiple sources into the pandem-source database

1

2

DASHBOARD
Development of an EU-wide dashboard for pandemic preparedness training and response

DATA ANALYTIC TOOLS
To monitor pandemic response across Europe

3

4

PANDEMIC PREDICTION & RESOURCE MODELLING TOOLS
Predictive tools to monitor the spread of a new pandemic and health service demands

PANDEMIC COMMUNICATIONS
To create a communications toolkit and training material

5

6

CROSS BORDER COLLABORATION
Development of pandemic scenarios to be used for cross border exercises and simulations

19

PANDEM-2: project partners

› **19 partners**, **13 EU countries**

  › **One hospital:** Radboud University Medical Centre, the Netherlands

  › **Six national public health agencies:** Germany, Sweden, the Netherlands, Portugal, Finland, Romania

  › **Three first responders:** Austrian Red Cross, Italian Red Cross, Emergency Medical Services in Portugal

  › **Nine tech and academia partners:** as the back bone of this project

› **Budget €9.75M**

› **Advisory board**

  › ECDC,

  › WHO,

  › Irish Defence Forces,

  › American Red Cross

PANDEM-2 contribution to crisis preparedness and resilience of European countries

› PANDEM source beta release April 2022

    › Captures, normalizes and aggregates surveillance data from multiple sources, e.g. TESSy (EpiPulse), WHO, InfluenzaNet, social media, flight data to provide indicators for situational awareness

PANDEM-2 contribution to crisis preparedness and resilience of European countries
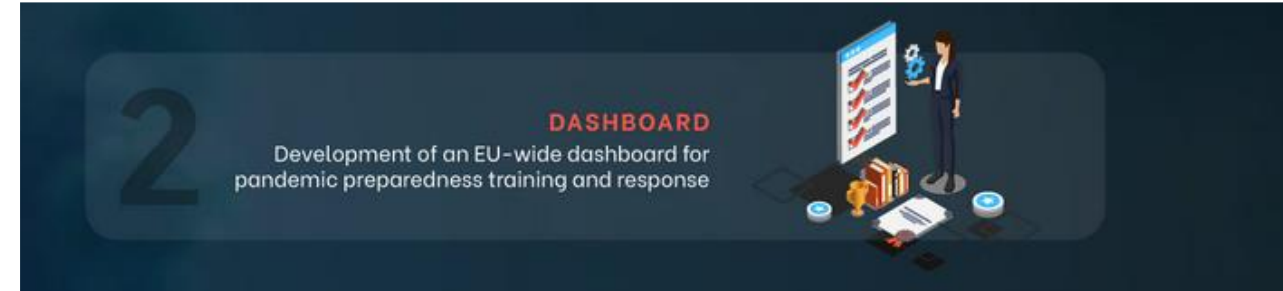
PANDEM-2 Dashboard - decision support tool for pandemic preparedness and response

<u>Situational awareness</u>
- Cases
- Hospitalisations
- Deaths
- Testing
- Contact tracing

<u>Interventions and countermeasures</u>
- Non-pharmaceutical measures, e.g. stay at home orders, school closures, quarantine, travel bans, border closures
- Vaccination doses given, % population fully vaccinated

PANDEM-2 contribution to crisis preparedness and resilience of European countries

DATA ANALYTIC TOOLS
To monitor pandemic response across Europe

› Social media analysis (SMA) tool for two-way communication

› Integration of Next Generation Sequencing (NGS) data for pandemic detection and monitoring - simulator linking contextual metadata, e.g. co-morbidities, vaccine status and virus genomic data

› Enhancing Influenzanet for pandemic events monitoring

PANDEM-2 contribution to crisis preparedness and resilience of European countries

› **Predictive Modelling** - an integrated library of **disease transmission prediction models** with spatial and age cohort dimensions to model the progression of an outbreak in different locations and under different conditions

› **Resource Planning System** - simulation tool for **capacity analysis** and **identification of resource coverage deficiencies** in the context of a pandemic

› **Toolkit** with guidelines, protocols and resources on **biosafety and biosecurity** for first responders, clinical staff and laboratory personnel during cross-border responses
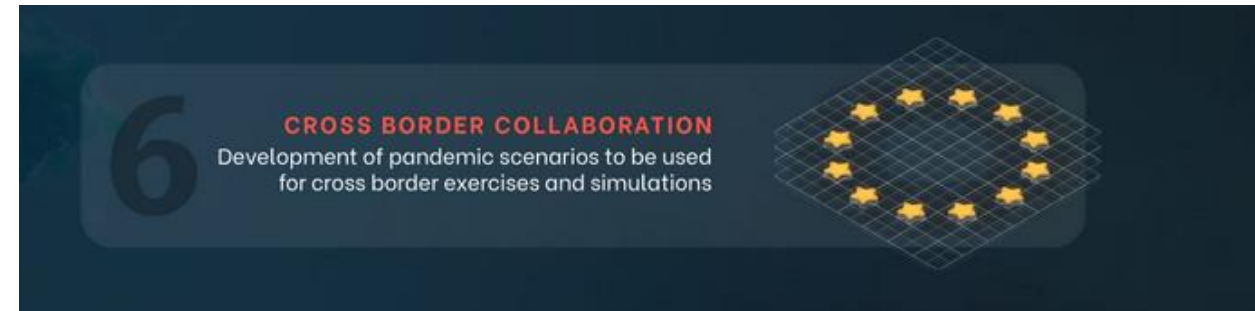
PANDEM-2 contribution to crisis preparedness and resilience of European countries

- **Creation of knowledge bases**
  - Establishing trust
  - Disinformation/misinformation
- **Development of communication resources & tools**
  - Integration of key lessons learnt into practical guidelines
  - Development of a portfolio of communication resources for different scenarios eg PR templates
- **Media training handbook** for public health spokespersons, communications teams in public health and government officials

PANDEMIC COMMUNICATIONS
To create a communications toolkit and training material

5

PANDEM-2 contribution to crisis preparedness and resilience of European countries

› **Training protocols, design and evaluation of simulation exercises**

  › Creation and demonstration of three scenarios based on real pandemic events from peacetime planning to response to post-pandemic recovery in setting of Public Health Emergency Operation Centre in national public health agency

  › Novel Influenza, Ebola and Disease X/SARS-CoV-3

  › Testing and evaluation of PANDEM-2 dashboard and tools

› **Operational strategy development**

  › Working with ECDC, DG SANTE, DG HOME and DG ECHO, Irish Defense Forces, WHO & stakeholder partners to determine practical implementation of PANDEM-2 outputs

6 CROSS BORDER COLLABORATION
Development of pandemic scenarios to be used for cross border exercises and simulations

PANDEM-2

PANDEMIC PREPAREDNESS AND RESPONSE

Thank you

It was a pleasure!

"Demonstration of intelligent decision support for pandemic crisis prediction and management within and across European borders"

Introducing STAMINA

15th European Public Health Conference 2022, Berlin, Germany, 9-12 of November, 2022

Brigita Kairiene
National Public Health Center under the MoH, Lithuania

11th of November, 2022

STAMINA at a glance

STAMINA

37 Partners

30 Months

16 Different countries

12 Trial-Demonstrations

10 Technical Solution Providers

9 First Responders

8 National Planners

Total cost
€11.020.801,25

Coordinator
EXUS. AI LABS

UK
TRI
DH
BUL

Netherlands
CPLAN
ERASMUS MC

Lithuania
NVSC

Luxemburg
INTRA

Germany
MCS DATALABS

Czechia
PPI
TPEB CR

Belgium
SQUAREDEV
EV ILVO

Austria
AIT
JOAFG

Spain
CRE
VPF
PLV

Romania
BEIA
SNCRR-S5
IVN

Slovenia
UM
ZD Maribor

France
AP-HP

Tunisia
IPT
ONMNE

Italy
ISI

Greece
EXUS
ICCS
SATWAYS
BioCoS
INNOSYSTEMS
NKUA
NPHO
MoHGR

Turkey
BYS GROUP
MOH
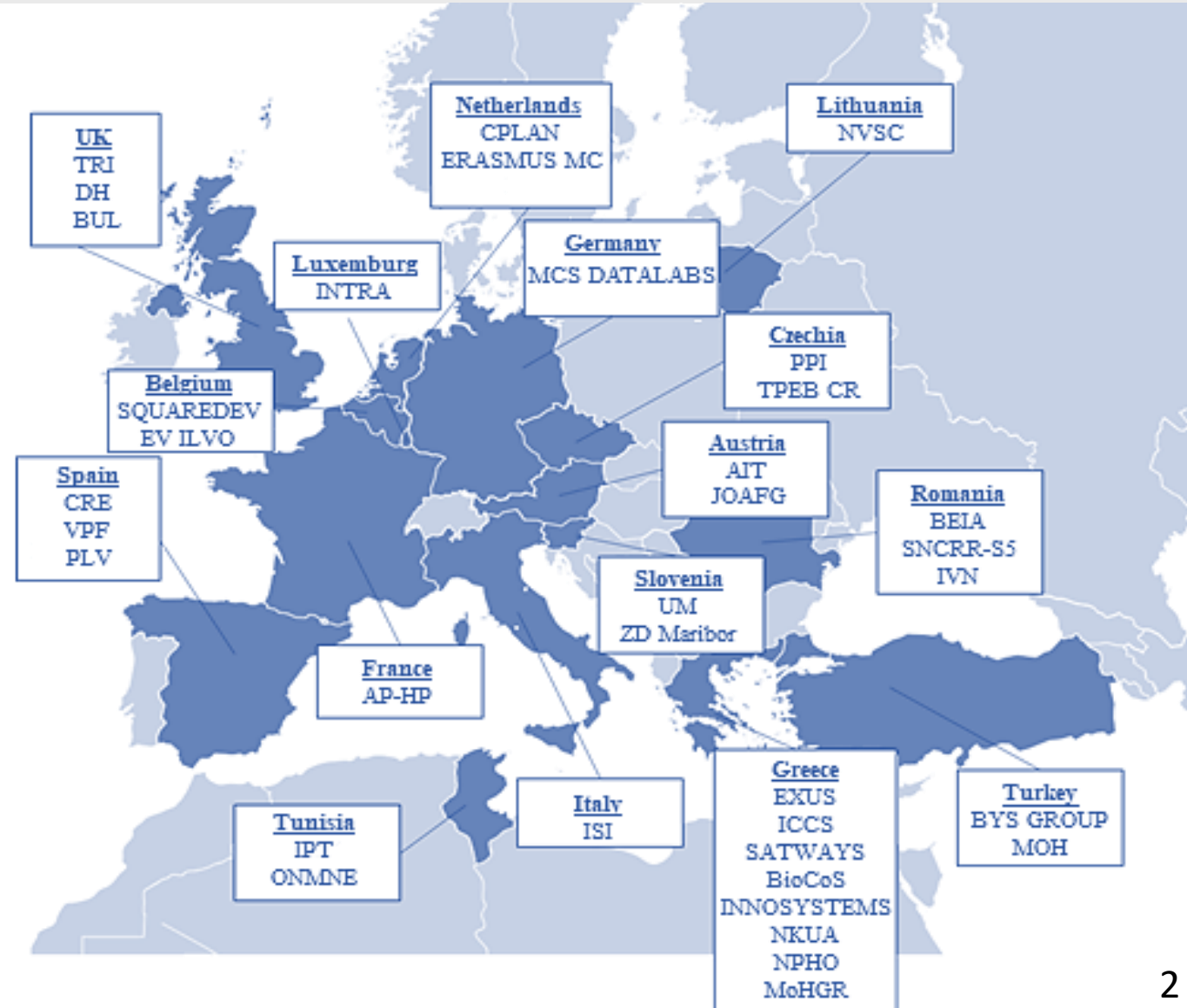
STAMINA Objectives [1/2]

- Perform and extensive **gap analysis** in existing **preparedness and response plans** and relevant legacy systems on a national and EU level

- Study human behaviours that allow outbreaks to spread and define guidelines on public trust monitoring and correct implementation of risk communication principles

- Support **data interoperability** of national and regional systems with the STAMINA decision-support toolset to provide **improved decision making** with a very high user acceptance

- Familiarise local authorities with EU and STAMINA-developed tools, providing EU with **better, timelier, data**, by performing targeted demonstration activities.

- Enable outbreak **evolution forecast** taking into account all factors accelerating pandemics

- Provide new diagnostic capabilities through the exploitation of bioinformatics and **low-cost highly accurate point-of-care testing (POCT)** devices to diagnose diseases earlier than before

- Organize **preparedness and response simulation exercises** that include extensive Training and Field Demonstrations

- Refine the strategic and operational **Cross-Organisational Guidelines** for preparedness and response to improve coordination at all levels (nationally and internationally)

- Propose and validate a **standardised scheme for interoperability** (information exchange) and personnel management procedures of different actors for preparing for and responding to crisis

- Establish new strong partnerships between the Member States as a result of the project

Multiple Solutions against the Pandemic STAMINA

STAMINA data

- Historical Datasets
- Open Datasets
- Web and Social Media
- Previous Lessons Learned
- Experts Opinions

STAMINA predictive models

- **PALMS** (Health and **cost benefit**)
- **AIR** (Antimicrobial Resistance)
- **BIMS** (**climate** models in predicting the **spatio-temporal evolution** of a disease)
- **FLEE** (**Movement of people and goods**)
- **GLEAM** (Simulation of various infectious diseases on global scale)
- **FACS** (Flu and Coronavirus Simulator with geospatial data, epidemiological data, disease parameters, demographics)
- **CHARM** (Dynamic reconfiguration of hospital wards for **bed capacity planning** during pandemic outbreaks)

STAMINA solutions

- Early Warning System (EWS)
- Crisis Management Tool (CMT)
- Real-time Web and Social Media Analytics (RWSMA)
- Preparedness Pandemic Training tool (PPT)
- Common Operational Picture (COP) platform
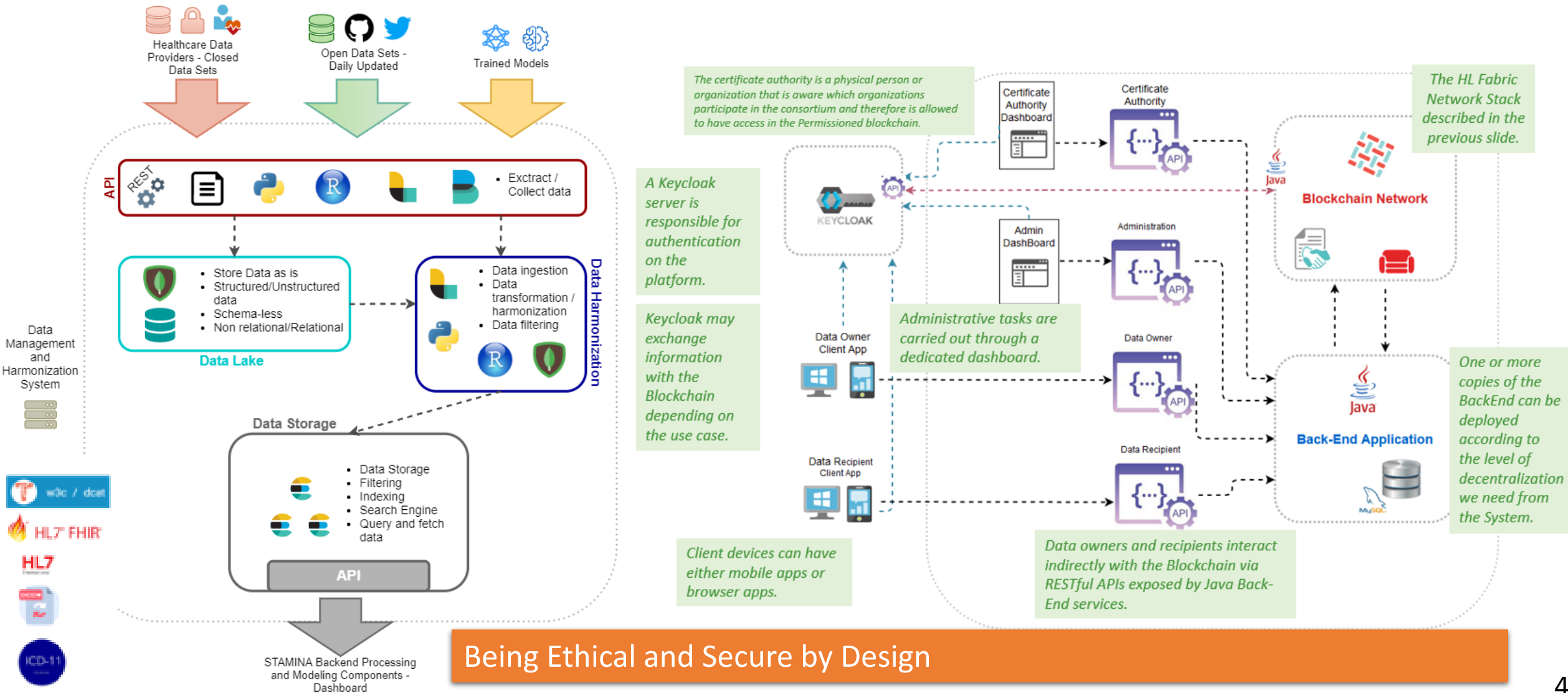- Detection tools and Smart wearable devices for health monitoring
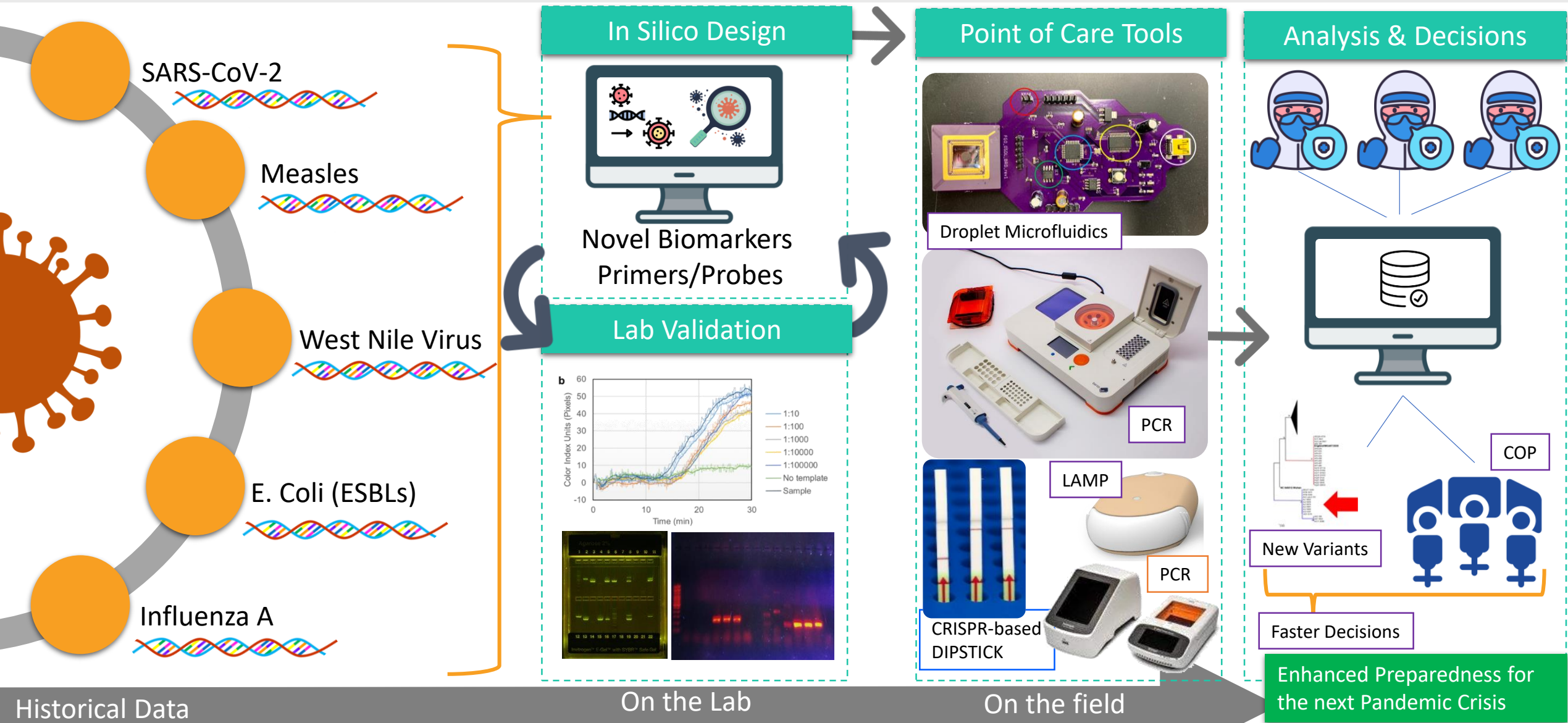
First responders

National planners

Inventory of best practices and guidelines to improve preparedness and response

Harmonized and Secure data management according to standards

Healthcare Data Providers - Closed Data Sets

Open Data Sets - Daily Updated

Trained Models

Data Management and Harmonization System

API REST
- Exctract / Collect data

- Store Data as is
- Structured/Unstructured data
- Schema-less
- Non relational/Relational

Data Lake

- Data ingestion
- Data transformation / harmonization
- Data filtering

Data Harmonization

Data Storage
- Data Storage
- Filtering
- Indexing
- Search Engine
- Query and fetch data

API

STAMINA Backend Processing and Modeling Components - Dashboard

The certificate authority is a physical person or organization that is aware which organizations participate in the consortium and therefore is allowed to have access in the Permissioned blockchain.

Certificate Authority Dashboard

Certificate Authority

A Keycloak server is responsible for authentication on the platform.

Keycloak may exchange information with the Blockchain depending on the use case.

KEYCLOAK

Admin DashBoard

Administration

Administrative tasks are carried out through a dedicated dashboard.

Data Owner Client App

Data Owner

Data Recipient Client App

Data Recipient

Client devices can have either mobile apps or browser apps.

Data owners and recipients interact indirectly with the Blockchain via RESTful APIs exposed by Java Back-End services.

The HL Fabric Network Stack described in the previous slide.

Java
Blockchain Network

Java
Back-End Application

MySQL

One or more copies of the BackEnd can be deployed according to the level of decentralization we need from the System.

Being Ethical and Secure by Design

4

Protecting our ...Heroes!

STAMINA

Wearable Monitoring Device

Healthcare personnel

SmarKo wearable device

Data

**Data Collector module integrated in a mobile device**

Web application (interface of T6.3)

Early Warning Alerts

COP

Decisions for further diagnostic testing and precautionary measures (e.g. stay at home)

Input from SmarKo:

- Vital Data
- Heart Rate
- Sp02
- Skin Temperature
- ECG (1 channel)
- Oxygen saturation
- etc.

Other

Geo-location
Air pressure
Motion (Accelerometer)
Motion (Gyroscope)
Motion (Magnetometer)
Motion (StepCount)
Environment (Temperature, Air-pressure etc)

6

Bringing Common Operational Picture into the Healthcare setting
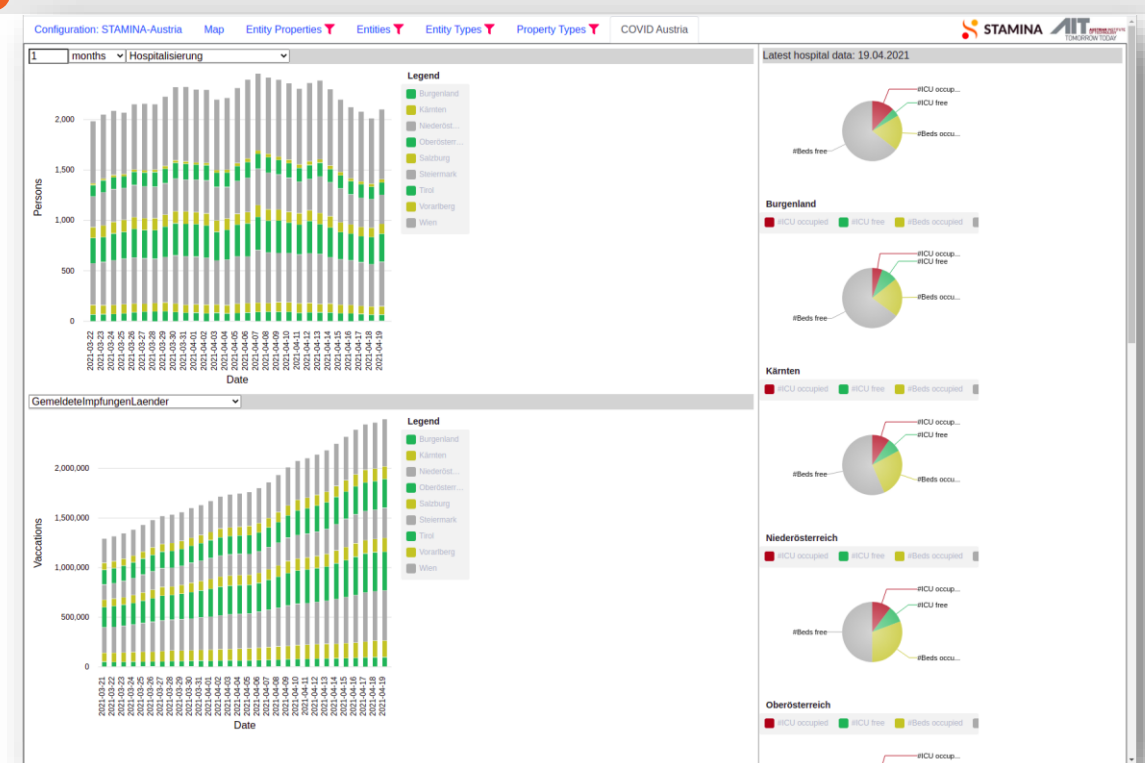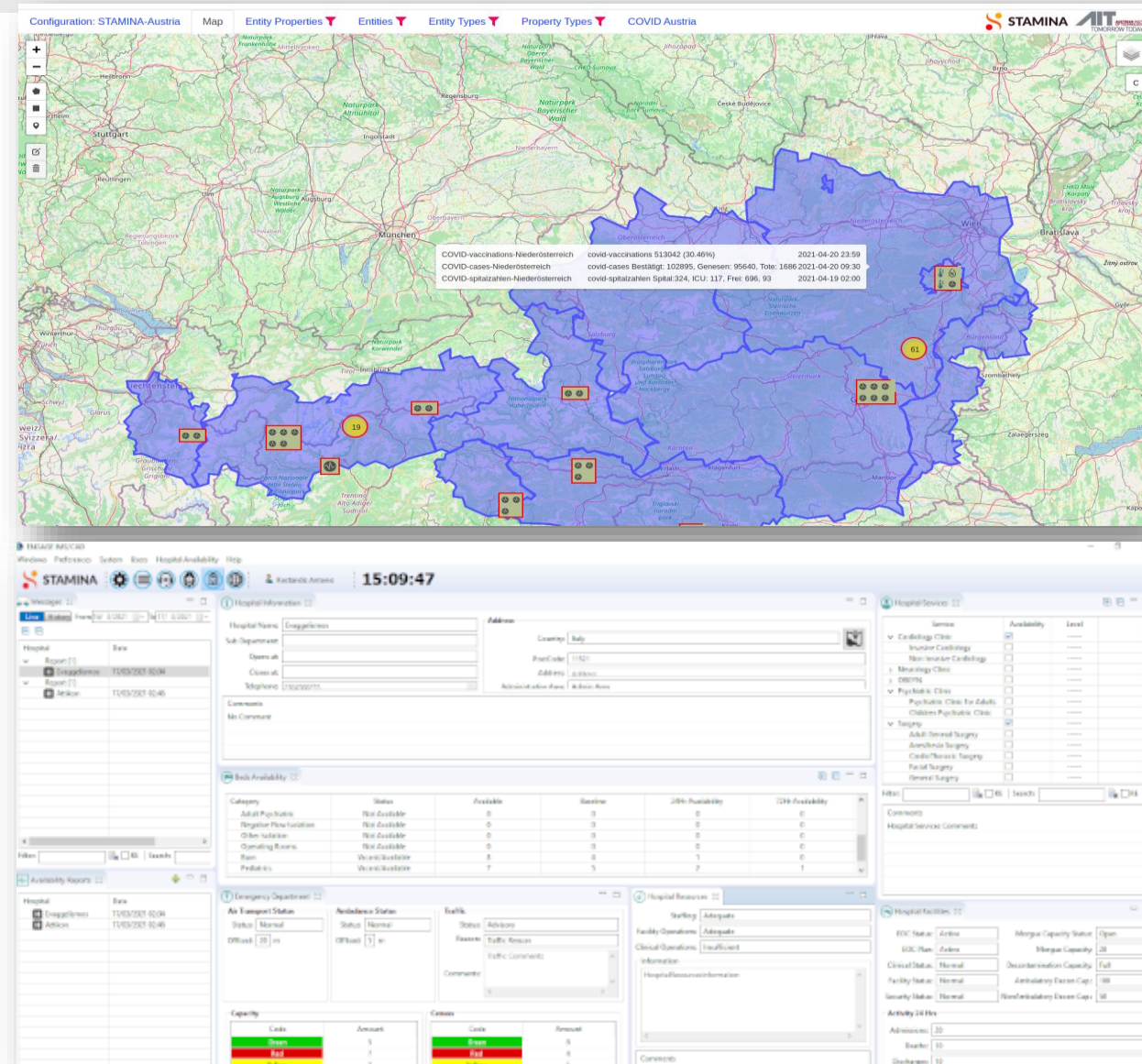
The STAMINA Methodology (STADEM)

The STADEM Methodology

- Development of the **taxonomy of pandemic functions** based on:
  - Trial descriptions of trial owners
  - End user requirements (establish a relation between gaps and pandemic functions)

- Development of the STADEM methodology based on the **Trial Guidance Methodology from DRIVER+**

- **Preparation, Execution, and Evaluation** of the STAMINA trials
  - Application of STADEM
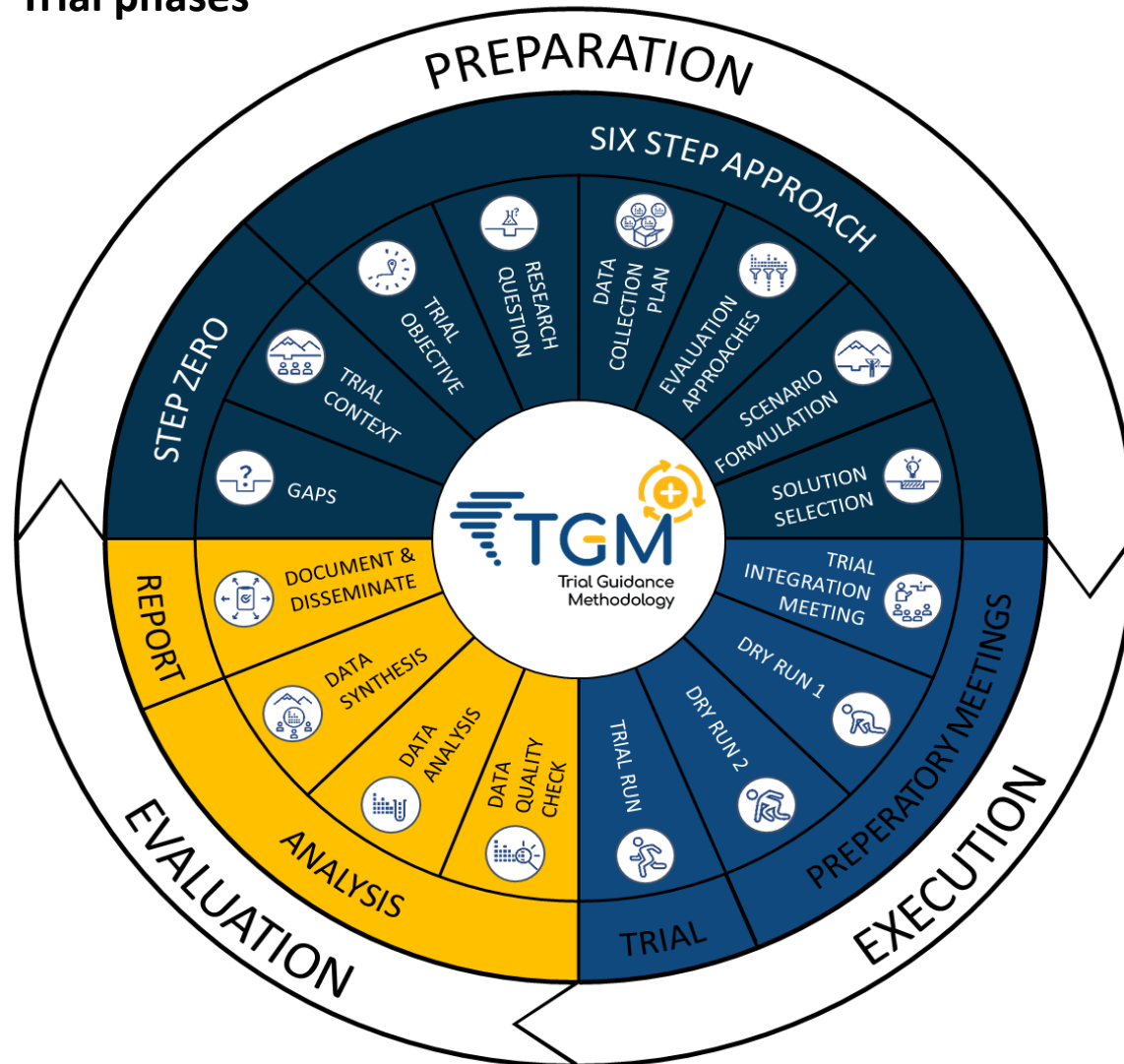 - In addition, use cases are used as support for the trial preparation

driver⁺ → STAMINA ⇢ EU Standard

CEN Workshop Agreement (2020) Systematic assessment of innovative solutions for crisis management - Trial guidance methodology
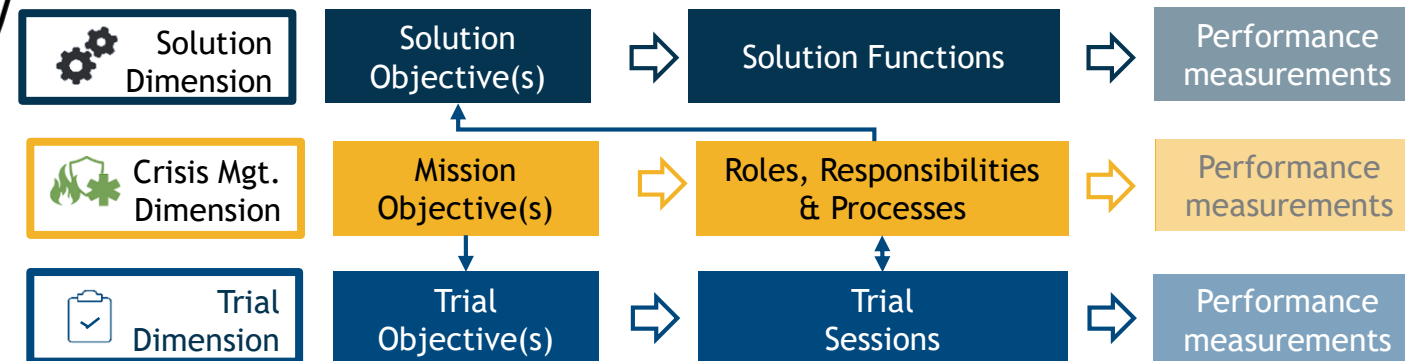
CEN Workshop Agreement (2022) Assessing Pandemic Crisis Prediction and Management Tools – Methodology of Demonstration-based Evaluation

STADEM/The Trial Guidance Methodology

Trial phases

The Trial Guidance Methodology was based in the EU Project DRIVER+ and is a rigor, yet pragmatic methodology for an **objective assessment** of innovative **socio-technical solutions** in the area of Crisis and Disaster Management (encompassing **Pandemic Management**)

Solution Dimension	Solution Objective(s)	Solution Functions	Performance measurements
Crisis Mgt. Dimension	Mission Objective(s)	Roles, Responsibilities & Processes	Performance measurements
Trial Dimension	Trial Objective(s)	Trial Sessions	Performance measurements

- **Solution dimension:**
  - the influence that a solution (its use, functionalities etc.) has on the trial
  - the added-value a solution brings to CM functions
  - practitioner assessment of the solution

- **Crisis management dimension:**
  - the influence the crisis management (roles, responsibilities, etc.) has on the trial
  - the impact that a solution has on the performance of the CM organization

- **Trial dimension:**
  - the influence the trial organization (logistics, availability of key staff, hardware, software, etc.) has on the trial
  - the changes that the trial organization brings to the success of the trial

Thank you

STAMINA

Synergies with other Projects

COVINFORM

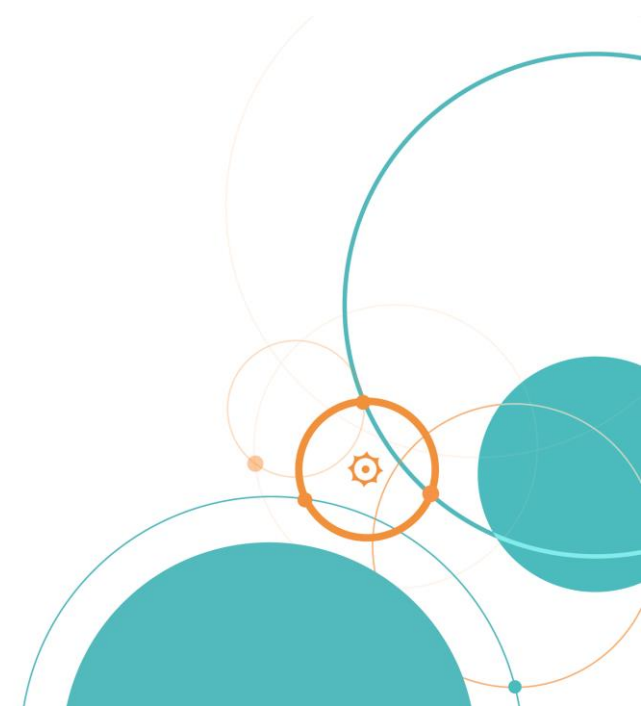COronavirus Vulnerabilities and INFOrmation dynamics Research and Modelling

15th European Public Health Conference 2022, Berlin, Germany, 9-12 November 2022

Jil Molenaar, University of Antwerp
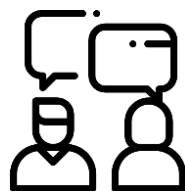
11/11/2022

COVINFORM at a glance
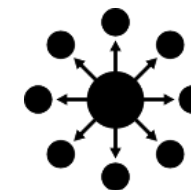
36 months
11/2020 – 10/2023

16 partners
practitioners – research – SMEs

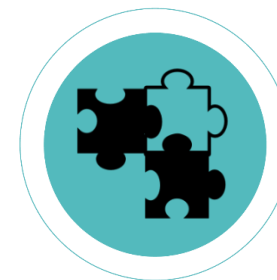**11 countries**

10 case studies
for in-depth research

OUTCOMES
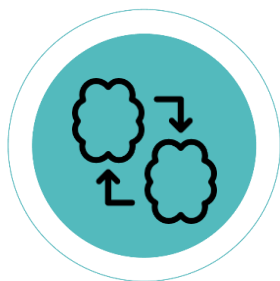
Lessons learned & knowledge transfer

Knowledge Repository & interactive dashboards

Bi-monthly reports & guidelines

Modelling of dimensions of vulnerability

Aims & objectives

Drawing **upon intersectionality theory** and **complex systems analysis**, COVINFORM conducts an **interdisciplinary critique** of COVID-19 responses and their (unintended) impact on the levels of:
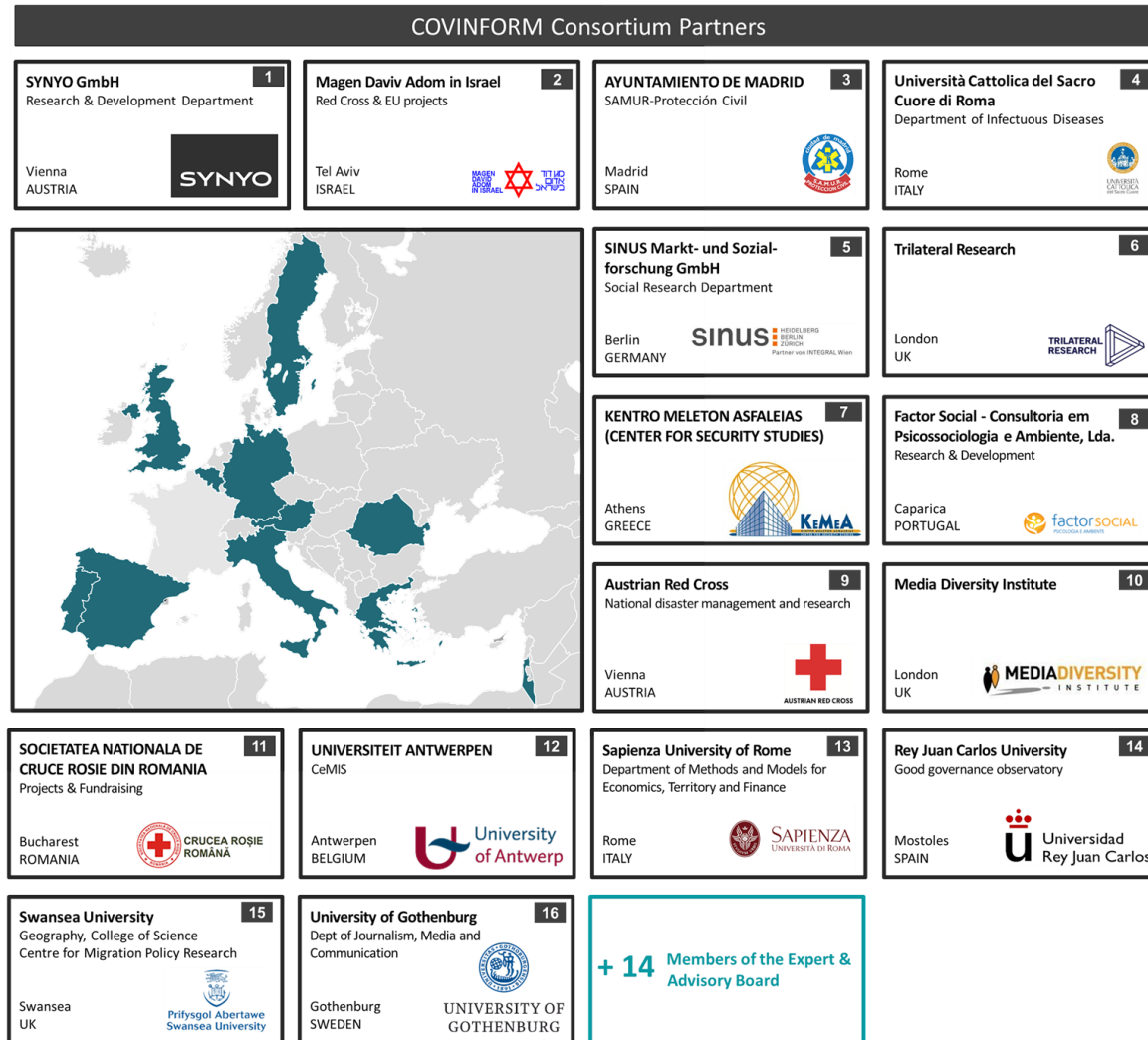
- Government
- Public health
- Community
- Communication and information

With a focus on **vulnerable populations** such as frontline healthcare workers, older people, ethnic minorities, etc.

Key research questions:

- How was vulnerability defined and considered in COVID-19 responses at different geographical and government levels?
- What were the lived experiences of the pandemic among different vulnerable groups?
- Which unintended consequences, trade-offs, lessons learned and promising practices can be identified in COVID-19 responses across diverse contexts?

Project consortium

COVINFORM Consortium Partners

#	Partner	Location
1	SYNYO GmbH — Research & Development Department	Vienna, AUSTRIA
2	Magen Daviv Adom in Israel — Red Cross & EU projects	Tel Aviv, ISRAEL
3	AYUNTAMIENTO DE MADRID — SAMUR-Protección Civil	Madrid, SPAIN
4	Università Cattolica del Sacro Cuore di Roma — Department of Infectuous Diseases	Rome, ITALY
5	SINUS Markt- und Sozial-forschung GmbH — Social Research Department	Berlin, GERMANY
6	Trilateral Research	London, UK
7	KENTRO MELETON ASFALEIAS (CENTER FOR SECURITY STUDIES)	Athens, GREECE
8	Factor Social - Consultoria em Psicossociologia e Ambiente, Lda. — Research & Development	Caparica, PORTUGAL
9	Austrian Red Cross — National disaster management and research	Vienna, AUSTRIA
10	Media Diversity Institute	London, UK
11	SOCIETATEA NATIONALA DE CRUCE ROSIE DIN ROMANIA — Projects & Fundraising	Bucharest, ROMANIA
12	UNIVERSITEIT ANTWERPEN — CeMIS	Antwerpen, BELGIUM
13	Sapienza University of Rome — Department of Methods and Models for Economics, Territory and Finance	Rome, ITALY
14	Rey Juan Carlos University — Good governance observatory	Mostoles, SPAIN
15	Swansea University — Geography, College of Science Centre for Migration Policy Research	Swansea, UK
16	University of Gothenburg — Dept of Journalism, Media and Communication	Gothenburg, SWEDEN

+ 14 Members of the Expert & Advisory Board

16 partners from **11 countries**

- 5 universities
- 7 practitioners and research organisations
- 4 industry and SMEs from medical and security sectors
- multi-disciplinary approach: combining expertise in
  - sociology
  - public health
  - emergency medicine
  - psychology
  - migration studies
  - anthropology
  - gender studies
  - economics
  - risk communication
  - communication science & journalism
  - human geography

Examples of COVINFORM qualitative case studies

- Portugal (Evora): elderly people living in LTCFs

- Belgium (Antwerp): migrants

- Italy (Lazio): health care workers

- Austria (Vienna): female frontline healthcare workers

- Wales (Swansea): BAME overseas qualified nurses

- Sweden (Gothenburg): ethnic minorities

→ Rich variety of lived experiences

Pertinent themes & key findings

- **One size does not fit all**
  - Both in crisis communication and public health responses
  - Accessibility (distance, time, cost, and administrative barriers)
  - Acceptability (perceptions of need, relevance and risks)
  - Trust

- **Gradual recognition** of need to target and diversify COVID-19 response strategies

- Importance of local, bottom-up initiatives
  - Good practice: combination of **national oversight** and **local expertise**

- Need to boost **exchange** of expertise and lessons learned **across geographical levels**

- Need to ensure lessons learned are **incorporated** in future preparedness planning

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covinform-project   @covinform.eu   @covinform

COVID 19
What have we learnt?

Lessons observed by
NO FEAR

PREPARE WORKSHOP

Chaim Rafalwoski| Magen David Adom in Israel

NO-FEAR project objectives

NO-FEAR brings together a pan-European and beyond network of practitioners, suppliers, decision and policy makers, with the goal to achieve

- a common understanding of needs and priorities,
- to fill operational gaps and
- to pinpoint areas for future research.

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RESEARCH CENTER IN EMERGENCY
AND DISASTER MEDICINE

A pan-European network of practitioners
for emergency medical systems and critical care
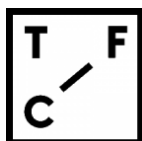
NO-FEAR pillars and transversal activities

Ethical, human, social and legal issues

PDMN

SANE

Acute care of the patient

Operations in security related incidents

Training and education of personnel and volunteers

Innovation monitoring and uptake plan

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New threat: COVID-19 outbreak

Pandemics response requires **coordination** and **cooperation** among **practitioners, suppliers, researchers** and **policy makers**

Pandemics response encompasses the three pillars and has signficant **human, social and legal impact**

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Timely exchange of **lessons learned** and **good practices** is fundamental

Research, **innovation** and **operations** are extremely dependent one from the other

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NO-FEAR webinar series >50

THE RESPONSE TO COVID-19	COVID-19: USE OF ISOLATION CHAMBERS FOR EMS TRANSPORTS	COVID-19 OPERATIONS: LESSONS LEARNED FROM EMERGENCY CALL CENTERS	SUPPLY CHAIN CHALLENGES DURING COVID 19	COVID-19 IN CHILDREN: CONSIDERATIONS ON THE CURRENT SITUATION
ETHICAL IMPLICATIONS AND PSYCHOSOCIAL SUPPORT IN HOSPITAL CARE	WORKING IN PPE AND PSS	INNOVATIVE DISINFECTION TECHNOLOGIES	TRAINING DURING COVID-19: AN OVERVIEW OF DIFFERENT EXPERIENCES	APRIL 22: NEW COVID-19 WAVE – WHAT CHANGED?
VENTILATION TECHNIQUES FROM THE PRE-HOSPITAL TO THE ICU IN COVID-19 MANAGEMENT	CONVALESCENT PLASMA TREATMENT FOR COVID-19 PATIENTS	WEBINAR: COVID-19: NEW WAVE, OLD PROBLEMS?	COVID-19 VACCINATION- PRELIMINARY LESSONS	MAY 18: VACCINATION REFUSAL AMONG HEALTHCARE WORKERS: DIFFERENT PERSPECTIVES FOR TACKLING A COMPLEX ISSUE
HOSPITAL ORGANIZATION: COVID-19	EMS OPERATIONS: LESSONS LEARNED	USE OF PULSE-OXIMETRY IN COVID-19	RISK COMMUNICATION IN THE HEALTH SECTOR DURING COVID-19	MAY 20: COMMUNICATION IN CRISIS: RECOMMENDATIONS ON MANAGEMENT, APPROACHES AND TOOLS FOR EFFECTIVE COMMUNICATION
NURSING HOMES AND COVID-19 – LEARNING DAY BY DAY	JUST-IN-TIME TRAINING: BEST PRACTICES AND METHODOLOGIES	THE ROLE OF LUNG ULTRASONOGRAPHY IN THE COVID PANDEMIC	MANAGEMENT OF HUMAN RESOURCES DURING COVID-19	

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Methodology

- 48 replies:
  - 24 EMS, 8 hospital, 6 research, 2 suppliers, 7 "other"
  - 35 consortium members, 13 "externals"

- 5 categories (78 items):
  - The human factor (23)
  - Knowledge sharing, cooperation and coordination (11)
  - Equipment and supplies (15)
  - Standard Operating Procedures (SOP) (20)
  - PPE (9)

- 0-4 Likert scale

Top three - overall

- The human factor: 2.3 Need for updated, trustful information sharing with personnel (e.g. regarding treatment protocols, PPE, updates, etc.) to allow them a comprehensive understanding of the situation (3.73)

- Personal Protective Equipment (PPE): 6.1 Need for PPE stockpile management, considering transportation, storage space, and risk of throwing away out of date PPE (3.63)

- Equipment and supplies: 4.3 Need for solutions to increase equipment and beds capacity (3.56)

- The human factor: 2.22 Need for management of fake news and mitigation of violent incidents against healthcare personnel (3.56)

- Knowledge sharing, cooperation and coordination: 3.5 Need to collect data, needs, gaps, and lessons in preparation for future outbreaks (3.56)

Top three - The human factor

- Need for updated, trustful information sharing with personnel (e.g. regarding treatment protocols, PPE, updates, etc.) to allow them a comprehensive understanding of the situation (3.73)

- Need for management of fake news and mitigation of violent incidents against healthcare personnel (3.56)

- Need for training and support to provide a sense of confidence and safety, and to avoid self-contamination while using PPE (3.56)

- Need for psychosocial support programs and training programs for healthcare personnel, including volunteers. (3.52)

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Top three - Knowledge sharing, cooperation and coordination

1. Need to collect data, needs, gaps, and lessons in preparation for future outbreaks (3.56)

2. Need for improved communication and coordination between Emergency Medical Services, hospitals, and other stakeholders (3.52)

3. Need for mechanisms for patients and severe cases distribution between healthcare facilities to avoid overload in hospitals, at the regional and national levels (3.42)

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Top three - SOPs

🥇 Need for plans for reducing hospitalization and overload in the hospitals and for increasing hospitals capacity (physically and procedural) (3.54)

🥈 Need for plans for amending referral systems in the hospitals to avoid overloads (3.38)

🥉 Need to maintain preparedness and readiness for routine or additional disasters (3.35)

Additional thoughts

- Care of the staff and volunteers, long term impact
- Need to recruit / shift personnel and train real time
- Constant change – shift from "crisis mode" to "new reality".
- Importance and impact of technology
- Impact of years of suboptimal routine health care
- Fake news as a new strategic threat
- Consistency of message (one color)
- Health care as part of crisis management

Thank you for your attention

Stay safe!

Panel Discussion

Mentimeter - Results

What are the first words that come to mind when thinking about *pandemic preparedness*?

Go to www.menti.com
and use the code
67 76 88 6

Thank you!