The European experiences of the Istituto Superiore di Sanità in Health and Digital sectors

Anna Ceccarelli, Research Coordination and Support Service
ISS is the main biomedical and public health research institute in Italy, and the leading technical and scientific body of the Italian National Health Service.
Multidisciplinary approach

"One Health" integrated vision
Human health, animal health and ecosystem health
Synergies with EU health initiatives

- The ISS strategy and governance is in synergy with European Union priorities supporting health.
- ISS actively participates, including with coordination roles, in actions promoted by the European Union in support of its priorities:
  - EU health working groups with its experts;
  - Joint Actions funded by the EU4Health programme;
  - European research and innovation projects and partnerships funded by Horizon Europe;
  - Projects and initiatives funded by the DIGITAL programme.
## Participation in EU Programmes

### EU4HEALTH
- 13 actions under WP 2021-2022
  - 1 as coordinator
- 8 proposals (Joint Actions) submitted under WP 2022-2023
  - 1 as coordinator

### HORIZON EUROPE
- 17 projects under WP 2021-2022
  - 1 as coordinator
- 17 proposals submitted under WP 2023 (first semester)

### DIGITAL
- 1 project

### CERV
- 1 project (as coordinator)

### EUROPEAN DEFENCE
- 1 project

### EURATOM
- 1 project (PIANOFORTE)

EU4HEALTH: overview of participation

Work Programme 2021

- **CRISIS PREPAREDNESS (CP)**
  - 3 actions

- **DISEASE PREVENTION (DP)**
  - 4 actions
  - (1 as coordinator)

- **HEALTH SYSTEMS AND HEALTHCARE WORKFORCE (HS)**
  - 4 actions

Work Programme 2022

- **CRISIS PREPAREDNESS (CP)**
  - 1 action

- **DISEASE PREVENTION (DP)**
  - 1 action

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EU4HEALTH 2021: crisis preparedness

### 1.1 SUPPORT ACTION TO MITIGATE SHORTAGES OF MEDICINES AND IMPROVE THE SECURITY OF SUPPLY INCLUDING OF COVID-19 THERAPEUTICS

EU4H-2021-JA-06: Direct grants to Member States’ authorities: availability of medicines, shortages and security of supply

<table>
<thead>
<tr>
<th>Action</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHESSMEN</td>
<td>Short supply of medicines; Public health; Medical care delivery; European Network</td>
</tr>
</tbody>
</table>

### 1.2. COMMUNICABLE DISEASES – SURVEILLANCE AND EARLY DETECTION

<table>
<thead>
<tr>
<th>Action</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU4H-2021-JA-13: Direct grants to Member States’ authorities: Union and national surveillance systems</td>
<td>Pandemic preparedness; Law; Cross-border threats; ECDC framework; Surveillance; transferability of knowledge; Capacity building</td>
</tr>
<tr>
<td>EU4H-2021-PJ-20 Action grant to support a HERA laboratory network</td>
<td>Pandemic preparedness; HERA Lab network; Medical countermeasures; One Health; Epidemiology; intelligence; Surveillance</td>
</tr>
</tbody>
</table>

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EU4HEALTH 2021: disease prevention

2.1. HEALTH PROMOTION AND PREVENTION OF NON-COMMUNICABLE DISEASES AND RELATED RISK FACTORS

EU4H-2021-JA-08: Direct grants to Member States’ authorities: implementation of best practices and research results on prevention of non-communicable diseases and risk factors

<table>
<thead>
<tr>
<th>Actions</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4D</td>
<td>Type 2 diabetes; Lifestyle treatment; Transfer of good practices; Pilot actions; Intensive care programme; After care programme</td>
</tr>
</tbody>
</table>
EU4HEALTH 2021: disease prevention

2.2. SAVING LIVES THROUGH SUSTAINABLE CANCER PREVENTION
EU4H-2021-JA-02: Direct grant to Member States’ authorities: support to assist Member States to roll out large-scale human papillomavirus vaccination campaigns (Coordinated by ISS)

<table>
<thead>
<tr>
<th>Action</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCH</td>
<td>HPV; Vaccination coverage; Cervical Cancer</td>
</tr>
</tbody>
</table>

2.4. CANCER: ENSURING ACCESS TO HIGH STANDARD CANCER CARE DIAGNOSIS AND TREATMENT
EU4H-2021-PJ-15: Action grants for ‘Cancer Diagnostic and Treatment for All’ including ‘Genomic for Public Health’

<table>
<thead>
<tr>
<th>Action</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>can.heal</td>
<td>Genomics; Public health research; Cancer; Next Generation Sequencing; Pathways</td>
</tr>
</tbody>
</table>

www.iss.it/servizio-di-coordinamento-e-supporto alla ricerca
3.3. STRENGTHENING THE IMPLEMENTATION OF THE LEGISLATION ON BLOOD, TISSUES AND CELLS AND ORGANS AND COOPERATION BETWEEN NATIONAL AUTHORITIES AND PROFESSIONAL SECTOR ASSOCIATIONS

EU4H-2021-PJ-05: Action grants on substances of human origin (SoHO) – increase resilience, ensure continuity of supply and access to safe and high quality therapies, in particular in times of crisis

<table>
<thead>
<tr>
<th>Actions</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transplantation; Quality; Safety; Donation</td>
<td></td>
</tr>
<tr>
<td>Plasma; PDMP; Covid-19; Donor; Strategic indipendence; SoHo; Best practice</td>
<td></td>
</tr>
<tr>
<td>Blood; Tissues; Cells; Accessibility; Sufficiency; Harmonisation; Accreditation; Technical assistance</td>
<td></td>
</tr>
</tbody>
</table>

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3.3. STRENGTHENING THE IMPLEMENTATION OF THE LEGISLATION ON BLOOD,TISSUES AND CELLS AND ORGANS AND COOPERATION BETWEEN NATIONAL AUTHORITIES AND PROFESSIONAL SECTOR ASSOCIATIONS

EU4H-2021-PJ-17: Action grants to organise and collect data to understand the safety, quality and efficacy of therapies applied in the field of assisted reproduction and therapies based on haematopoietic stem cells

<table>
<thead>
<tr>
<th>Action</th>
<th>Field of science</th>
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</thead>
<tbody>
<tr>
<td>EuroTraCTOR</td>
<td>Clinical data; European registry; Quality; Donor/Patient safety; Efficacy; Cellular therapies; haematopoietic stem cell transplantation</td>
</tr>
</tbody>
</table>
EU4HEALTH 2022: health promotion and disease prevention

2.2. ADDRESSING MENTAL HEALTH CHALLENGES
EU4H-2022-PJ-03: Call for proposals on promoting mental health

<table>
<thead>
<tr>
<th>Action</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Icehearts Europe</td>
<td>Mental health; Sport; Health; Youth</td>
</tr>
</tbody>
</table>
## HORIZON EUROPE: overview of participation

### PILLAR I. EXCELLENT SCIENCE

**Research infrastructures:** 1 project

### PILLAR II. GLOBAL CHALLENGES AND EU INDUSTRIAL COMPETITIVENESS

**Cluster Health:** 13 projects (including 3 EU Partnerships)

**Cluster Civil Security for Society:** 1 project

**Cluster Food, Bioeconomy Natural Resources, Agriculture and Environment:** 1 project

**Cluster Climate, Energy and Mobility:** 1 project
Overview of participation in Cluster Health

**Destination 2. Living and working in a health-promoting environment**
- 1 Project coordinated
- 4 Projects as Beneficiaries
- 1 EU Partnership as Italian node

**Destination 3. Tackling diseases and reducing disease burden**
- 2 projects as Beneficiary
- 1 project as Affiliated Entity
- 1 EU Partnership as Affiliated Entity (ItaCRIN)

**Destination 4. Ensuring access to innovative, sustainable and high-quality health care**
- 1 EU Partnership as Affiliated Entity in support to Coordinator

**Destination 5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society**
- 1 project as Beneficiary

**Destination 6. Maintaining an innovative, sustainable and globally competitive health industry**
- 1 project as Beneficiary

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## HORIZON EUROPE: Cluster Health

### Destination 2. Living and working in a health-promoting environment

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
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</thead>
<tbody>
<tr>
<td><strong>COORDINATOR</strong> mistral</td>
<td>Artificial intelligence; Dementia; Pollution</td>
</tr>
<tr>
<td>Blue Adapt</td>
<td>Public health; Climatic changes; Decision support tools</td>
</tr>
<tr>
<td>CLIMOS</td>
<td>Ontology; Big Data; Climatic changes; Zoonosis</td>
</tr>
<tr>
<td>INQUIRE</td>
<td>Data science; Air pollution engineering; Sensors; Pollution; Machine learning</td>
</tr>
<tr>
<td>NextGEM</td>
<td>Electromagnetism; Radio frequency; Law</td>
</tr>
<tr>
<td>PARC</td>
<td>Public health; Crisis management; Chemicals (EU Partnership)</td>
</tr>
</tbody>
</table>

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HORIZON EUROPE: Cluster Health (cont)

Destination 3. Tackling diseases and reducing disease burden

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BE READY</strong></td>
<td>Infectious diseases; Pandemic preparedness; Public health</td>
</tr>
<tr>
<td><strong>TOLIFE</strong></td>
<td>Artificial intelligence; Pneumology; sensors</td>
</tr>
<tr>
<td><strong>NOSE VAC</strong></td>
<td>Infectious diseases; Bacterial and viral respiratory pathogens; Vaccines</td>
</tr>
<tr>
<td><strong>ERA4Health Partnership</strong></td>
<td>Public health; Cardiovascular diseases; Nanomedicine; Nutrition; Clinical trials (EU Partnership)</td>
</tr>
</tbody>
</table>
### Destination 4. Ensuring access to innovative, sustainable and high-quality health care

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THCS</strong> (transforming health and care systems)</td>
<td>Public health; sustainability; Policy dialogue; Priority setting; Capacity building; Good practice transferability (EU Partnership)</td>
</tr>
</tbody>
</table>

### Destination 5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEOPARD</strong></td>
<td>Organ transplantation; Artificial intelligence</td>
</tr>
</tbody>
</table>

### Destination 6. Maintaining an innovative, sustainable and globally competitive health industry

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LABEL2 ENABLE</strong></td>
<td>Mhealth; Law; Quality</td>
</tr>
</tbody>
</table>

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# HORIZON EUROPE: other clusters

## Cluster Civil Security for Society

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUNRISE</td>
<td>Access control; Pandemics; Coronaviruses; Climatic changes; Machine learning</td>
</tr>
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</table>

## Cluster Food, Bioeconomy Natural Resources, Agriculture and Environment

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
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</thead>
<tbody>
<tr>
<td>CoDiet</td>
<td>Social inequalities; Nutrition; Machine learning</td>
</tr>
</tbody>
</table>

## Cluster Climate, Energy and Mobility

<table>
<thead>
<tr>
<th>Project</th>
<th>Field of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTHY SAILING</td>
<td>Pandemics; Coronaviruses; Naval engineering</td>
</tr>
</tbody>
</table>
The European experiences of the Istituto Superiore di Sanità in Health and Digital sectors

- Digital Technologies in support of Innovation

Mauro Grigioni
Director of National Center for Technology Innovation in Public Health

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National Center for Innovative Technologies in Public Health
“Synergies across the EU Funding Programmes managed by the European Health and Digital Executive Agency (HaDEA)”

A toolkit for dynamic health Impact analysis to predict disability-Related costs in the Aging population based on 3 case studies of steel-industry exposed areas in Europe

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National Center for Innovative Technologies in Public Health
MISTRAL Aim

Development of a **web-based platform** interfaced with an immersive visualization **dashboard** capable of handling all **health impact assessment (HIA) tools**, allowing access to deterministic data (case studies of three European cities impacted by pollution) and **predictive models** based on machine learning, simulating "**in-silico**" **scenarios of intervention** with **health protection policies**

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National Center for Innovative Technologies in Public Health
MISTRAL Consortium

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National Center for Innovative Technologies in Public Health
To create AI-driven multidimensional risk scores to predict QALY and black carbon concentration in urine samples. The model will come from cross-sectional survey data on three different age-stratified populations (4-15, 16-60 and 60+) exposed to pollutants in three different countries.
MISTRAL Tramontana Study

To test, validate, and calibrate multidimensional risk scores generated on cross-sectional data and other mortality-related health measures (e.g., DALYs) in a retrospective cohort study, in the general populations of the three countries (Italy-Taranto, Poland-Rybnik, Belgium-Hasselt) observed over the past 10 years.

Whole Sample
N: 10,000

Cases
N: 3,000

Specific Deaths according to ICD10 for:
• COPD (N:1000)
• Stroke (N:1000)
• Dementia (N:1000)

Control
N: 7,000

Primary AIM
Evaluation DALY, YYL, YYD

Evaluation
• Clinical Assessment
• Environmental exposure
• Social Background
• Occupational Exposure

Inclusion Criteria:
• Over 50 years
• Residents in Taranto

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National Center for Innovative Technologies in Public Health
• To develop interactive and immersive dashboards to manage models and data using counterfactual explainable AI architectures,

• Enabling policy makers to create simulated target scenarios in terms of health economic outcomes

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National Center for Innovative Technologies in Public Health
The MISTRAL aim is:

- to create an electronic tool, based on AI prediction and classification algorithms,
- to model the health and economic impact of non-communicable diseases with a high disability impact (CHD, Dementia, COPD, and Stroke),
- using big data from different age populations and individual sources,
- recording lifestyle, socio-economic status, environmental and geographical conditions, and health status
- in areas of high pollution exposure (Steel Industry).
- To support the data exploration and sensemaking,
- Immersive Analytics will be adopted to promote collaboration among groups of dedicated experts,
- implementing expertise with sophisticated data analysis tools

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National Center for Innovative Technologies in Public Health
EU funded Environment and Health Research and promoted the implementation of the **Methods for assEssing health-related costs of Environmental stressORs (METEOR)** Cluster consisting of the 5 projects resulting from the Horizon Europe call HORIZON-HLTH-2022-ENVHLTH-04-01 to **optimize synergies**, **avoid overlaps** and **increase the impact of the projects**

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National Center for Innovative Technologies in Public Health
METEOR Cluster

Projects

- **BEST-COST**
  SCI (lead), VITO, LMU, DTU, TAI, THL, CSTB, SpF, RIVM, NIPH, EM, UP, EHNet, CHAIN, STPH, IHME (USA)

- **MARCHES**
  AU (lead), UMY, UTARTU, CU, MENON, ISG, ISP, BSC, GEUS, EERC, NIBIO

- **UBDPOILICY**
  ISGlobal (lead), UU, STPH, LIN, HEAL, UCAM

- **MISTRAL**
  ISS (lead), PL.A.N.ET, UNIBA, POLIBA, USUFF, UHASS, AGH-UST, UOXF, UBI, NURO, WINGS

- **VALESOR**
  UA (Lead), NU, IVL, INE, MEN, UPD, UU, SERC, MH, FF, NOV

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National Center for Innovative Technologies in Public Health
**Governance**

- 1\textsuperscript{st} period (Jan 2023 - June 2024): MISTRAL
- 2\textsuperscript{nd} period (July 2024 – Dec 2025): VALESOR
- 3\textsuperscript{rd} period (Jan 2026 – Dec 2026): MARCHES

**METEOR Working Groups**

[Diagram showing the structure of the working groups and their roles in governance and dissemination.]
Title: Adopting CEN-ISO/TS 82304-2 and a trusted EU mHealth label for a single market that enables patients, citizens, health professionals, systems and authorities to benefit from a healthy supply of useful apps.

Duration: June 2022 – May 2024

Instrument: Horizon Europe

Type: Coordination and Support Action

Grant Agreement number: 101057522

Budget: 1,999,957.50 EUR

Partners:

[Links to various organizations and institutions]
Label2Enable operates within the context of the EU policy

Digital Health and Care

Transformation of Health and Care in the Digital Single Market – Harnessing the potential of data to empower citizens and build a healthier society

European health challenges
- Ageing population and chronic diseases putting pressure on health budgets
- Unequal quality and access to healthcare services
- Shortage of health professionals

Potential of digital applications and data to improve health
- Efficient and integrated healthcare systems
- Personalised health research, diagnosis and treatment
- Prevention and citizen-centred health services

What EU citizens expect...
- 90% agree: To access their own health data (requiring interoperable and quality health data)
- 80% agree: To share their health data if privacy and security are ensured
- 80% agree: To provide feedback on quality of treatments

Support European Commission:
1. Secure access and exchange of health data
   - Ambition: Citizens securely access their health data and health providers (doctors, pharmacies) and exchange them across the EU
   - Actions:
     - Health Digital Service Infrastructure will deliver initial cross-border services (patient summaries and ePrescriptions) and cooperation between participating countries will be strengthened
     - Proposals to extend scope of health cross-border services to additional cases, e.g. full electronic health records
     - Recommended exchange format for interoperability of existing electronic health records in Europe

2. Health data pooled for research and personalised medicine
   - Ambition: Shared health resources, data, infrastructure, expertise, joint allowing targeted and faster research, diagnosis and treatment
   - Actions:
     - Voluntary collaboration mechanisms for health research and clinical practice (starting with 48 million genomes by 2022 target)
     - Specifications for secure access and exchange of health data
     - Pilot actions on rare diseases, infectious diseases and impact data

3. Digital tools and data for citizen empowerment and person-centred healthcare
   - Ambition: Citizens can monitor their health, adapt their lifestyle and interact with their doctors and care providers, with exchange of practices and technical assistance
   - Actions:
     - Facilitate supply of innovative digital-based solutions for health, e.g. by SHSs, with common principles and certification
     - Support demand uptake of innovative digital-based solutions for health, notably by healthcare authorities and providers, with exchange of practices and technical assistance
     - Mobilise more efficiently public funding for innovative digital-based solutions for health (including EU funding)

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National Center for Innovative Technologies in Public Health
Choosing a 'good' health app is difficult

The sheer number of health apps makes choosing them confusing

I am not sure health apps will help me

I prefer face-to-face consultations with doctor/nurse

I know of no health apps relevant to me

I am suspicious of health apps, because I don't know who makes them

Get-ehealth.eu (2015) What do patients and carers need in health apps – but are not getting? Global survey of 1,120 patients and carers

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National Center for Innovative Technologies in Public Health
Choosing a 'good' health app is difficult

Byambasuren et al (2019) Current knowledge and adoption of mobile health apps among Australian General Practitioners: Survey study

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National Center for Innovative Technologies in Public Health
EU policy context

The EU moves towards a common transparent assessment of health apps: **Label2Enable**: Horizon Europe project creates **EU certification scheme CEN-ISO/TS 82304-2**

- The *Green Paper on mobile health* (2014) addresses the potential benefits and risks of health apps, questioning **how to verify or ensure the efficacy of health apps** (e.g. certification schemes) and **how to better inform users** on the quality and safety of these apps.

- The *Communication on enabling the digital transformation of health and care in the Digital Single Market* (2018) highlights “digital tools and data for citizen empowerment and person-centred care” as a key priority and proposes **common principles and certification** to facilitate supply of these tools, also by Small and Medium-sized Enterprises.

- **CEN-ISO/TS 82304-2:2021 (health and wellness apps – quality and reliability)**, an assignment from the European Commission to the European Committee for Standardization (CEN), International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), delivers a **common health app assessment framework and label**.

- The Proposal for a *Regulation on the European Health Data Space* (2022) calls for **voluntary labelling of wellness apps** (Article 31) and a **cascading effect in medical devices** that aim to be interoperable with Electronic Health Record systems.

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National Center for Innovative Technologies in Public Health
L2E: CEN-ISO/TS 82304-2:2021 helps choose apps

**Main AIM:** framework CEN-ISO/TS 82304-2:2021 experimentation on stakeholder to assess App quality (wellness & Health)

**Comprehensive** For wellness and medical device apps, not duplicating notified bodies

**Evidence-informed** EU energy level recognised and used by 85% EU consumers

**Inclusive** Label tested by people with low health literacy

**Informative** Displayed as a score – accompanying report provides more details

**Proportionate** At most 81 questions, of which at most 67 score-impacting yes/no questions

**Testable** Yes-answers require evidence to be assessed by accredited app assessors

**Relevant** Founded in a Delphi study with 83 experts from 8 stakeholder groups

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National Center for Innovative Technologies in Public Health
Who can benefit from CEN-ISO/TS 82304-2:2021?

- **App manufacturers** who seek to deliver quality apps
- **Patients, citizens, and carers** who seek to use health apps
- **Health and care systems and authorities** who seek to review/reimburse apps
- **Health care providers and professional societies** who seek to recommend apps
- **Health App assessment organisations** who seek to use a trusted, globally recognised assessment framework
- **App stores and libraries** who seek to help their customers make informed decisions on health apps

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National Center for Innovative Technologies in Public Health
L2E: Project pillars: trust, use and adoption

Health app label (technical specification)

Certification scheme (WP 2)

Certification process (WP 3)

Build In + prove quality apps
(manufacturers, suppliers)

Certify apps
(app checkers, certification bodies)

Adopt health app label + reimburse apps (blended care)
(health care systems and authorities, WP 7)

Store apps + publish health app label
(app stores, app libraries, trusted sources)

Use health app label + recommend apps
(health care professionals, WP 5)

Use health app label + (consider to) use apps
(patients, citizens, carers, WP 4)

(towards) a sustainable resilient health and wellness ecosystem

(towards) an Innovative, sustainable and globally competitive health industry

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National Center for Innovative Technologies in Public Health
Co-create the trusted EU certification scheme (handbook for accredited health app assessment):

- Test scheme with 24 manufacturers and 5 app assessment organisations for consistency and efficiency
- Align assessment methods and pass/fail with EU legislation, EU values and stakeholder trust
- Analyse business models for app assessment and existing label legislations for applicability

Co-create the communication citizens and health care professionals need:

- Survey whose recommendations on health apps citizens trust and what health professionals need to recommend health apps
- Test how to introduce the label with people with limited health literacy
- Propose level of detail health app quality report
- Test label display in app stores, app libraries and trusted sources

Co-create a single market (cross country recognition of EU certification scheme):

- Involve relevant stakeholders through various channels
- Document ‘use stories’ of pilots with CEN-ISO/TS 82304-2 in Italy, Catalonia, the Netherlands, Norway, ..
- Explore with health insurers and health technology assessment bodies how the ISO assessment framework can help in decision-making on reimbursement of health apps

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National Center for Innovative Technologies in Public Health
Mission: Facilitate active collaboration of EU critical Infrastructure

ISS CI: Covid – 19 Surveillance by GIS Application for Wastewater plants network in Italy used to find Virus genomic copies and Variants

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National Center for Innovative Technologies in Public Health
# Project SUNRISE

<table>
<thead>
<tr>
<th>Partner</th>
<th>Country</th>
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<tbody>
<tr>
<td>ATOS (C)</td>
<td>ES</td>
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<tr>
<td>INTRASOFT INT.</td>
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[https://www.iss.it/centro-nazionale-per-le-tecnologie-innovative-in-sanita-pubblica](https://www.iss.it/centro-nazionale-per-le-tecnologie-innovative-in-sanita-pubblica)

National Center for Innovative Technologies in Public Health
Project SUNRISE OBJECTIVES:

- Facilitate active collaboration among CIs within and across European borders, within and across different sectors, between public and private stakeholders.
- Identify pandemic-specific vital services and CIs in Europe, their interactions and dependencies, the risks and cascading effects among them, and effective countermeasures at European level.
- Develop a comprehensive strategy and a set of mature technologies for CI resilience and business continuity in a pandemic.
- Pilot the new strategy and technologies in real-world conditions across Europe.
- Enhance knowledge, awareness, and capacities for unity and resilience in Europe.

Project workplan:

**WP1** COLLABORATION: Active collaboration of CI providers
WHAT: Feedback from CIs.
WHY: To develop the STRATEGY and the TOOLS.

**WP2** STRATEGY: Strategy for awareness and resilience of CIs
WHAT: STRATEGY updates.
WHY: To refine TOOLS.

**WP3** DESIGN: Design of the SUNRISE tools
WHAT: Requirements and designs.
WHY: To improve TOOLS.

**WP4** TOOL: Risk-based access control
WHAT: Audience feedback, market needs.
WHY: To improve the STRATEGY and the TOOLS.

**WP5** TOOL: Demand prediction and management
WHAT: TOOL updates.
WHY: To refine TOOL designs.

**WP6** TOOL: Cyber-physical resilience
WHAT: TOOL updates.
WHY: To improve the STRATEGY and the TOOLS.

**WP7** TOOL: Remote infrastructure inspection

**WP9** IMPACT: Impact making and assessment
WHAT: The developed STRATEGY and TOOLS, generated know-how.
WHY: To enable communication, dissemination, exploitation, standardisation, policy making.

**WP9** MANAGEMENT: Project coordination
WHAT: Results and questions.
WHY: To improve the STRATEGY and the TOOLS.

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[Link to National Center for Innovative Technologies in Public Health](https://www.iss.it/centro-nazionale-per-le-tecnologie-innovative-in-sanita-pubblica)
TEF Health
Testing and Experimentation Facilities for Health AI and Robotics
(Promote services for SME)

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National Center for Innovative Technologies in Public Health
TEF-Health develops a reference testing and experimentation facility (TEF) with a threefold Objective:

(1) Carrying out tests and experiments of AI solutions in real or realistic environments;
(2) Implementing evaluation activities to facilitate market access for trustworthy intelligent technologies considering regulatory requirements (certification, standardization, code of conduct), and ensuring easy access to these resources (link with digital innovation hubs); and
(3) Optimizing investments by capitalizing on past investments.

TEF-Health will generate Impact by increasing effectiveness, resilience, sustainability of health systems, reduce inequalities; and ensure compliance with legal, ethical, quality and interoperability standards.

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National Center for Innovative Technologies in Public Health
Outcome and KPIs

• Foster state of the art AI and robotics in healthcare

• KPIs:
  • Number of TEF users served (target: N500, 80% SMEs)
  • Percentage of cross boarder participation (target: 70%)
  • Number of solutions tested (target: N500)
  • At least started CE marking procedure or certification (target 50%=N250)
  • Brought to market (target 2% = N5)
  • Adopted by health providers (target 2% = N5)
  • Added value for end users

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National Center for Innovative Technologies in Public Health
TEF Health: WPs

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National Center for Innovative Technologies in Public Health