EU4Health Programme (EU4H)

Application Form

Technical Description (Part B)

(EU4H Standard)

Version 1.0
15 April 2021

IMPORTANT NOTICE

What is the Application Form?

The Application Form is the template for [redacted] applications; it must be submitted via the EU Funding & Tenders Portal before the call deadline.

The Form consists of 2 parts:.

- Part A contains structured administrative information
- Part B is a narrative technical description of the project.

Part A is generated by the IT system. It is based on the information which you enter into the Portal Submission System screens.

Part B needs to be uploaded as PDF (+ annexes) in the Submission System. The templates to use are available there.

How to prepare and submit it?

The Application Form must be prepared by the consortium and submitted by a representative. Once submitted, you will receive a confirmation.

Character and **page limits**:

- page limit normally **70** pages (unless otherwise provided in the Call document)
- supporting documents can be provided as an annex and do not count towards the page limit
- minimum font size — Arial 9 points
- page size: A4
- margins (top, bottom, left and right): at least 15 mm (not including headers & footers).

Please abide by the formatting rules. They are NOT a target! Keep your text as concise as possible. Do not use hyperlinks to show information that is an essential part of your application.

⚠ If you attempt to upload an application that exceeds the specified limit, you will receive an automatic warning asking you to shorten and re-upload your application. For applications that are not shortened, the excess pages will be made invisible and thus disregarded by the evaluators.

⚠ **Please do NOT delete any instructions in the document. The overall page limit has been raised to ensure equal treatment of all applicants.**

TECHNICAL DESCRIPTION (PART B)

COVER PAGE

Part B of the Application Form must be downloaded from the Portal Submission System, completed and then assembled and re-uploaded as PDF in the system.

***Note:** Please read carefully the conditions set out in the Call document (for open calls: published on the Portal). Pay particular attention to the award criteria; they explain how the application will be evaluated.*

PROJECT	
Project name:	**U**nion and **N**ational Capacity Building **4** Integra**TED S**urveillance
Project acronym:	**UNITED4S**urveillance
5.1.2e **contact:**	5.1.2e National Institute for Public Health and the Environment (RIVM, Rijksinstituut voor Volksgezondheid en Milieu)

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PROJECT SUMMARY

Project summary

The global crisis generated by the COVID-19 outbreak has revealed that the public health preparedness and responses to pandemics need to be urgently improved at European level. UNITED4Surveillance will contribute to the implementation of the new Health Security framework under the health union regulation on serious cross-border threats to health, and support the implementation of the ECDC long term strategic framework for the period of 2022-2025, in relation to unlocking and integrating existing and new data sources for more comprehensive EU/EEA infectious disease surveillance, prevention, and control, and contributing to surveillance capacity building within Europe and beyond for better global health security.

Representing 24 countries in Europe, UNITED4Surveillance gathers expertise in public health, (clinical) microbiology, epidemiology, and data-science, over the domains of public health, animal, and environmental health, thereby creating a strong network in integrated surveillance for infectious disease prevention and control. Our general objectives are to support i) in strengthening national integrated surveillance systems and scaling-up to EU level, ii) and to improve national surveillance systems by integrating different sources of electronic health data and digital registers/databases, thereby enhancing EU/EEA surveillance system.

UNITED4Surveillance will propose a Roadmap to implementation of integrated surveillance at Member State and Union level which will 1) contain gaps and needs analysis, 2) integrate (inter)national polices, 3) identify and pilot promising approaches, 4) disseminate best practices and 5) share experiences and knowledge through capacity building.

1. RELEVANCE

1.1. Background and general objectives

Background and general objectives

Describe the background and rationale of the project.

How is the project relevant to the scope of the call? How does the project address the general objectives of the call? What is the project's contribution to the priorities of the call?

Background and rationale of the project

Cases of pneumonia with an unknown origin were reported to the World Health Organization on December 31, 2019. On January 7, 2020, Chinese officials identified a new coronavirus variant as the causative pathogen. Coronaviruses (CoV) are a vast family of viruses that can cause illnesses ranging from the common cold to life-threatening disease. A novel coronavirus (nCoV) is a strain of coronavirus that has never been seen in humans before. The novel pathogen was subsequently named SARS-CoV2 and the diseases "COVID-19". Since then, the COVID-19 pandemic has dramatically affected healthcare systems, economies, and even more so, societies.

Entering 2022, the global economy is weaker than originally predicted. Countries have reinforced mobility restrictions as the new SARS-CoV2 Omicron and its BA.2 sub-variant spread. Rising energy costs and supply interruptions have resulted in higher and more prevalent inflation than expected, particularly in many emerging and developing economies. In 2023, global growth is forecasted to decrease to 3.8 percent, but only under the assumption that global immunization rates will increase, and medicines will become more effective by the end of 2022, therefore decreasing the impact of the pandemic on public health. **However, the new SARS-CoV2 variants might prolong the pandemic and cause further economic problems. With the pandemic still raging, a strong and united health policy across nations is more important than ever** (Fund, 2022).

The spread of the new Omicron variants has already forced lockdowns in China in an attempt to control an outbreak; in Europe, the continued risk of new variants of concern emerging, such as Omicron, put renewed pressure on hospitals and health workers. Governments are again facing the problem of balancing the need for restrictions to limit the spread of the virus with the cost on social life and economies. Solid evidence of the additional benefit of an EU-level strategy is the enhanced access to vaccination that has resulted from cooperative EU efforts to increase vaccine manufacturing and supply. There is now no uncertainty regarding vaccine availability (Commission, Communication Addresssing COVID-19 Challenges, 2021). **Nonetheless, the heightened threat of new variants serves as a warning that we must remain united, focused, and ready to act swiftly and decisively.** While Member States employ innovative ways to controlling the current pandemic, fragmented planning and response plans are likely to undercut what was gained thus far from the EU-wide coordination of health security efforts.

The COVID-19 pandemic has highlighted the weaknesses in the EU response to such a widespread health threat, which now need to be tackled in the event of any future similar public health concern.

One of the major lessons learnt from this pandemic is that surveillance and monitoring strategies are needed to guarantee prompt detection and identification of cross-border health concerns, therefore allowing quick and effective interventions. The COVID-19 pandemic has highlighted that the EU's preparedness and response in this regard are still sub-optimal. To guarantee prompt detection of pathogens with epidemic potential, timely monitoring, combined with surveillance of zoonotic illnesses and/or pathogens in animals (One Health surveillance), at EU and national levels are necessary. Additionally, the digitalization of such surveillance systems is crucial to allow the exchange of and access to health data, both to enhance healthcare response (primary data usage) and to enable the development of useful research response strategies and health policies (secondary use of data).

The COVID-19 pandemic has proven the usefulness of secondary use of data to develop policies in crisis situations: if common, cross-border, surveillance strategies had been in place, together with shared criteria for testing and reporting and agreed definitions for a case, a severe case, and for the disease outcomes (death, recovered, recovered with sequelae), the response at the Union level would have been quicker (Commission, COVID-19 - Sustaining EU Preparedness and Response: Looking ahead, 2022).

Relevance of the project

The scope of this call is to support a Joint Action (JA) that will strengthen the policies adopted in response to the COVID-19 crisis and, by doing so, will **increase the European preparedness** for any future risk to the public health. UNITED4Surveillance will focus on the EU4Health Programme's general objective of protecting the population from cross-border health concerns by increasing the responsiveness and the coordination of the health systems among the Member States. Our consortium will fulfil

the scope of the call **by preparing for a modernized integrated surveillance system for effective infectious disease surveillance and crisis response**. This JA will contribute to the implementation of the new Health Security framework under the European Health Union legislative package and the EU4Health programme priorities on health security. It will also support the implementation of two priority areas of the ECDC15 - LTSF for the period of 2022-2025, namely unlocking existing and new data sources for more comprehensive EU/EEA infectious disease surveillance, prevention, and control (strategic objective 2) and contributing to surveillance capacity building within Europe and beyond for better global health security (strategic objective 4). This JA will focus on EU Member States and non-EU countries participating in the EU4Health work programme.

Relevance of the project to the objectives of the call

The goal of this call is to support a JA that will assist Member States and the EU in the deployment of digitalized, integrated surveillance systems, operating both at national and European levels, to ensure better detection of early warning signs and more accurate risk assessment and coordinated response among the Member States to any future cross-border health threat.

Our consortium will address the objectives of the call by increasing real-time surveillance to ensure prompter responses at the national level, by investing in digital advancement to facilitate the development of interoperable, reliable, and modern national surveillance systems. Ultimately, the surveillance systems perfected at the national level will be upscaled at the EU level. To ensure the successful implementation of the proposed integrated surveillance systems, our consortium will be dedicated to the identification of the current impediments to the use of electronic health data for integrated surveillance and the development of an inventory of best practices for overcoming these barriers, to the strengthening of the capacity building through continuous professional development, and to the elaboration of pilot innovative strategies for integrated infectious disease surveillance to be evaluated for their public health value.

Contribution of the project to the priorities of the call

The JA grant will be used to assist with the capacity building at both national and EU levels, by means of an integrated surveillance system training package, piloting of new strategies, the sharing of expertise, and the development of common guidelines. Our consortium will fulfil the priorities of the call by supporting the national capacities for integrated surveillance and by then developing a roadmap to set-up the strategic key aspects needed to further upscale the Integrated surveillance at the EU level. To this extent, our consortium will work towards the improvement of the human resource capacities and the progress of the current data management and informatics systems, with specific attention given to the legislative and data protection advancements necessary to achieve surveillance data system integration. Additionally, for the setting up of a roadmap, our consortium will prepare to delineate the digital information systems and data flows necessary for a European integrated surveillance strategy, using reference laboratories, veterinary/environmental data, and clinical health care settings, ranging from hospitals to national and regional health authorities.

1.2. Needs analysis and specific objectives

Needs analysis and specific objectives

Describe how the objectives of the project are based on a sound needs analysis in line with the specific objectives of the call. What issue/challenge/gap does the project aim to address?

The objectives should be clear, measureable, realistic and achievable within the duration of the project. For each objective, define appropriate indicators for measuring achievement (including a unit of measurement, baseline value and target value).

The COVID-19 pandemic has revealed and further highlighted several gaps that are in need to be tackled for future emerging health threats.

Gaps identified

- The COVID-19 pandemic highlighted the need for integrated, real time disease surveillance systems integrated with other areas (e.g., clinical and animal health), using state-of-the-art digital solutions and data science approaches based on the capacities and requirements at EU and national level. Integrated surveillance systems are defined as routine population-based surveillance data linked with supplementary health data related databases.
- Epidemiological data on COVID-19 that has been shared with the European Centre for Disease Prevention and Control (ECDC) was often delayed, not comparable between Member States, and lacking information.
- Full digitalisation and automation of the health systems lacks. For instance, paper notifications were still used at subnational level in some countries.

Specific objectives

1. to support outbreak detection and pandemic preparedness by improving real time public health surveillance (KPI: on-time realisation of milestones and deliverables WP2).
2. to establish a sentinel hospital system for integrated surveillance of severe infectious diseases (KPI: on-time realisation of milestones and deliverables WP3).
3. to explore the integration of human and animal health surveillance data, including laboratory diagnostic of zoonotic diseases, paving the way for One Health surveillance (KPI: on-time realisation of milestones and deliverables WP3).

These three main **specific objectives** will have three transversal objectives:

1. to assess the digital readiness for setting up integrated surveillance systems at national and regional level; this also includes the identification of legal (incl. ethical) and technical barriers to using electronic health data and an inventory of good practices to overcome these barriers (KPI: on-time realisation of the deliverables of the core WPs (WP2,3 and 4)).
2. to strengthen capacity building, through continuous professional development at national level, on integrated surveillance, data science and digital public health (KPI: realisation of stakeholder analysis / systems mapping within the core WPs)
3. to pilot innovative approaches to integrated infectious disease surveillance and evaluate their public health value (KPI: at least two executed pilot per core WP).

1.3. Complementarity with other actions and innovation - European added value

Complementarity with other actions and innovation

Explain how the project builds on the results of past activities carried out in the field and describe its innovative aspects. Explain how the activities are complementary to other activities carried out by other organisations.

Illustrate the European dimension of the activities: trans-national dimension of the project; impact/interest for a number of EU countries; possibility to use the results in other countries, potential to develop mutual trust/cross-border cooperation among EU countries, etc.
Which countries will benefit from the project (directly and indirectly)? Where will the activities take place?

The UNITED4Surveillance consortium integrates expertise in public health, (clinical) microbiology, epidemiology, and data-science, over the three domains of One Health: public-, animal-, and environmental health. The consortium comprises top-level experts that are active in several related activities and projects, both at national and international levels. The consortium brings together strong complementary expertise across Europe. The project will take place in 24 European countries, all MS participating in the 7 work packages with different levels of engagement. The 24 MS will be the direct beneficiaries of the outcomes, and at the same time, this project will positively affect the rest of the European society indirectly. Most of the activities will take place in 17 piloting countries involved in core WP2, WP3 and WP4.

1. One Health European Joint Programme (One Health EJP)

One Health EJP is an ongoing collaboration of 44 partners across Europe, supported by funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 773830. The focus is on improving preparedness for foodborne zoonoses, antimicrobial resistance, emerging infectious disease threats, and integrative activities. The UNITED4Surveillance consortium has key people from the One Health EJP, including members of the project management team and joint project leaders. Key projects under One Health EJP that have paved the way for the further progress to be done during UNITED4Surveillance include:

Firstly, COHESIVE (One Health Structure in Europe) was a Joint Integrative Project of the One Health EJP, led by RIVM. The objective of COHESIVE was to work towards a world with less zoonotic disease burden through collaboration between animal, human, environmental and food safety fields. The website 'Guidelines for risk analysis of zoonoses' is one of the outputs developed by COHESIVE, in co-creation with several UNITED4Surveillance consortium members.

Secondly, MATRIX (Programme, MATRIX: Connecting dimensions in One-Health surveillance, 2021) (Connecting dimensions in One-Health surveillance) is an ongoing Joint Integrative Project of the One Health EJP, led by Statens Serum Institute (SSI), that aims to advance the implementation of One Health Surveillance (OHS) in practice, by building on existing resources, adding value to them, and creating synergies among the sectors. The previous One Health EJP integrative projects strengthened collaboration and communication at the end of the surveillance continuum, and now MATRIX strengthens OHS along the whole surveillance pathway. UNITED4Surveillance builds on the work done and enables specific piloting and sustainable implementation of integrated surveillance.

Third example is OH-Harmony-CAP (One Health Harmonisation of Protocols for the Detection of Foodborne Pathogens and AMR Determinants), and ongoing Joint Integrative Project of the One Health EJP, led by SSI, which collects information on One Health capabilities, capacities, and interoperability at both the National Reference Laboratory (NRL) and the primary diagnostic level. The quantitative description of current and best practices and the development of harmonised protocols are useful for UNITED4Surveillance.

In addition to these and three further Joint Integrative Projects, One Health EJP has a high number of specific Joint Research Projects, several of which have yielded relevant outcomes for the work planned in UNITED4Surveillance. The timing of UNITED4Surveillance is optimal for taking up the key outcomes from One Health EJP.

2. Lessons learnt from COVID-19 surveillance and other epidemics

Within a single framework contract between the European Commission and the EUHealth Support consortium the Postcovid Surveillance study was initiated February 2020. This study – jointly overseen by DG SANTE and ECDC – aims to gather Member States' experiences from implementing surveillance at national and European level during the response to the COVID-19 crisis and earlier public health emergencies over a six-month period. Study results intend to help define parameters for the creation of integrated (digital) surveillance systems. Deliverables of this study include a scoping review of the literature, organising interactive webinars, and conducting a survey. The (draft and) final results of these separate products will find their way into a discussion paper. This discussion paper is meant to feed into the definition and specification of tasks and subtasks, specific objectives, milestones, and deliverables of the Joint Action UNITED4Surveillance.

Preliminary results from both the literature scoping review and a first interactive webinar with Member States' competent authorities indicate that some of the implementation restrictions regarding surveillance systems pertain to data integration limitations (data flow between surveillance instances – for example between hospital – laboratory – regional health service – national institute, or for example between laboratories using different laboratory information systems). Other implementation restrictions seem to pertain to a spectrum of legal issues. These range from a different interpretation of GDPR legislation, which causes institutes to shy away from data sharing out of risk aversiveness, to the lack of the objective of surveillance *not* being mentioned in national legislation of a country which constitutes a lack of mandate to set up specific surveillance for that objective in that country. Lastly, both the literature and the webinar outcome seem to highlight the importance of scalable surveillance systems. In the case of COVID-19 many Member States experienced difficulties scaling up their efforts and systems to accommodate the flow of enormous amounts of surveillance data, under secure and privacy preserving requirements. But as infection rates decline these systems also need to be able to scale down.

The work in this Postcovid Surveillance study will be ongoing until at least August 2022, and the results – both draft and final - will be available to the members of the consortium United4Surveillance for the benefit of this Joint Action application.

3. International Association of National Public Health Institutes (IANPHI)

The IANPH (Institutes, 2022) collectively builds public health capacity and capabilities by connecting, developing, and strengthening national public health institutes worldwide. IANPHI is leading on a Bill and Melinda Gates Foundation project exploring the establishment of country level integrated disease surveillance systems and the role of NPHI's. This will support the WHO Hub in Berlin, Gates Foundation and our NPHI members to understand the needs, challenges, and success of integrated disease surveillance from an NPHI perspective.

Innovative qualities of UNITED4Surveillance

Building on these past activities, UNITED4Surveillance brings the following innovative qualities to Europe.

1. With the key experts of the MSs in the ministries and institutes across the fields with relevance to One Health: public health, animal health and environmental health, within Europe we combine the knowledge and facilitate knowledge sharing and implementation thereof
2. Pilot sites have been selected where promising approaches will be piloted, followed by evaluation and interactive learning.

With the experience of the COVID-19 pandemic in the MSs this is the perfect opportunity to have a needs and gaps analysis to prepare for future emerging health threats.

2. QUALITY

2.1. Concept and methodology

Outline the approach and methodology behind the project. Explain why they are the most suitable for achieving the project's objectives.

Our consortium will build a roadmap for integrated surveillance at Member State and Union level, by performing gaps and needs analysis including technological, legal, ethical, capacity, digital readiness, and integrating (inter)national polices, identifying and piloting promising approaches in consultation with the 24 EU member states (Figure 1). We will disseminate best practices and share experiences and knowledge from the pilots through workshops, training, meetings, site-visits, and communication channels such as website, leaflets, presentations, letters, and reports.

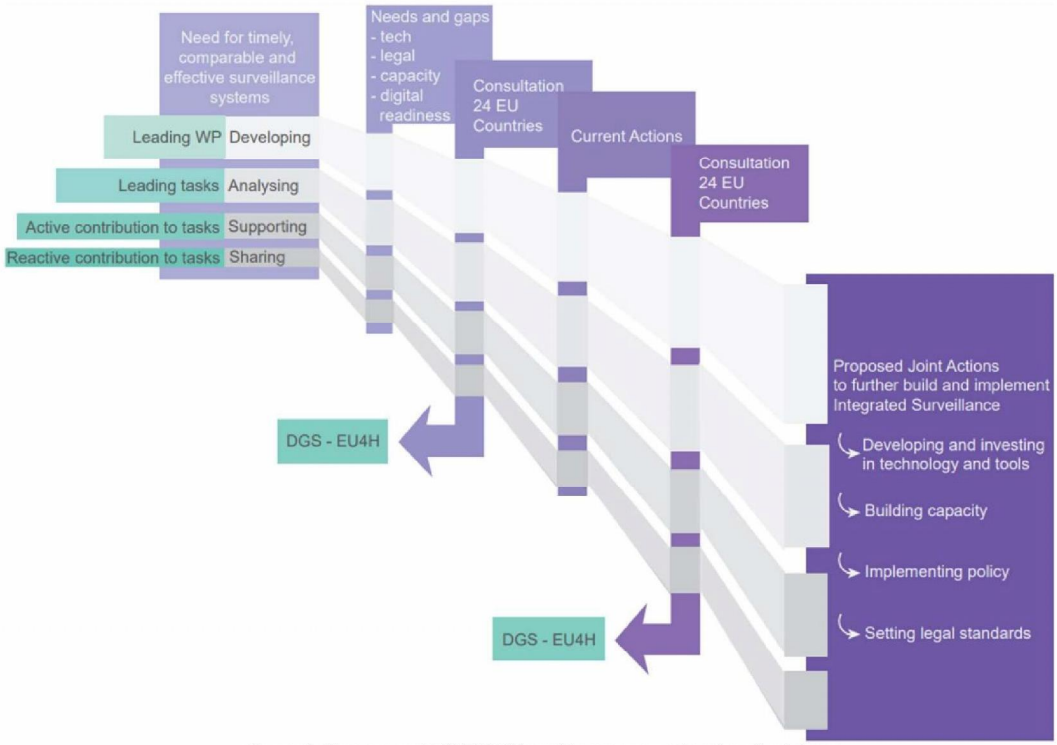

Figure 1. Summary of UNITED4Surveillance concept and methodology

2.2 Consortium set-up

Consortium cooperation and division of roles (if applicable)

Describe the participants (Beneficiaries, Affiliated Entities and Associated Partners, if any) and explain how they will work together to implement the project. How will they bring together the necessary expertise? How will they complement each other?
In what way does each of the participants contribute to the project? Show that each has a valid role and adequate resources to fulfil that role.
Note: *When building your consortium you should think of organisations that can help you reach objectives and solve problems.*

Our consortium integrates expertise in public health, (clinical) microbiology, epidemiology, and data-science, over the domains of public health, as well as one Health i.e., including animal health and environmental health, thereby creating a strong network in integrated surveillance for infectious disease prevention and control. It consists of 24 Public Health Institutes and Ministries of Health, representing 24 countries in Europe (23 EU MS and Norway).
The UNITED4Surveillance consortium is composed as follows: the consortium leader National Institute for Public Health and the Environment (RIVM) collaborates with 19 beneficiaries in the European Union, together they have 10 affiliated entities to support them in piloting and surveillance work. To further strengthen the consortium, member states that are currently not in the capacity to be actively involved, are involved as associated partners (Table 1, Figure 2).
All the partners will work closely together to prepare for the implementation of surveillance systems to better prepare for future health threats. In the table below their expertise and contribution to UNITED4Surveillance are summarized.

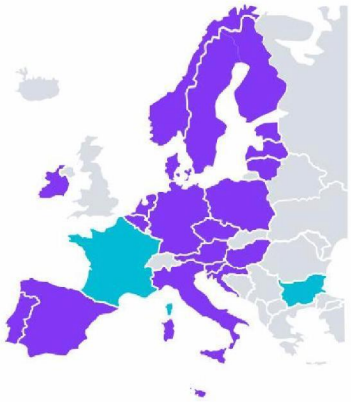

Figure 2. Map of the MSs that are participating in UNITED4Surveillance. In purple are the MS with beneficiaries and in turquoise the MSs with associated partner organisations

Table 1 (below) presents the Consortium composition of UNITED4surveillance. Roles of the participants are beneficiary (*BEN*), affiliated entity (*AE*), associated partner (*AP*)

Member states and Institutions (a-z)	Expertise and contribution to UNITED4Surveillance
Austria Federal Ministry of Social Affairs, Health, Care and Consumer Protection (BMSGPK) *AP* Federal Ministry Republic of Austria Social Affairs, Health, Care and Consumer Protection	The Federal Ministry of Social Affairs, Health, Care and Consumer Protection oversees and directs the Austrian health system and is in charge of its legislative framework. In addition to human health, it also unites responsibilities regarding animal health. Especially important to this joint action, it implemented a task force designated specifically to coping with the ongoing Covid-19 pandemic. Further, the Federal Ministry of Social Affairs, Health, Care and Consumer Protection runs the national epidemic reporting system EMS. In this regard, both the medical and technical staff of BMSGPK can contribute to this joint action with the learnings stemming from the Covid-19 pandemic, and many years of previous experience in running such system. In turn, as the epidemic reporting system EMS will be developed further, we will be able to directly consider the best practices and learnings gathered in fellow EU member states when developing future versions and updates for the epidemic reporting system and the processes surrounding it.
Austria AGES *BEN* AGES	AGES is a government owned agency attached to the Federal Ministry of Labour, Social Affairs, Health and Consumer Protection and to the Federal Ministry of Sustainability and Tourism, formed upon the Health and Food Safety Act as a private company with limited liability, with public service mission. The business of AGES is to promote a holistic approach in food security, food safety, animal health and public health issues in Austria by integrating different disciplines along the human food chain. AGES executes federal state tasks and conducts research in the areas of agriculture, control of food and feed safety and infectious diseases, veterinary medicine, radiation protection, medical devices, and pharmaceuticals. AGES is classified as non-profit research organisation. National Reference Laboratories according to Regulation No. (EC) 882/2004, are conducted as reference centres for infectious diseases. AGES operates several federal laboratories and is responsible for integrated risk assessment.
Belgium Sciensano *BEN* sciensano	Sciensano, the National Institute for Health, is entitled to deploy the necessary activities to provide information and evidence in support to health authorities for the decision-making process, and to inform other actors of the public health response. Sciensano's strength and uniqueness lie within the holistic and multidisciplinary approach to health. More particularly we focus on the close and indissoluble interconnection between human and animal health and their environment (the "One health" concept). By combining different research perspectives within this framework, Sciensano contributes in its unique way to everybody's health. Sciensano is performing the epidemiological surveillance, has expertise in microbiological surveillance by housing several national reference centers and integrating the technological improvement allowing the genomic characterization of clinical pathogens. Sciensano has also a central role by coordinating the network of national reference centers and the unit in charge of the development of the electronic health data gathering and storage system as mentioned in the national eHealth plan. Sciensano will be implicated in the Joint Action Integrated surveillance by the following different aspects: Actively in WP4 (One health), in particular for the foodborne diseases and zoonotic influenza (sub-tasks 1, 2 and 3). Passively in WP2 (outbreak detection) and WP3 (hospital surveillance), as we have interest regarding syndromic surveillance, from the level of GP visit to Intensive Care Unit and hospitalized patients; not only for ILI (Influenza Like Illness) and SARI (Severa Acute Respiratory Infections) but also more broadly.

Croatia Croatian Institute of Public Health (CIPH) *BEN* HRVATSKI ZAVOD ZA JAVNO ZDRAVSTVO	The CIPH is a central public health institute in the Republic of Croatia. CIPH deals with public health, health promotion and education, prevention of chronic noncommunicable diseases, prevention of infectious diseases, microbiology, environmental health, school medicine, mental health care, and addiction prevention. CIPH's main tasks are to plan, promote and implement measures for the enhancement of population health and reduction of health problems. CIPH provides consultation to the Ministry of Health on all matters pertinent to public health policy and health priorities. CIPH proposes national epidemic containment and mitigation measures, supervises compulsory immunisations and oversees the work of the network of public health institutes. The Epidemiology Service of the Croatian Institute of Public Health and epidemiology services at county level are competent and responsible for data collection and analysis, communicable diseases surveillance, assessing and managing the risk of potential/identified diseases alerts/events; determining and implementing measures required for the public health protection; implementing of diagnostic microbiology services, including some reference laboratories such as WHO National influenza center and for influenza and arboviruses, and for risk communication. CIPH's Division for Epidemiology of Communicable Diseases carries out epidemiological surveillance and proposes, organizes and undertakes preventive and counter-epidemic measures. It also plays a crucial role in planning, supervision and evaluation of immunization and proposes national antiepidemic measures, supervises compulsory immunisations and oversees the work of the network of public health institutes. The Department of Health Informatics and Biostatistics at Croatian Institute of Public Health is actively working with public health data in Croatia with data collection, data harmonization, data analysis as well as data interpretation and public health policy making in Croatia. CIPH had a work package leader role in three Joint Action projects so far and currently leads WP in two ongoing Joint Action initiatives. CIPH will lead WP Evaluation and actively participate in WP2, WP3 and WP4.
Croatia Ministry of Health (MoA) *AE*	Veterinary and Food Safety Directorate will join the project as an affiliated partner providing information on the current veterinary system, all stakeholders involved, their roles, responsibilities, and relations in a One Health context.
Cyprus Medical and Public Health Services, Department of the Ministry of Health (MPHS) *AP* Republic of Cyprus Ministry of Health	The Medical and Public Health Services is responsible for monitoring the health of the population, the factors that affect it, detecting and identifying the health needs of different groups of the population, as well as for the control of infectious diseases and the treatment of emergencies and unforeseen special conditions. The Epidemiological Surveillance and Control of Infectious Diseases Unit within the Medical and Public Health Services is the national centre for studying episodes and trends of communicable diseases in Cyprus with a view to prevention and control. The main objectives, among others of the unit is the laboratory and epidemiological surveillance, investigation, management, and control of incidents of communicable diseases, accurate and timely dissemination of information, epidemiological research, advice to health professionals and to the public. The MoH of Cyprus will be involved as associated partner in UNITED4Surveillance. With this role they will actively receive information on the JA to improve surveillance systems.
Czech Republic The National Institute of Public Health (SZU) *BEN* SZÚ	SZU has already cooperated on previously implemented or ongoing JAs, the aim of which was to harmonize approaches to addressing defined public health issues. SZU is to participate in the three work packages. Cooperation with the Ministry of Health of the Czech Republic (MoH) and Institute of Health Information and Statistics of the Czech Republic (UZIS) will therefore be necessary for successful management of JA, especially in using electronic health data for surveillance of infectious diseases and crisis preparedness and integration of clinical or laboratory data into surveillance systems. In the case of tasks related to digitization, the statutory representative of the SZU (director) will directly contact the director (or management) of the organization UZIS, which deals with digitization of health care data or eventually discuss the requirements for adjustment in the Information System of Infectious Diseases (ISIN) with the ISIN Board. The ISIN Board is represented by the Chief medical officer at the MoH, director of SZU and director of UZIS.
Denmark Statens Serum Institut (SSI) *BEN* STATENS SERUM INSTITUT	SSI is a national public health institute under the auspices of the Danish Ministry of Health and is responsible for infectious disease preparedness in Denmark. SSI conducts surveillance and research in epidemiology, microbiology, immunology, biotechnology, biological threats and control of congenital disorders. SSI has established digital preparedness over the past ten years, based on real-time national electronic laboratory reporting (Danish Microbiology Database) and leads a large national WGS capacity in collaboration with clinical microbiology departments. SSI is also a One Health institute: together with University of Copenhagen, SSI has veterinary preparedness functions.

	Within this Joint Action, SSI leads WP2 and task 1 within the same WP. This work is performed by the Data Integration and Analysis department, which is responsible for the digital surveillance systems within the Infectious Disease Preparedness division. SSI is also actively contributing to WP2 task 2. Moreover, SSI leads the zoonotic influenza task and co-leads the foodborne pathogen task within WP4. Pilots are conducted as collaboration across different departments under Infectious Disease Preparedness.
Denmark University of Copenhagen (UCPH) *AE*	The University of Copenhagen is part of the Danish Veterinary Consortium (DK-VET) together with SSI. DK-VET is responsible for the performance of the veterinary public service agreement under the Danish Ministry of Environment and Food. The consortium provides research, consultancy services, diagnosis, and laboratory analyses in connection with the monitoring and control of approximately 80 different livestock diseases.
Estonia Health Board (TA) *BEN*	Zoonoses are monitored in Estonia through arrangements for human health and for animal health. Their diagnosis, surveillance, prevention, and control require a high degree of interagency and interpectoral collaboration, notably between human health and agriculture institutions. Surveillance of zoonoses in the human population is undertaken by the Health Board. Ministry of Social Affairs of Estonia has designated the Health Board as the competent authority responsible for surveillance, prevention, and control of communicable diseases, risk analysis in epidemiology. The Health Board consists of Central Authority, 4 regional departments and each regional department has their county office (15). Surveillance of communicable diseases is guided by the Public Health Act (1995, 2004), Communicable Diseases Prevention and Control Act (2003) and furthermore by a number of other legal acts and regulations, as well as its own Statutes. There is a surveillance system in place, where clinicians, mainly family physicians and laboratories are diagnosing and reporting cases of communicable diseases including zoonoses to the Communicable disease Registry.
Finland The Finnish Institute for Health and Welfare (THL) *BEN*	THL is a governmental research institute and a public health agency under the Finnish Ministry of Social Affairs and Health. The main mission of THL is to promote health and welfare in Finland and to provide reliable, evidence-based information for the government, decision-makers and other actors in the social welfare and health sectors. The Department of Health Security at THL is in charge of preventing, combating and monitoring infection and environmental threats on a national level. The Department maintains preparedness to diagnose and control infectious diseases, and it directs, supports, and develops national monitoring and surveillance systems for infectious diseases and the national vaccination programme. THL is part of international networks (ECDC, WHO), and it serves as national IHR and EWRS focal point. THL has participated in several Joint Actions and is currently coordinating the SHARP Joint Action. In UNITED4Surveillance, THL will organize and coordinate the Work Package 3 on Surveillance of severe infectious diseases that lead to hospitalization. THL will also participate as an active piloting Member State in two tasks of the Work Package 2 on Outbreak detection.
France Santé publique France (SPF) *AP*	Santé publique France was created on 27 April 2016 as the national public health agency. Santé publique France serves the population in all aspects of public health based on scientific knowledge, data and information. It supports the relevant authorities and society in improving the health and well-being of the population. Santé publique France has a population-based approach with the objective of reducing social health inequalities in all areas of public health: infectious diseases, non-communicable diseases, environmental health, and occupational health. The agency safeguards public health through its works in epidemiological monitoring, surveillance, alert, and response; and through its scientific expertise in healthcare that allows it to develop evidence-based interventions for prevention. Santé publique France will act as associate partner in UNITED4Surveillance.
Germany Robert Koch Institute (RKI) *BEN*	The RKI is an institute within the portfolio of the Federal Ministry of Health and is a leading governmental institution in the field of biomedicine and public health with a focus on infectious diseases as well as in the analysis of long-term public health trends such as non-communicable diseases and the overall health status of the population in Germany. RKI collects and analyses data on numerous infectious diseases throughout Germany. RKI is in charge of the implementation of the statutory surveillance system as well as variety of other surveillance systems for a variety of pathogens, syndromes and events and their further development as well as the evaluation and digitalization of those surveillance systems. National reference centers and consultant laboratories for various bacterial and viral diseases at RKI serve as central contact points for the identification and protection against diseases. The RKI plays a central advisory role for the federal government, state and local health authorities and medical professionals. The RKI also functions as an important interface in numerous international co-operative projects. The RKI plays a pivotal role in UNITED4Surveillance and co-leads WP2 on outbreak detection.

Hungary The National Public Health Center (NPHC) *BEN*	The NPHC functions as a central budgetary authority being a central agency under the direction of the Minister responsible for public health. NPHC has national competence within its scope of activities. In order to fulfil the public health goals set out in the legislation, NPHC performs managing, coordinating and supervising activities related to public health (especially environmental and settlement health, food and nutritional health, child and young health, radio hygiene and chemical safety), epidemiology, health development (health protection, health education, health promotion), and public health administration, as well as supervision of healthcare provision; furthermore on the basis of delegated competence NPHC carries out tasks and duties relating to occupational health (workplace hygiene, occupational medicine), exercises and executes private law rights and duties in the field of occupational health.
Ireland Health Protection Surveillance Centre (HPSC) *BEN*	HPSC is the Irish national agency with responsibility for infectious disease surveillance. It is the Irish representative on European disease networks (e.g., HIV/STI and blood borne viruses network, Food, and waterborne disease network) that are coordinated by ECDC, and acts as Ireland's Coordinating Competent Body with ECDC. HPSC is the EWRS National Contact Point and IHR National Focal Point for Ireland and has strong links with the World Health Organisation and sister agencies in other EU Member States and the United Kingdom. Core areas of work include the epidemiological investigations of infectious disease outbreaks and other health threats, and advanced epidemiological analyses for operational research projects. As a reactive participant in the United4Surveillance Joint Action, HPSC proposes to engage with the project and learn about best practice and emerging methods and tools for infectious disease surveillance with a view to assessing their potential to inform our surveillance practice in the future.
Italy Istituto Superiore di Sanità (ISS) *BEN*	ISS is the main Italian research institute in the biomedical and public health field, as well as the technical and scientific body of the Italian National Health Service (Servizio Sanitario Nazionale, SSN). ISS cooperates with the Ministry of Health, the Italian Regions and the whole SSN, to accomplish health policies based on scientific evidence, in the field of prevention and health promotion to the fight against infectious diseases, cancer, chronic and neurodegenerative diseases. ISS has managed national, international, and European research projects for decades, both as partner and leader. ISS also participates in the European Research Infrastructure ELIXIR (European Life-science Infrastructure for Biological Information) which deals with infrastructures for high-intensity data analysis. By hosting departments focussed on human, animal, and environmental health the ISS has a strong vocation towards a One Health approach to Health. The ISS hosts national infectious disease surveillances for priority pathogens for public health ("special surveillance systems") and national reference laboratories for viral, bacterial as well as parasitic diseases with examples of genomic surveillance (e.g., the ICoGen project for SARS-Co-2 and the genomic surveillance of listeriosis and STEC infections in the IRIDA-ARIES platform) and integrated One Health surveillance (for example the surveillance of West Nile Virus). The role of ISS in the United4Surveillance Joint Action is to participate in all Work Package with dedicated experts and co-lead three tasks within two Work Packages.
Italy Mario Negri Institute for Pharmacological Research (IRFMN) *AE*	The Mario Negri Institute for Pharmacological Research (Istituto di Ricerche Farmacologiche Mario Negri, IRFMN, www.marionegri.it) is a private, not-for-profit biomedical research organization. It was established in Milan in 1961 and later (1984) opened research units in Bergamo. The Institute is committed to health advocacy and human life. The Institute's research programs span from the molecular level to the whole human being. The main research headings are the fight against cancer, nervous system and mental illnesses, cardiovascular and kidney diseases, rare diseases, the toxic effects of environmental contaminants, mother and child's health. The Institute is also involved in research on pain relief and drug addiction. Parallel to its biomedical investigations, IRFMN is dedicated to graduate and doctorate training, through Ph.D. and specialization programs. About 500 among the researchers and support staff are active at the Milan headquarters, and many hundreds in the other locations. IRFMN has been formally recognized by the Italian Ministry of Health as IRCCS (Istituto di Ricovero e Cura a Carattere Scientifico - Scientific Institute for Research, Hospitalization and Health Care) in 2013, with particular reference to pharmacological studies related to neurological, rare, environmental and renal diseases. IRFMN is specifically represented in this action by the Department of Public Health, and in particular by the Laboratory of Clinical Data Science headed by Dr. Stefano Finazzi.
Italy Ministry of health (MoH) *AE*	MoH - Italian Ministry of Health was established with the law of 13 March 1958 in order to implement the provisions of the Italian Constitution which, in art. 32, states: "The Republic protects health as a fundamental right of the individual and in the interest of the community and guarantees free medical care to the indigent. Nobody can be obliged to a specific health treatment except by law. The law can in no case violate the limits imposed. respect for the human person ". The MoH, aims to protect this constitutional right to health, by exercising the functions pertaining to the Italian State in the following matters: protection of human health, coordination of the national health system, veterinary health, health

Ministero della Salute	protection in the workplace, food hygiene and safety. In the general framework of health protection and promotion described above, the objectives that the Italian Ministry of Health pursues institutionally can be summarized in four points: 1) guarantee all citizens the fairness of the system, quality, efficiency and transparency also with correct and adequate communication, 2) highlight inequalities and inequities and promote corrective and improvement actions, 3) collaborate with the Regions in order to evaluate the health realities, correct them and improve them, 4) trace the lines of innovation and change and face the states of emergency that threaten public health. The collaboration of MoH in this Joint Action will guarantee accordance / compliance / alignment to the national strategic objectives and laws on infectious diseases surveillance. ISS will be supported by MoH in institutional communications with Regions and Autonomous Province. Also, technical contribution will be provided by MoH, by involving skilled personnel in the project.
Italy Tuscany Regional Health Agency (ARS) *AE* ARS TOSCANA agenzia regionale di sanità	ARS is a public scientific entity that supports regional Government and Council in their activities regarding healthcare policies and health services organization and management, providing evidence-based knowledge. ARS carries out their scientific activities with their two observatories - on Quality and equity and on Epidemiology. ARS provides the Tuscany Region with a wide series of data analysis and statistics to evaluate the population health status, the quality of outcomes of regional healthcare services, as well as the changes occurring in social and health domains. We carry out epidemiological research, evaluate health and social interventions, promote health, and implement vigilance and safety policies. ARS agency's expertise is also focused in producing indicators to analyse population's health needs, to define population's health indicators and to monitor main risk factors. Starting from the analysis of the regional health system administrative data, our work is particularly aimed at developing tools to uncover differences and existing inequalities regarding both population's health and easy access to healthcare resources. ARS is currently involved with ISS in the national surveillance system of antibiotic resistance and with Ministry of Health on enterobacteria resistant to carbapenems.
Latvia The Centre for Disease Prevention and Control (CDPC) *BEN* Slimību profilakses un kontroles centrs	CDPC is an institution of direct administration under subordination of the Minister for Health. The purpose of the operation of the CDPC is to implement the public health policy in the State in sub-areas of epidemiological safety and disease prevention and the health care policy in the sub-area of health care quality, as well as to ensure the implementation and coordination of the health promotion policy. The CDPC shall have the following functions: to develop proposals based on scientific evidence and corresponding to the best international practice for health care and public health policy-making, and to submit proposals regarding the priorities of such policy; to carry out surveillance of noncommunicable diseases, to organize disease prevention and health promotion activities, as well as to assess the factors which may affect public health.
Lithuania National Public Health Centre under the Ministry of Health (NVSC) *BEN* NVSC	NVSC is an institution that implements the state policy of public health care and consumer rights protection sectors, evaluates, and controls the potential risks of the services, products, environmental factors, and communicable diseases. NVSC has a central unit and 10 departments located in 10 counties of Lithuania and serve all municipalities (60) in Lithuania. The main activities related to communicable diseases management are as follows: 1) communicable diseases surveillance by collecting epidemiological data from - personal health care institutions and other data / information sources, analysing, summarizing and providing data to stakeholders at national and international level; 2) - epidemiological investigation of communicable diseases cases, identification and management of communicable diseases outbreaks; 3) organization and coordination of immunoprophylaxis activities in determining and evaluating the vaccinations coverage at regional and national level; 4) drawing up public health emergency preparedness and management plans; 5) medical quarantine control at points of entries. NVSC-LT lead WP7, co-lead WP6 and participate as active participating partner in WP2, WP4 and WP5.
Malta Health Promotion and Disease Prevention Unit, Ministry of Health (MFH) *BEN*	The Infectious Disease Prevention and Control Unit (IDCU) within the Health Promotion and Disease Prevention Directorate is the national surveillance centre for communicable diseases in Malta. The main aim of the unit is "to study episodes and trends of disease with a view to prevention and control." The main objectives of the IDCU are: - To undertake surveillance of communicable diseases in Malta. - To improve reporting of notifiable diseases by creating methods that would encourage early notification. - To disseminate relevant, accurate and timely information. - To undertake responsibility for the control of infection through timely investigation and management of incidents of communicable diseases. - To undertake epidemiological research. - To provide advice on communicable diseases to health professionals and the public. - To contribute to training in communicable disease control.

Norway Norwegian Veterinary Institute (NVI) *AE*	The NVI is a public-sector research institute, under the ownership of the Ministry of Agriculture and Food, in the areas of terrestrial animal - and fish health, welfare and food safety. Carries also out tasks for the Ministry of Industry and Fisheries. NVI's most important function, based on UN Sustainability Goals, is preparedness and development of expertise related to preventing and reducing threats to the health of fish, animals, and humans. NVI is a national and an international reference laboratory, involved in a wide range of international collaborative activities and we work for and towards sustainable agriculture and bioeconomy using a ONE HEALTH approach to healthy food, animals, humans and the environment. Our laboratories are equipped with state-of-the-art equipment to handle all types of biological agents at the traditional and molecular microbiology level (up to BSL3), as well as chemical analysis of bio-toxins and other molecules. Advance resources in modern epidemiological tracing and bioinformatics are readily available. In the present Joint Action UNITED4Surveillance, the NVI will participate as an affiliated entity, collaborating closely with the project team to enhance the surveillance of zoonotic influenza in swine. This will be achieved through risk-based sampling, sample analysis, interpretation, and reporting, and improving and harmonizing laboratory methods.
Norway Directorate of Health (HDIR) *AE*	The HDIR has a mandate to improve the health of the citizens and the community through targeted activities across services, sectors and administrative levels. The Directorate shall do so by virtue of its role as an executive agency, as a regulatory authority and as an implementing authority in areas of health policy. The directorate is an executive agency and professional authority under the Ministry of Health and Care Services. In the UNITED4Surveillance JA, HDIR will be affiliated entity.
Norway The Norwegian Institute of Public Health (NIPH) *BEN*	The NIPH is a government agency under the Ministry of Health and Care Services. It has three main tasks: 1. provide knowledge, 2. emergency preparedness and 3. infrastructure to protect life and improve public health. In this way NIPH contributes to better health, both in Norway and globally. The Division of Infection Control is working to prevent infectious diseases and reduce damage to health. Key activities are emergency preparedness, investigations, consultancy, laboratory services and research, both at national and international levels. According to the Infectious Disease Act, NIPH is responsible for infectious disease surveillance in Norway where it manages several national registries covering infectious diseases, vaccinations, and antimicrobial resistance, and reports internationally, mainly to WHO and ECDC. Experts in different relevant fields from Division of Infection Control will participate in this United4Surveillance Joint Action, in close collaboration with our affiliated entities. In WP2 we are actively participating in task one, piloting integrated surveillance for STEC, with experts in data management, molecular biology and WGS. In WP3 we're actively participating in task two and piloting the establishment of a surveillance system for integrated clinical information on hospitalized with severe infectious disease with microbiological data. And in WP4 Norway is co-leading the WP together with the Netherlands and is also co-task lead and active participants (active pilot) in the task on zoonotic influenza.
Poland National Institute of Public Health – National Institute of Hygiene – National Research Institute (NIPH NIH – NRI) *BEN*	NIPH NIH - NRI serves as the national coordination centre for national public health surveillance of infectious diseases and national public health microbiology in Poland. The Institute brings together national experts from various fields of public health. Experts from NIPH NIH - NRI are providing technical and scientific advice for all public health authorities in Poland (the Ministry of Health, Chief Sanitary Inspectorate (CSI), etc.) and are assisting State Sanitary Inspection in their epidemiological surveillance activities. The Institute has been nominated by the Ministry of Health of Poland to act as the Coordinating Competent Body (CCB) in Poland for cooperation with the ECDC. Experts from NIPH NIH - NRI designed and successfully deployed several electronic systems and modules facilitating sharing of epidemiological data between local / regional inspections and central level (NIPH NIH-NRI). Today, these systems form components of the national epidemiological data flow architecture, ensuring timely reporting of epidemiological data to the ECDC and other international organisations. Since the beginning of the COVID pandemic the Institute has been collaborating closely with the ECDC-nominated WGS laboratory (Eurofins) as well as selected WGS laboratories in Poland. In total, 65% of SARS-CoV-2 sequences deposited in GISAID EpiCov to date from Poland have been processed by a network coordinated by the Institute.
Portugal Directorate-General of Health (DGS)	The Directorate-General of Health (DGS) is a public body of the Ministry of Health that positions itself as a reference for all those who think and operate in the healthcare field. Its main areas of activity are: – To issue clinical and organizational guidelines; – To guide and develop programmes of: – Public health; – Improved healthcare; – Total clinical and organizational quality management;

	– To coordinate and assure national epidemiological surveillance; – To prepare and publish health statistics; – To support the activities of the National Public Health Officer; – To coordinate the Public Health Emergencies System; – To monitor the National Health Service Contact Centre; – To prepare and assure the execution of the National Health Plan; – To coordinate the European and international relations of the Ministry of Health; – To regulate and monitor the compliance with safety and quality standards of blood, tissues and organs. DGS is focused on citizens' interests, in cooperation with other public bodies, particularly those accountable to the Ministry of Health.
Romania The National Institute of Public Health (INSP) *AP*	The INSP is a public institution existing since 2009, having juridical personality and being subordinated to the Ministry of Health. Some of its important aims are the prevention, surveillance and control of communicable diseases, health monitoring, health promotion, development of public health regulations, ensuring public health management, and development of specific public health services. In order to achieve the above-mentioned aims, INSP exercises general duties. Among these, some of the most important are: 1) to ensure the technical and methodological guidance of the public health network; 2) participates in developing strategies and policies in particular areas of competence; 3) oversees the state of population health, communicable and non-communicable diseases, to identify community health problems; 4) ensure the epidemiological surveillance system, as well as the early warning and response system, and participate in the exchange of information within the European epidemiological surveillance network on communicable diseases; 5) participates in the conduct of field epidemiological investigations, on its own initiative, at the request of the Ministry of Health or of local public health authorities; 6) collects, analyzes and disseminates statistical data on public health; 7) ensures the existence of an integrated information system for public health management. In INSP structure there are 3 national centers and 6 regional ones, with no juridical personality. One of the 3 national centers is the National Centre for Surveillance and Control of Communicable Diseases, further named NCSCCD, having as main objective the prevention, surveillance and control of communicable diseases. The NCSCCD is the National Coordinating Competence Body for Communicable Diseases in relation with ECDC. The INSP will have a reactive role in UNITED4Surveillance and is informed on the discussions and progress of the JA.
Slovenia Slovenian National Institute of Public Health (NIJZ) *BEN*	NIJZ is the central Slovenia institution for public health practice, research, and education. Its academic staff works on various tasks covering the areas of epidemiology of communicable and non-communicable diseases, health promotion, health protection, health system research and national coordination of preventive programmes in primary health care. The main function of NIJZ is to provide research in the field of health, protect and increase the level of health of the population by raising the awareness of population and carrying out other preventive measures. NIJZ is organised as one central unit with nine regional offices and employs over 600 staff members. NIJZ has successfully coordinated and participated in various international projects. NIJZ has also taken on the role of coordinator in 5 prominent EU-funded JAs: European Partnership for Action Against Cancer (EPAAC), Cross-border Patients' Registries Initiative (PARENT), Development of a European Guide on Quality Improvement in Comprehensive Cancer Control (CanCon), iPAAC and Best ReMaP. Involved in this JA in various WPs and has an active role in subtask 2.4 and a piloting role in WP3 on sentinel hospital systems.
Slovenia The National Laboratory of Health, Environment and Food (NLZOH) *AE*	NLZOH was established in 2013 and today represents the central and largest Slovenian public health laboratory that performs research activities in the field of public health, microbiological activities, environmental protection, diagnostic and chemical and micro-biological analyses of different types of samples. NLZOH is organized in 5 centres and has joint corporate services. These organisational units are Centre for Medical Microbiology, Centre for Environment and Health, Centre for Microbiological Analysis of Food, Water and other Environmental Samples, Centre for Chemical Analysis of Food, Water and Other Environmental Samples, and Official Control Laboratory. NLZOH provides services for the needs of the state, especially for the monitoring public health factors. With other Slovene and foreign institute's, NLZOH participates in national and international research, applicative, and consulting projects. It operates on 11 locations across Slovenia with more than 800 employees; 88 employees are authors or co-authors in 2198 bibliographic units. In NLZOH, we collaborate with more than 8500 partners annually and have more than 680 accredited methods. Will as affiliated entity support NIJZ with subtask 2.4 in WP2.
Slovenia University Medical Centre Ljubljana (UKCLJ) *AE*	UKCLJ is the leading public tertiary medical centre in Slovenia and ranked among the largest ones in Central Europe. High quality and safe health care is provided by the application of clinical care pathways and upgraded with the acquisition of numerous international accreditations and business excellence awards. Finally, under and postgraduate education of all medicine profiles is carried out in UMCL as well. Educational

	processes are associated either with Medical Faculty of Ljubljana University and other local medical schools or medical faculties and various relative medical associations from abroad. UMCL has been participating in many FP6, FP7, H2020 and other EU co-funded research projects. UKCLJ will support NIJZ as affiliated entity in UNITED4Surveillance in piloting for sentinel hospital systems.
Spain Regional Ministry of Health and Families of Andalusia (CSFJA) *BEN* JUNTA DE ANDALUCIA CONSEJERÍA DE SALUD	CSFA is fully responsible for public health, health policy, planning and regulation, healthcare management and provision in Andalusia, as well as the leadership of the Andalusian Public Healthcare System (APHS). The APHS, with more than 100,000 employees, is in charge of the provision of healthcare to all the population of Andalusia, one of the largest regions in Europe, with 8.41 million inhabitants. The healthcare network includes two levels of care: primary healthcare, the gatekeeper, with more than 1,500 primary centres spread throughout the territory and grouped in Health Districts; and specialised care, with 49 public hospitals in order to attend patients that require hospitalization; a bio-bank network as well as a specific public enterprise for emergency care. CSFA is responsible for the formulation an implementation of the Andalusian Public Health Surveillance and Response Strategy 2021-2026, whose general objective is to lead the Andalusian population to optimal level of health through health surveillance. Most actively involved in WP4 as piloting site for One Health.
Spain Ministry of Health (MdS) *AP* MINISTERIO DE SANIDAD	The ministry of health is in UNITED4Surveillance an associated partner.
Spain Instituto de Salud Carlos III (ISCIII) *AP* Instituto de Salud Carlos III	The Institute of Health Carlos III (ISCIII) is the national and international reference in biomedical research and public health in Spain. It is the Public Research Organization of the Government responsible for funding and executing national biomedical research. It depends on the Ministry of Science, Innovation and Universities, although it is also attached to the Ministry of Health, Consumption and Social Welfare. ISCIII was born in 1986 with the General Health Law and, in addition to promoting and coordinating biomedical research, it offers scientific and health technical services to the National Health System, and has training programs in public health, health management and scientific management. The coverage of scientific and technical services is one of the most recognizable tasks in the ISCIII. It is carried out through the epidemiological surveillance network, the reference laboratory network and the biological alert laboratory network and allows the identification and characterization of infectious agents and the determination of environmental pollutants, among other issues. When there is a potential public health hazard linked to an infectious agent or to a pathological outbreak, the ISCIII manages the analysis of samples, for example, working in coordination and collaboration with the autonomous communities on epidemiological surveillance issues. In UNITED4Surveillance ISCIII will have a role as associated partner and is involved in the piloting of WP4 of Spain.
Sweden Public Health Agency of Sweden (FOHM) *BEN* Folkhälsomyndigheten PUBLIC HEALTH AGENCY OF SWEDEN	The Public Health Agency of Sweden has a national responsibility for public health issues and works to ensure good public health. The agency also works to ensure that the population is protected against communicable diseases and other health threats. Our vision statement: a public health that strengthens the positive development of society. With this JA we are involved to offer our expertise, join discussions and with the lessons learned from this JA we want to strengthen our national health care.
The Netherlands National Institute for Public Health and the Environment (RIVM) *BEN* Rijksinstituut voor Volksgezondheid en Milieu *Ministerie van Volksgezondheid, Welzijn en Sport*	The RIVM's Centre for Infectious Disease control (RIVM-CIb) coordinates the control of infectious diseases, including effective prevention, close vigilance, and quick response in the event of an outbreak, and contributes to reducing health problems related to infectious diseases. The mission of the RIVM-CIb is the detection, control, and prevention of infectious diseases for the benefit of public health in the Netherlands. These activities are supported by high-level expertise and experience in epidemiology, microbiology/virology, genomics, and data science. This is supported by a well-organized structure of laboratory capacity, technical/CT-support, legal advice, etc. In addition, the RIVM-CIb formulates the desired prevention and control policy and gives advice to the government and professionals in practice. To this end, it conducts its own scientific research. The RIVM-CIb also contributes to the development of expertise, quality, and uniformity of infectious disease control. It ensures clear and reliable communication to the public and professionals and effective international cooperation. RIVM-CIb coordinates this Joint

	Action and is involved in multiple work packages as WP leader (WP1, WP4 and WP6), task leader (WP2) and active participating partner (WP3, WP5 and WP7).
The Netherlands Wageningen Bioveterinary Research (WBVR) *AE* WAGENINGEN UNIVERSITY & RESEARCH	WBVR is the Dutch national reference institute for notifiable animal diseases. We collaborate with public and private partners to safeguard animal and public health through prevention, eradication, and control of animal diseases, including zoonoses. Within this JA we aim to participate in the three identified tasks supporting the stakeholder analysis by mapping of the systems and actively participate in the corresponding pilots aiming at testing approaches to enhance One-Health surveillance of key food borne pathogens (e.g., Campylobacter, Salmonella, HEV), Zoonotic Influenza and Vector borne pathogens (e.g., WNV) within the Netherlands. Previous work was done with RIVM under the EJP project ORION where the current system was mapped for surveillance of HEV and AMR) and we could build on this experience for this project. We also propose to participate by joining and further develop the shared database founded by RIVM and WFSR/NVWA for early-warning detection of outbreaks. By adding our veterinary data to this "human" and "foodborne" database, a more extended view on the whole production chain will be accomplished. In addition, we could streamline our protocols to work on shared data and assembly standards, this will enhance the interoperability of our data, making it more FAIR and allowing more intensive One Health collaborations in the future.

2.3 Project teams, staff and experts

Project teams and staff

Describe the project teams and how they will work together to implement the project.
List the staff included in the project budget (budget category A) by function/profile (e.g. project manager, senior expert/, junior expert, trainers/teachers, technical personnel, administrative personnel etc. — use the same profiles as in the detailed budget table, if any) and describe briefly their tasks. Provide CVs of all key actors (if required).

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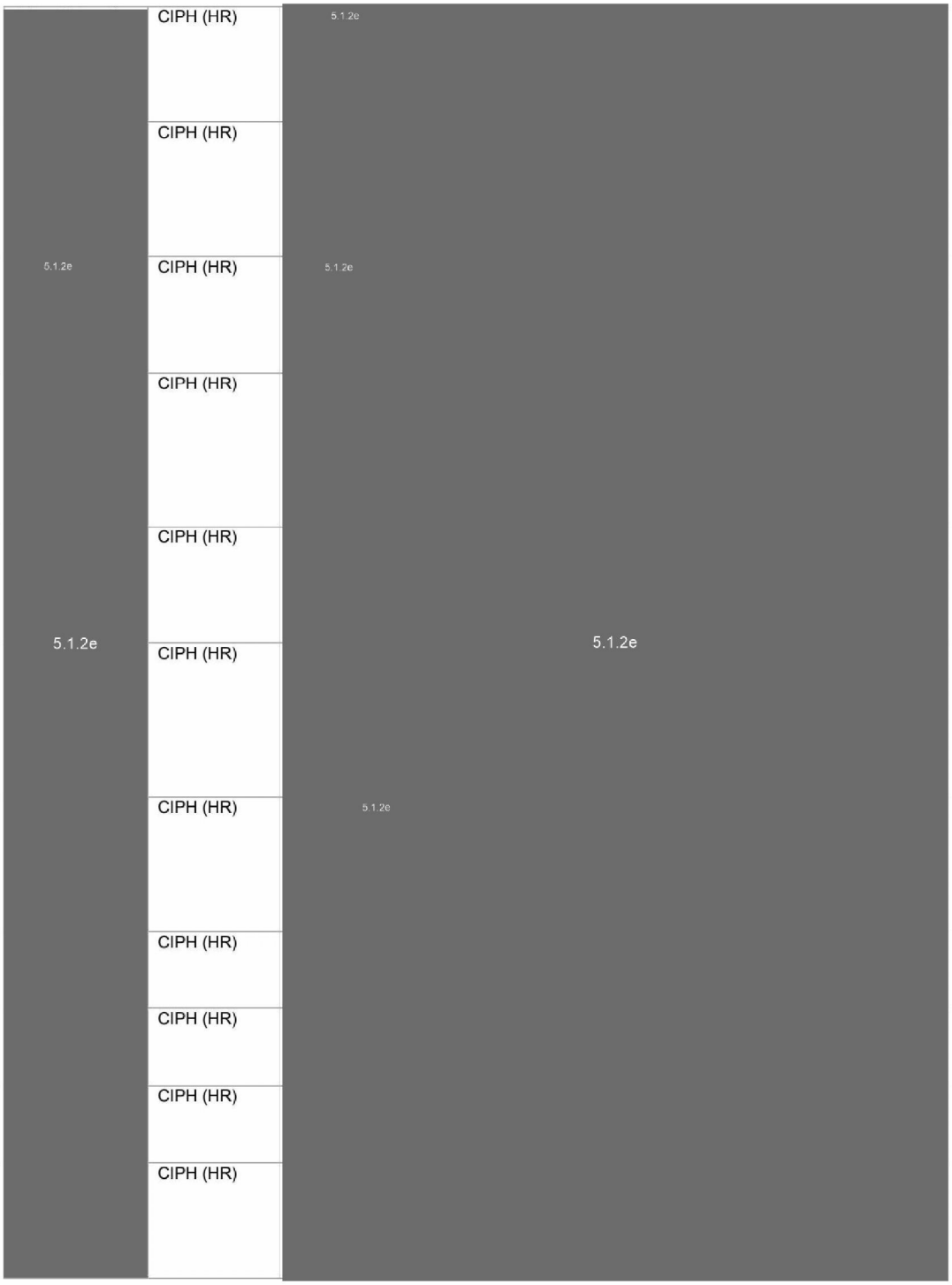
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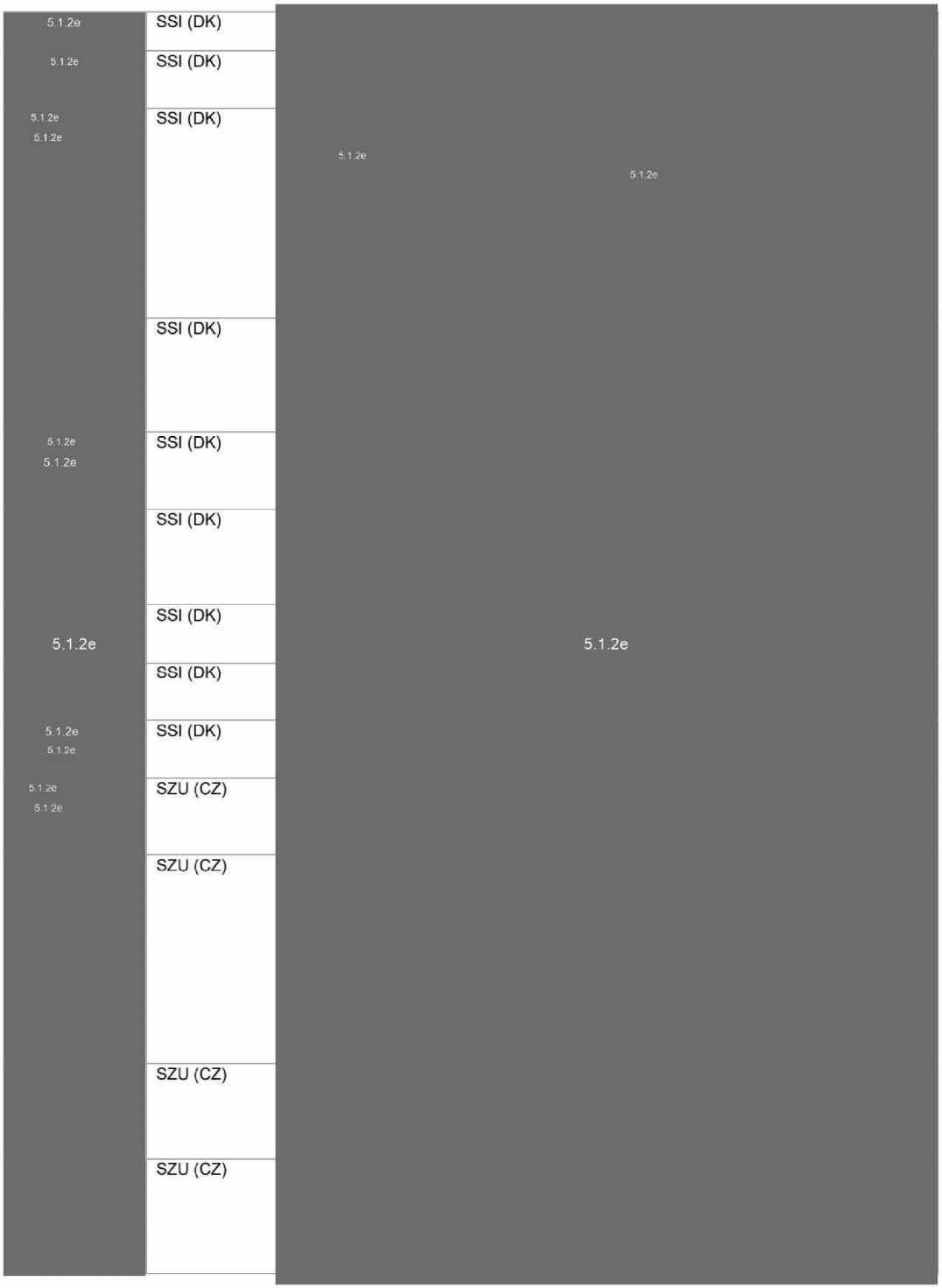
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Outside resources (subcontracting, seconded staff, etc)

If you do not have all skills/resources in-house, describe how you intend to get them (contributions of members, partner organisations, subcontracting, etc.).
If there is subcontracting, please also complete the table in section 4.

In two work packages there will be subcontracting. In WP5, an expert audit of the evaluation materials will be subcontracted and in WP7 a legal advisor to provide advice on the sustainability issues and the possibilities of amending existing legislation within UNITED4Surveillance. The best quality for price will be a determining factor.

Experts (if applicable)

*Explain if **national** and/or **international experts** will be nominated by national authorities to support the project implementation. Describe the specific professional and technical expertise and experience of each proposed expert and their contribution to the project implementation. Provide CVs (if required).*
Minimum requirements:
- Qualification: A level of education which corresponds to a Bachelor's degree.
- Professional experience: At least 4 years of proven experience in XXX
Other skills: ability to work in English (minimum B2 level)

N/A

2.4 Consortium management and decision-making

Consortium management and decision-making (if applicable)

Explain the management structures and decision-making mechanisms within the consortium. Describe how decisions will be taken and how regular and effective communication will be ensured. Describe methods to ensure planning and control.
***Note:** The concept (including organisational structure and decision-making mechanisms) must be adapted to the complexity and scale of the project.*

Consortium Management

The consortium will set up an effective management framework and design an effective communication strategy to smoothen the process of coordinating **UNITED4Surveillance** so that the project achieves its objectives. RIVM will be the Consortium Coordinator and will lead WP1 "Coordination" and will include a Project Manager. Each WP will have a designated (co)leader.
Steering Committee (SC): This JA will have a SC composed of the Consortium Coordinator, Project Manager and WP (co-)leaders. The SC is responsible for overseeing and monitoring the implementation of the objectives and deliverables at project level.
The first milestone of the project and of WP1 will be the creation of an Advisory Board (AB) that will support the SC. Our consortium will also take into account the feedback external stakeholders such as ECDC (European Centre for Disease Control) and EFSA (European Food Safety Authority) as well as the European Commission/HaDEA, which may be part of the AB. Should circumstances change, the Consortium Coordinator will ensure that adjustments are made in timely fashion. The strategic management will ensure **UNITED4Surveillance**'s work plan can respond to external events, whether natural, political, ethical, scientific, technological, or socioeconomic. This objective will be achieved through:

- Monitoring the overall project progress during regular meetings, periodic teleconferences, and progress reports.
- Analysing external events that may affect **UNITED4Surveillance** and proposing and implementing response strategies by changing the scope of a WP/Task, adding, or replacing partners, or re-allocating tasks and associated resources.

Project Meetings

A project launch meeting and a project conclusion meeting (GA, General Assembly) will be held involving all the project members at M1 and M36 respectively. An additional mid-term GA meeting will also be held. There will also be quarterly SC meetings and WP meetings, as well as yearly joint SC and AB meetings.

The external Advisory Board will be officially established with 3 meetings (adjacent to the 3 whole consortium meetings).

Coordinating the preparation and submission of periodic reports (both progress and financial reports).

WP1 will support partners while they prepare their financial report and when they submit it on the participant portal and will monitor compliance with EC requirements. Regarding the progress report, WP1 will collect information provided by WP (co-) leaders and will prepare the compiled report. This draft will be provided to the SC for review and validation before submission to the EC. The coordinator will submit the periodic reports and deliverable reports to the EC on the partner portal.

Communication

Regular internal communication will be ensured by the specific assignment of this task to WP1 Coordination, supported by tools such as a shared workspace, and transparent monthly reporting by each WP to others. This will be underpinned by a dedicated Project Manager for the consortium, who in turn will be supported by an experienced project management team at RIVM. 5.1.2e will have specific job assignment on overseeing the achievement of regular internal communication. 5.1.2e will also be assigned to manage the timeline and budget of the project and based on the monthly reports of WP (co-) leaders and discussions at Consortium meetings, regularly inform the SC on status. The status reports will be included in the consortium shared working space to aid transparency on such matters. These will be important elements of planning and control. WP (co)-leaders are responsible for the communication within a WP.

Decision-making

The SC provides an on-hand reference point for the WP Leaders in cases where a decision to be made has wider strategic implications and would benefit from reflections from European level experts in particular domains. Decisions that would affect all partners will be made by a General Assembly (GA) in which all partners are represented.

By anticipating decision-making processes dependent on complexity and the extent to which the decisions can be foreseen, our consortium will adopt an organisational structure and decision-making mechanism adapted to the complexity and scale of the project (Figure 3). The governing layer consists of the interaction between the GA and the SC. The managing layer consists of the SC in consultation with the AB. Finally, the performing layer is composed of all seven WPs.

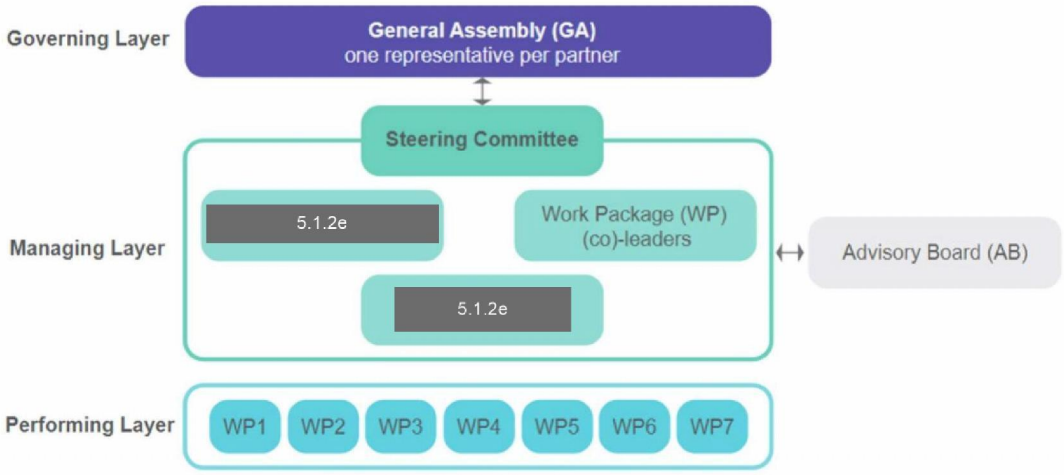

Figure 3. UNITED4Surveillance decision-making structure

Evaluation

UNITED4Surveillance will have a designated work package on evaluation in WP5. The evaluation will draw on routine reports produced by the partners during implementation and will include additional investigations by external experts. In this WP an evaluation plan/strategy will be developed and interface to be used by all project partners, as well as methods and tools for internal project progress monitoring, quality assurance indexing and internal evaluation procedures. WP5, Evaluation, will monitor the project's progress and timekeeping and will evaluate intermediate and final project results and outcomes. This WP will also identify possible deficiencies in work packages' tasks, as well as mitigation strategies proposed, so that deliverables meet set quality standards.

2.5 Project management, quality assurance and monitoring and evaluation strategy

Project management, quality assurance and monitoring and evaluation strategy

Describe the measures planned to ensure that the project implementation is of high quality and completed in time.
Describe the methods to ensure good quality, monitoring, planning and control.
Describe the evaluation methods and indicators (quantitative and qualitative) to monitor and verify the outreach and coverage of the activities and results (including unit of measurement, baseline and target values). The indicators proposed to measure progress should be relevant, realistic and measurable.

Project monitoring and risk management

5.1.2e will coordinate communication within the Consortium and will function as helpdesk for the partners. 5.1.2e will ensure that all partners are fully engaged in the project. Our project monitoring process will ensure **UNITED4Surveillance**'s structure, partnerships, resources, and work plan align with the project's objectives. Monitoring will include the following subtasks:

- *Setting up efficient management tools:* 5.1.2e will set up a dedicated project management platform to monitor project progress towards deliverables, milestones, budget, etc. We will set up an intranet platform to allow secure, real-time information exchange and collaboration.
- *Monitoring project progress:* 5.1.2e will monitor overall progress day-today, oversee deadlines of deliverables and ensure milestones are met on time.
- *Monitoring critical risks*: The Consortium Coordinator will identify and monitor risks already identified and propose appropriate mitigation measures. The risks will be monitored by the Steering Committee and form a fixed item on the SC meeting's agenda

WP1 Coordination will ensure the consortium complies with the rules on decision-making as defined in the Consortium Agreement and monitor the compliance of the project with the contractual obligations (Grant Agreement and its annexes).

Administrative and Financial Support

5.1.2e will liaise with the European Commission (EC) to discuss administrative and managerial issues. RIVM will be primarily responsible for the administrative and financial management, which will cover the following activities:

(i) day-to-day administrative and logistical issues, organising general consortium meetings, and organising steering committee meetings and workshops (preparation of the agenda, minutes, and follow-up of decisions),
(ii) assisting individual partners with specific administrative and financial issues related to the Grant Agreement.

Coordinating the preparation and submission of periodic reports (both progress and financial reports).

WP1 will support partners while they prepare their financial report and when they submit it on the participant portal and will monitor compliance with EC requirements. Regarding the progress report, WP1 will collect information provided by WP (co-) leaders and will prepare the compiled report. 5.1.2e will set up a meeting at the start of the project explaining the financial and technical reporting requirements. The draft will be provided to the SC for review and validation before submission to the EC. The coordinator will submit the periodic reports and deliverable reports to the EC on the partner portal.

Milestones of the project

Milestone No (continuous numbering not linked to WP)	Milestone Name	WP No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS1	Kick-off meeting	1	RIVM	A meeting including all partners will be held to mark the start of the JA	2	Meeting held
MS2	Communication /dissemination plan	6	RIVM, NVSC	This milestone will ensure a clear communication plan in the early phase of the project	2	Communication plan document delivered and shared within consortium
MS3	Project communication materials (logo + leaflet + templates)	6	RIVM, NVSC	This milestone will control the timely availability of project communication materials and tools.	2	Package of communication materials and tools ready to be distributed / disseminated within the consortium
MS4	External advisory board	1	RIVM	The external Advisory Board will be officially established with 3 meetings (adjacent to the 3 whole consortium meetings).	3	Written confirmation of participants and advisory board, and meetings held
MS5	Internal project management guidance	1	RIVM	Hoshin-Kanri methodology for effective results-oriented steering of the project	3	Construction of levelled "X-matrices" for the project as a whole and individual WPs
MS6	MS Survey has been defined, agreed upon and launched	3	THL	Define the contents of the survey. Pre-pilot the survey with active MS. Launch the survey on Webropol	3	Survey available on Webropol.
MS7	Evaluation plan	5	CIPH	List of process, output and outcome indicators prepared. Key strategic document for evaluation of the JA will contain all the basic elements of process	3	Strategic document for evaluation of the JA, including key evaluation objectives and key activities. Format: PDF, language: English

				evaluation, including key evaluation objectives and key process evaluation activities.		
MS8	Website	6	RIVM	A website will be created for internal and external communication	3	Website launch
MS9	Consortium agreement	1	RIVM	Consortium agreement (CA) between all partners of the Joint action	4	CA signed
MS10	Kick-off workshop	2	SSI	Workshop spring 2023 in Denmark to (i) introduce participants, (ii) introduce their country's lab surveillance system including needs & gaps and relation to national policies and (iii) produce an overview of lab-reporting data elements that are within scope. Participants can include microbiologists, physicians, surveillance and health IT specialists and other relevant parties.	4	Workshop held
MS11	Logical data model: workshop	2	SSI RIVM	Back-to-back workshop with kick-off workshop to discuss scope of data elements, cases, entity-relationship model and testing strategy.	4	Workshop held
MS12	Survey on surveillance and outbreak detection systems	2	RKI	Gathering information about the use of surveillance systems, terminology, data formats and outbreak detection methods in the different member states.	4	Survey sent out to MS
MS13	MS Survey filled-in	3	THL	A survey will be conducted among participating MSs to create an inventory of current surveillance systems for severe infections leading to hospitalization in all Member States participating.	4	All participating MS responded to the survey.
MS14	Workshop on outbreak detection use cases	2	RKI	Reviewing existing outbreak detection systems and discussing gaps and needs. Identify common use cases for outbreak detection and common terminology.	5	Workshop held
MS15	Workshop on results of the survey (MS3.2), draft version of report and preliminary plans for pilots.	3	THL	The results of the survey and a draft report on the inventory will be presented in a workshop, organized for all participating Member States (jointly for Task 1 and Task 2).	6	Workshop organized.
MS16	Report on the MS Survey and description of piloting plans.	3	THL	This is the first interim report on WP3.	6	Report delivered to WP1/Coordination.

MS17	Agreed harmonized methodology regarding goal analysis and stakeholder analysis across tasks	4	RIVM	The 3 tasks within Wp4 use the same methodology regarding the subtasks. A working group over the tasks will be established to define a common methodology/approach	6	Harmonized methodology agreed
MS18	Agreed harmonized methodology regarding systems mapping across tasks	4	RIVM	The 3 tasks within Wp4 use the same methodology regarding the subtasks. A working group over the tasks will be established to define a common methodology/approach	6	Harmonized methodology agreed
MS19	Evaluation survey	5	CIPH	Evaluation surveys for the participants prepared.	6	Evaluation tool available
MS20	Pilots started in both Task 1 and Task 2	3	THL	At least three pilots started in Task 1 and at least five pilots started in Task 2	7	Plans for each pilot have been described by the MS and approved by the WP leader and task leader(s).
MS21	Logical data model	2	SSI RIVM	Review of existing models. Scope of data elements, use cases, entity-relationship model and testing strategy defined. Test data collected.	9	Report and demonstration of completed data collection
MS22	Benchmarking	2	RKI	Comparison of outbreak detection methods with a diverse set of datasets in a systematic way.	12	Report/Compilations of data and tools publicly available
MS23	Goal description, stakeholder analysis and systems mapping completed for foodborne zoonoses	4	ISS	The goal, stakeholder analysis and systems mapping are completed for foodborne zoonoses.	12	Report on systems mapping and piloting of One Health surveillance of foodborne disease
MS24	Goal description, stakeholder analysis and systems mapping completed for zoonotic influenza	4	SSI	The goal, stakeholder analysis and systems mapping are completed for zoonotic influenza.	12	Report on systems mapping and piloting of One Health surveillance of zoonotic influenza completed.
MS25	Goal description, stakeholder analysis and systems mapping completed for foodborne zoonoses	4	ISS	The goal, stakeholder analysis and systems mapping are completed for vector borne zoonoses.	12	Report on systems mapping and piloting of One Health surveillance of vectorborne disease completed.
MS26	Sustainability plan	7	NVSC	The Sustainability plan will consist of activities which are planned to implement, monitoring, horizontal and vertical integration, dissemination of national plans, required documents for continuity of activities	12	Sustainability plan available.
MS27	Available Tools	2	RKI	Development and provision of open tools for outbreak detection and evaluation.	15	Tool is developed.
MS28	National sustainability plans	7	NVSC	National sustainability plan consists of sustainability objectives and their	15	National Sustainability plans available.

				implementation, monitoring, horizontal and vertical integration, funding, challenges.		
MS29	Evaluation workshop	5	CIPH	Workshop with WPLs to ascertain qualitative interviews and in-depth insight into WPs and stakeholders.	16	Workshop Report.
MS30	Intermediate report on the progress of the JA	1	RIVM	Intermediate report on the progress of the JA	18	Mid-term report submitted.
MS31	Interim report on the piloting	3	THL, ISS	This is the second Interim report on WP3 (on the piloting in Task 1 and Task 2)	18	Report has been delivered to WP1/Coordination.
MS32	Interim evaluation	5	CIPH	Interim report contains the analysis of JA progress, evaluates the level of accomplishment of each WP's objectives. It summarizes the results of the questionnaires, focus groups, documents and draft deliverables analysis, and overall progress of the JA.	18	Document available on the official web site. Format: PDF, language: English
MS33	Open-source reference data implementation	2	RIVM	Open-source implementation of the use cases of T2.1.2 including API and reference data. Tests performed according to testing strategy and successful, with possible deviations justified.	21	Open-source package(s) available on public repository, including for other Member States
MS34	Data transfer protocol integration	2	SSI	Technical integration of national standard data transfer protocol in the majority of clinical microbiology laboratories in DK	21	Demonstration of integrated data transfer protocol in MiBa
MS35	Common data model application	2	THL	Description of how the common data model is applied nationally in FI, including the data transfer of STEC subtyping/genotyping data from at least one clinical laboratory and lessons learnt.	21	Report submitted to WP lead
MS36	Requirement mapping for data export and integration	2	FHI	Explore export and integration of STEC data from MSIS lab database to the molecular STEC database of the STEC reference laboratory. Develop guidelines for harmonized diagnostic testing and reporting of STEC. Mapping technical and legal requirements for data reporting to national surveillance systems	21	Report on outcomes submitted to WP lead
MS37	Site visits	2	SSI, RIVM, THL, FHI	Information exchange and capacity building. This includes the organization	24	Site visit held

				of a site visit for other piloting partners.		
MS38	Integration in piloting systems	2	RKI	Deployment of outbreak detection and evaluation tools in the piloting systems. Regular use and evaluation by the piloting member states.	24	Evaluation Report per Pilot
MS39	All pilots are concluded.	3	THL	Each piloting Member State will report on the implementation and results of their pilot.	24	Reports for each pilot have been submitted to WP leader and task leader(s).
MS40	Reports on the progress of National sustainability plans implementation	7	NVSC	Information and data need for the report on the progress will be collected via questionnaire which will be disseminated to the partners	24	Report on the progress of National sustainability plans implementation is available
MS41	Checklist	5	CIPH	Creation of checklist of process, output and outcome indicators.	30	Document sent to WP leaders
MS42	Final evaluation	5	CIPH	Final evaluation activities will be carried out to monitor the implementation process for WPs activities and assessment of achievement of JA specific objectives.	30	Document available on the official web site
MS43	Sustainability working group meetings	7	NVSC	Sustainability working group will discuss about sustainability related issues	36	Sustainability Working Group minutes
MS44	Closing conference	1	RIVM	Closing conference of the Joint action	36	Conference held

Deliverables of the project

Deliverable No (continuous numbering linked to WP)	Deliverable Name	WP No	Lead Beneficiary	Type	Dissemination Level	Due Date (month number)	Description (including format and language)
D1.1	Consortium agreement	1	All partners	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	1	Consortium agreement signed by all Joint Action partners. Format: PDF, language: English
D1.2	Final report on the activities conducted and results obtained in the JA	1	RIVM	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	36	Final work package report. Format: PDF, language: English
D2.1	Final work package report	2	SSI, RKI	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	30	Final work package report. Format: PDF, language: English
D3.1	Recommendations for digitalised surveillance systems of severe infectious diseases leading to hospitalisation	3	THL	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	30	The experiences and evaluation of the pilots will be compiled into a report, that will form the main deliverable for Work Package (both tasks 1 and

							2). Format: PDF, languague: English
D4.1	Final report	4	ISS	*[*R — Document, report*] [*	*[*SEN — Sensitive*]*	M30	Final report on systems mapping and piloting of One Health surveillance of foodborne disease, zoonotic influenza and foodborne zoonoses. Format: PDF, language: English
D5.1	Final Evaluation Report	5	CIPH	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	30	Final Evaluation Report submitted
D6.1	Dissemination report	6	NVSC	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	36	Report on the total of dissemination and communication activities executed during the JA submitted. Format: PDF, language: English
D7.1	Final Report: Roadmap to implementation of integration infectious diseases surveillance	7	NVSC	*[*R — Document, report*]*	*[*SEN — Sensitive*]*	M36	The final report on the implementation of National and JA sustainability plans and a description of the activities that will continue after the end of the JA. Format: PDF, language: English

2.6 Cost effectiveness and financial management

Cost effectiveness and financial management

Describe the measures adopted to ensure that the proposed results and objectives will be achieved in the most cost-effective way.
Indicate the arrangements adopted for the financial management of the project and, in particular, how the financial resources will be allocated and managed within the consortium.

- *Do NOT compare and justify the costs of each work package, but summarize briefly why your budget is cost effective.*

The consortium for **UNITED4Surveillance** builds on already existing work present in MSs where in many cases significant improvements have already been made; largely forced by the COVID-19 pandemic. In addition, this project continues the work of previous projects like the One Health European Joint Programming (OHEJP), and the PostCOVID surveillance project (check correct name); which is critical for an efficient progression. Our coordinated European approach is superior in terms of cost effectiveness as compared to a fragmented approach where efforts are done at national level.

Financial management

Funds entrusted to RIVM for the project will be managed according to RIVM's strict policies and guidelines on procurement, financial management, and internal control and within the conditions set in the grant agreement. Revenue and expenditure are recorded in the RIVM accounts in accordance with the RIVM financial controllers. Budget will be released to the project as per the project and budget plan approved by the funder. The coordinator of the project will ensure that the funds are utilised in accordance with the agreement signed with the funder, and in compliance with the financial regulations. RIVM's internal control ensures checks and balances in each step of the process. A single person cannot complete a transaction on his/her own.

Procurement of goods and services are based on the best value for money, fairness, integrity, and transparency. The Best Value for Money in RIVM's context is defined as the optimization of costs and quality needed to meet the requirements while taking into consideration potential risk factors and resources available to achieve maximum benefit for the project. Goods and services are solicited through a competitive process. Procurement of services will be done in compliance with EC regulations.

All consortium partners are reputed institutions with their own financial management rules and regulations in place. WP1 will coordinate and ensure compliance to financial regulations of the EC.

2.7 Risk management

Critical risks and risk management strategy

Describe critical risks, uncertainties or difficulties related to the implementation of your project, and your measures/strategy for addressing them. Indicate for each risk (in the description) the impact and the likelihood that the risk will materialise (high, medium, low), even after taking into account the mitigating measures.

***Note:** Uncertainties and unexpected events occur in all organisations, even if very well-run. The risk analysis will help you to predict issues that could delay or hinder project activities. A good risk management strategy is essential for good project management.*

Risk No	Description	WP No	Proposed risk-mitigation measures
1	Significant up-surges of the COVID pandemic with restrictions as result will hamper execution of parts of the work, physical interaction (workshops) etc. *Likelihood: medium/high. Impact: medium*	All	Although it cannot replace "normal" functioning, during the last 2,5 years most organisations learned how to deal with COVID19 restrictions (homeworking; videoconferencing, etc.).
2	The occurrence of crisis (other than COVID) that require significant capacity of public health institutes, which will change priorities. *Likelihood: low/medium. Impact: medium-high*	All	Clear and timely (frequency and timing) communication and "result-oriented steering" within the whole consortium (in all directions) will manage expectations, provide additional help in places where it is needed. In addition, key staff should be allocated to ensure continuation of the Joint Action.
3	Response rate from the partners is lower than expected. *Likelihood: low. Impact: medium.*	All	Data collection strategy will have different options. In case the responders do not reply to the on-line questionnaire, electronic word versions can be distributed. E-mails or telephone calls can be done as reminders.
4	Varying usefulness of pilots for all consortium members. *Likelihood: low. Impact: medium.*	All	The planned pilots in selected countries might not be directly applicable to other countries' laboratory systems due to differences in digital maturity across the consortium members. To mitigate this risk, capacity building will be ensured through i) sharing progress reports with experiences and lessons learnt for other consortium members to learn from, ii) organizing workshops for all consortium members to attend thereby providing a platform to exchange knowledge and experiences, and (iii) by making – where possible – developed generic parts available as open-source code and data that can be reused by other countries.
5	Limited generalisability due to lack of data sharing. *Likelihood: low. Impact: medium/high.*	2	In case member states are not able to share data due to concerns of data privacy or other regulatory restrictions (country specific data protection) the evaluation of outbreak detection methods would be performed on a too narrow dataset limiting the validity and expressiveness of the evaluation. To mitigate this risk, we are planning to perform a federated evaluation, i.e., developing and sharing an evaluation tool that can be used on the local system with local data while only sharing the evaluation results and some uncritical description of the input data.
6	Challenges in cross-sectoral collaboration that is crucial for One Health approach. *Likelihood: low. Impact: medium.*	4	The work builds on previous One Health projects, where many challenges have been addressed and solved. Further challenges are embraced as learning points.
7	Stakeholders invited to participate in the Sustainability working group decline or do not respond. *Likelihood: low. Impact: medium.*	7	If stakeholders invited decline participation or not responding, then other persons will be invited. It will ensure that the knowledge and experience that the participants need to bring to the working groups is covered for all sectors and areas of expertise.
8	Work of subcontractors is delayed due to sickness. *Likelihood: low. Impact: low.*	7	The timeframe from the time of employment to the time of completing the deliverables will be enough to conduct the work even in case of unforeseen events. The contracts will include the timetable for the work progress and delivery.
9	Lack of interest by countries to use the joint action outputs and outcomes. *Likelihood: low. Impact: medium.*	7	Different stakeholders will be engaged from the beginning to provide input in the designing and ensure application.

3. IMPACT

Impact and ambition — Progress beyond the state-of-the-art

Define the short, medium and long-term effects of the project.
Who are the target groups? How will the target groups benefit concretely from the project and what would change for them?
Does the project aim to trigger change/innovation? If so, describe them and the degree of ambition (progress beyond the status quo/state-of-the-art).

3.1 Impact and ambition

UNITED4Surveillance will support capacity building at national and Union level, including an integrated surveillance system training package, exchange of experience and drawing up of recommendations, which will inform the development of national pilot projects. National capacity building and linkage of routine surveillance and electronic health data will allow scaling up integrated and real time surveillance. Ultimately, this action will support Union and national surveillance systems to ensure a rapid response to cross-border health threats. It is directly related to the new cross-border health threats legal framework. **UNITED4Surveillance** will support the initial assessment to support a One Health approach, i.e., integration and linkage with veterinary surveillance.

Short-term Impact of the project (1-3 years)

UNITED4Surveillance will:

- Identify the current impediments existing at the national level to the use of electronic health data for integrated surveillance. The focus will be on the evaluation of the technological, legal, digital, and capacity readiness of the Member States and the non-EU countries participating in this JA.
- Support the upscaling of routine surveillance at national and regional levels for timely detection of health threats
- Our consortium will set-up the roadmap for the future implementation of the Integrated surveillance system at EU and national levels. This strategy will prioritize the development of new technologies and tools, the capacity building, the implementation of policies and legal standards needed to strengthen an EU integrated surveillance for public health.

Medium-term Impact of the project (4-9 years)

- With the new developed best practices, healthcare will be strengthened with capacity building through continuous professional development, and by elaborating pilot innovative strategies for integrated infectious disease surveillance to be evaluated for their public health value.
- Support the sharing of experience and knowledge between the countries participating to the JA.

Long-term Impact of the project (10+ years)

In the long term, the success of UNITED4Surveillance – *through the implementation of a robust surveillance system integrating different sources of electronic health data and digital registers/databases* – will signify the improvement of Europe's public health preparedness against emerging cross-border health threats, resulting in better and timely protection of the people and decreasing the economic burden of these threats.

Target groups and Benefits

The target groups are the Member States and the non-EU countries participating in UNITED4Surveillance, their health ministries, hospitals, general practitioners, governments, as well as EU society indirectly, health and economic impact. UNITED4Surveillance will increase the responsiveness of the national health systems to any future threat to the public health. Furthermore, by strengthening the cooperation and coordination between countries, it will ensure that the population will be better protected in case of cross-border health concerns than it was during the COVID-19 crisis. So, the implementation of the modernised integrated infectious disease surveillance system that will be developed through this JA will improve the quality of the health systems both by tackling their shortcomings at the nation-level and by paving the road for a surveillance system acting across-borders on Union level.

Triggering change, innovation, and ambition

UNITED4Surveillance will build the foundation for the implementation of a modernised integrated infectious disease surveillance system, driven by digital transformation and technological development. Additionally, it will create a fertile ground for the piloting of innovative approaches to integrated infectious disease surveillance.

3.2 Communication, dissemination, and visibility

Communication, dissemination, and visibility of funding

Describe the communication and dissemination activities which are planned in order to promote the activities/results and maximise the impact (to whom, which format, how many, etc.). Clarify how you will reach the target groups, relevant stakeholders, policymakers and the general public and explain the choice of the dissemination channels.
Describe how the visibility of EU funding will be ensured.

Communication and dissemination activities will be led by Work Package 6. The overarching goal to achieve efficient and effective visibility, awareness, and acceptance of the project to internal and external stakeholders. To ensure the effective implementation of the roadmap delivered for developing and investing in technology and tools, for capacity building, implementation of national and international policies and to set legal standards, there is a need to engage with a much wider audience composed of a set of diverse stakeholders including but not limited to: policymakers, health professionals, academia, professional organizations, scientific societies, civil society, and private sector entities. To enable effective communication and dissemination of the project results, specific actions will be initiated during the project, adapting material to be produced and participation in events according to the specific development stage of the project and to the target audiences to be reached.

The project's dissemination and communication approach build on lessons learnt from previous projects and proposes to optimise synergy between education, dissemination, and communication activities for greater impact. This synergy will ensure that information is produced and disseminated in a way that each category of target audiences doesn't only receive it, but also learns from it (effective and impactful dissemination and communication). It will also limit duplication of efforts and enhance efficiency, as categories of target audiences are likely to overlap.

We will sensitise the policymakers, programme managers, service-providers, civil society members and other stakeholders through dissemination workshops (WP6) to explain the importance of digitalisation and a timely, integrated surveillance. It is planned to design these executive summaries in a very attractive manner, using visuals and infographics, for dissemination to a wider audience. This will help to reach not only high-level government officials but also policymakers and health practitioners and civil society members. These strategic plans and recommendations will be created in a participatory manner, obtaining feedbacks from relevant stakeholders to ensure better relevance, and buying for future implementation.

Finally, based on best practices from previous projects, it becomes clear that training is an effective dissemination strategy and a powerful tool to engage target audiences.

3.3 Sustainability and continuation

Sustainability, long-term impact, and continuation

Describe the follow-up of the project after the EU funding ends. How will the project impact be ensured and sustained?
What will need to be done? Which parts of the project should be continued or maintained? How will this be achieved? Which resources will be necessary to continue the project? How will the results be used?
Are there any possible synergies/complementarities with other (EU funded) activities that can build on the project results?

The specific objective of this WP is to integrate best practices and piloted new approaches of infectious diseases surveillance in national policies and improve cooperation mechanisms between EU Member states.
The specific objectives of this WP will include:
1. Developing a sustainability plan and roadmap to implementation of integration infectious diseases surveillance.
2. Fostering sustainability of core actions engaged by the JA WPs and uptake at the national level.
See WP7 for a detailed description.

4. WORK PLAN, WORK PACKAGES, TIMING AND SUBCONTRACTING

Work plan *Provide a brief description of the overall structure of the work plan (list of work packages or graphical presentation (Pert chart or similar)).*

4.1 Work plan

The main activities are divided in seven work packages (WPs, Figure 4). Each WP has its own tasks and deliverables (See section 2.5). The **first** WP will coordinate the consortium and keep an overview on the project progress and deliverables and assessing the performance of the WP objectives and activities following SMART indicators. The **second** and core WP will focus on outbreak detection and pandemic preparedness to prepare on EU level an organised and timely cross-border response for future health crisis. The **third** and core WP focuses on integrating hospital data into public health surveillance system across the EU. The **fourth** and core WP focuses on One Health with the aim to integrate the infectious disease data from the veterinary and environmental domains with public health surveillance for proactive signalling of potential zoonotic threats. The **fifth** WP will evaluate the progress of the JA. It will provide interim reports to learn and improve tasks during the process, and a final report that will feed into the final WP on sustainability. Both interim and final reports will feed into the WP on dissemination to share the findings. The **sixth** WP is on dissemination and raising awareness on pandemics. The **seventh** WP will work on sustainability by developing a Roadmap to implementation of integrated surveillance and the main and overall project outcome. Several transversal activities across the core WPs will identify the needs, digital health, integration of (inter)national policies and pilot potential solutions. The outcomes and experiences are shared between the MSs to mutually learn.

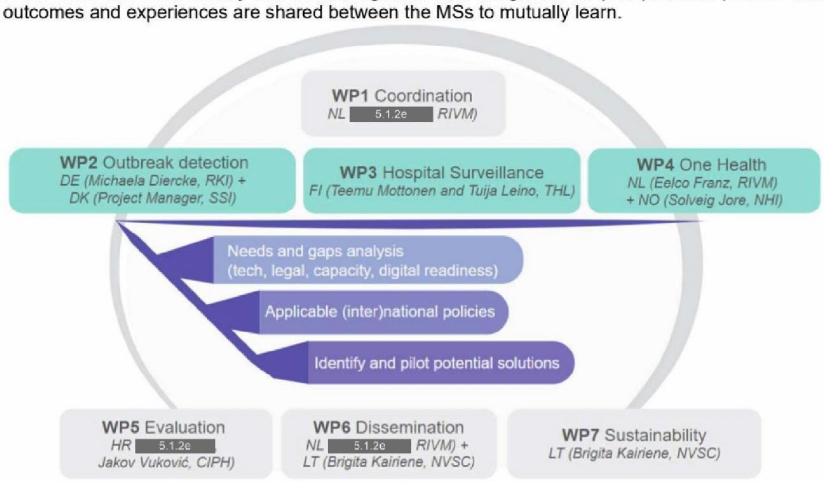

Figure 4. Work packages

The following figure presents a Pert chart showing the interactions between work packages and the overall timeline of the project.

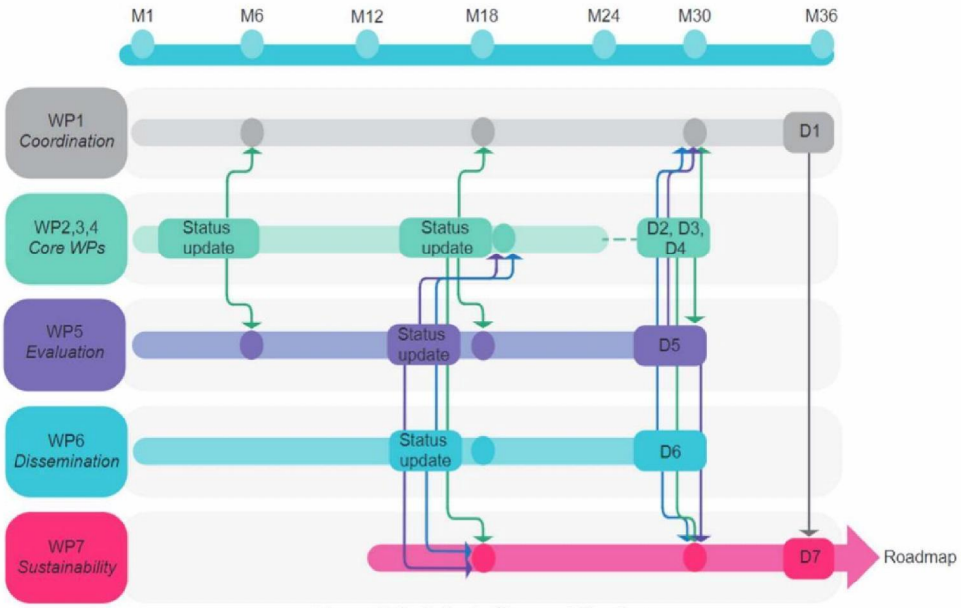

Figure 5. Pert chart with overall timeline

4.2 Work packages and activities

WORK PACKAGES

This section concerns a detailed description of the project activities.

*Group your activities into work packages. **A work package means a major sub-division of the project**. For each work package, enter an objective (expected outcome) and list the activities, milestones and deliverables that belong to it. The grouping should be logical and guided by identifiable outputs.*

Projects should normally have a minimum of 2 work packages. WP1 should cover the management and coordination activities (meetings, coordination, project monitoring and evaluation, financial management, progress reports, etc) and all the activities which are cross-cutting and therefore difficult to assign to another specific work package (do not try splitting these activities across different work packages). WP2 and further WPs should be used for the other project activities. You can create as many work packages as needed by copying WP1.

For very simple projects, it is possible to use a single work package for the entire project (WP1 with the project acronym as WP name).Work packages covering financial support to third parties (⚠ only allowed if authorised in the Call document) must describe the conditions for implementing the support (for grants: max amounts per third party; criteria for calculating the exact amounts, types of activity that qualify (closed list), persons/categories of persons to be supported and criteria and procedures for giving support; for prizes: eligibility and award criteria, amount of the prize and payment arrangements).

⚠ *Enter each activity/milestone/output/outcome/deliverable only once (under one work package).*

Work Package 1

Work Package 1: Coordination

Ensure consistence with the detailed budget table (if applicable).

Duration:	M1 – M36	**Lead Beneficiary:**	RIVM

Objectives

List the specific objectives to which this work package is linked.

The aim of this WP is to coordinate the Joint Action through well-functioning management which includes timely reporting, budget control and support for successful implementation. This JA consists of 7 WPs, of which 3 vertical core WPs (WP2 outbreak detection, WP3 hospital surveillance, WP4 one health surveillance), and 4 transversal WPs (WP1 coordination, WP5 evaluation, WP6 dissemination, WP7 sustainability). The coordinator ensures that the project work packages work together to achieve the objectives of the JA. The coordinator will facilitate the building of country ownership together with the WP (co-) leaders. The coordinator leads the project with the support of the steering committee (SC), oversees the execution of the Work Packages and may take part in their execution, as appropriate. The coordinator will facilitate the building of country ownership together with the WP (co-) leaders. Effective steering of the project is ensured by establishing a Steering Committee (SC) consisting of the coordinator, the project manager, and the WP (co-)leaders. The SC has quarterly meetings. In addition, an external advisory board (AB) will be created as the first milestone of the project, with yearly meetings organized by the SC to obtain external feedback (mainly on the core WPs) during the course of the JA. Finally, each WP has its own leadership and internal meetings/teleconferences.

Activities (what, how, where) and division of work

Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.

*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.*

Note:

In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.

The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.

If there is subcontracting, please also complete the table below.

Task No (continuous numbering linked to WP)	**Task Name**	**Description**	**Participants**		**In-kind Contributions and Subcontracting (Yes/No and which)**
			Name	Role (COO, BEN, AE, AP, OTHER)	

T1.1	Project management	- Consortium agreement - Budget control - Timely reporting (intermediate and final reports) - Establishment of an external advisory board (AB)	RIVM	COO	Yes (part of salaries are own contributions) No (subcontracting)
T1.2	Effective project collaboration	- Kick-off meeting - Quarterly SC meetings - Half-way consortium meeting - Closing conference (whole consortium + Ab)	Consortium AB SC Consortium AB Consortium AB	All OTHER BEN All OTHER All OTHER	Yes (part of salaries are own contributions) No (subcontracting)

Milestones and deliverables (outputs/outcomes)

Milestones *are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.*
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
Deliverables *are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.*
For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.
For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
For each deliverable you will have to indicate a due month by when you commit to upload it in the Portal. The due month of the deliverable cannot be outside the duration of the work package and must be in line with the timeline provided below. Month 1 marks the start of the project and all deadlines should be related to this starting date.
The labels used mean:

Public — fully open (⚠ automatically posted online on the Project Results platforms)
Sensitive — limited under the conditions of the Grant Agreement
EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444.

Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS1	Kick-off meeting	1	RIVM	A meeting including all partners will be held to mark the start of the JA	2	Meeting held
MS4	External advisory board	1	RIVM	The external Advisory Board will be officially established with 3 meetings (adjacent to the 3 whole consortium meetings)	3	Written confirmation of participants and advisory board, and meetings held
MS5	Internal project management guidance	1	RIVM	Hoshin-Kanri methodology for effective results-oriented steering of the project	3	Construction of levelled "X-matrices" for the project as a whole and individual WPs
MS9	Consortium agreement	1	RIVM	Consortium agreement (CA) between all partners of the Joint action	4	CA signed

MS30	Intermediate report on the progress of the JA	1	RIVM	Intermediate report on the progress of the JA		18	Mid-term report. Format: PDF, language: English
MS46	Closing conference	1	RIVM	Closing conference of the Joint action		36	Conference held
Deliverable No (continuous numbering linked to WP)	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month number)	Description (including format and language)
D1.1	Consortium agreement	1	All partners	*[R — Document, report]*	*[SEN — Sensitive]*	1	Consortia agreement signed by all Joint Action partners. Format: PDF, language: English.
D1.2	Final report on the activities conducted and results obtained in the JA	1	RIVM	*[R — Document, report]*	*[SEN — Sensitive]*	36	Final report submitted Format: PDF, language: English

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

Work Package 2

Work Package 2: Outbreak detection			
Ensure consistence with the detailed budget table (if applicable).			
Duration:	M1 – M24	**Lead Beneficiary:**	SSI - RKI
Objectives *List the specific objectives to which this work package is linked.*			
The SARS-CoV-2 pandemic has highlighted that timely sharing of laboratory test results is crucial for an informed response during an unfolding epidemic. Many countries experienced challenges and delays in sharing of test results in a timely fashion, for instance due to lack of capacity, fragmented systems, or lack of digitalization. A specific challenge is the sharing of genetic data, due to its complexity. Infectious disease outbreaks can have a considerable impact on the health and health systems of countries. The timely and accurate detection of such events can help to contain the further spread of disease and reduce harmful consequences. Automated tools can help manage and foster analysis across different datasets. Especially in contexts of limited human resources or high workload, this can contribute to a comprehensive surveillance and timely implementation of measures. Many countries do not yet use any methods for automatic outbreak detection or use methods that have been designed for other surveillance systems and datasets than their own. There are also no extensive evaluations of outbreak detection methods for a broad range of surveillance data so that one can choose the appropriate methods. To help address these challenges, the objective of this WP is to support outbreak detection and pandemic preparedness by improving real time surveillance for a timelier coordinated response. By improving national surveillance systems, the goal is to strengthen overall surveillance in Europe.			

This WP is structured in two main technical tasks with associated subtasks including pilots. Lessons learnt from the pilot projects are envisaged to be shared with other participating countries, in form of workshops, reports and site visits.

Activities (what, how, where) and division of work

Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.
*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.*
Note:
In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.
The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.
If there is subcontracting, please also complete the table below.

Task No (continuous numbering linked to WP)	Task Name	Description	Participants		In-kind Contributions and Subcontracting (Yes/No and which)
			Name	Role (COO, BEN, AE, AP, OTHER)	
T2.1	Improving laboratory-based reporting	Subtask 1: Needs and gap analysis & relation to national policies Description of the participating countries' lab surveillance system, including technical, legal, organizational and financial aspects, national policies and challenges with respect to reporting. Subtask 2: Data standards Logical, i.e., theoretical, data model for genotyping/subtyping, covering the range of possible reporting forms and corresponding use cases from molecular detection (PCR) and complete genome sequence to individual allele sequences as well as relevant classifications based on that. Sequence reads are excluded. The robustness of the data model will be tested using STEC and SARS-CoV-2, as well as potentially M. tuberculosis, influenza and AMR. Subtask 3: Open-source reference data pilot Newly developed generic open-source implementation of the logical data model, also including application programming interface (API) and reference data for at least the species used for Subtask 2. Subtask 4: DK pilot Pilot implementation in DK. Integration in the existing Danish Microbiology Database (MiBa), including upgraded data transfer protocol. Subtask 5: FI pilot Integration of microbial properties and molecular level information into Finnish infectious disease surveillance system using STEC as a model pathogen. Subtask 6: NO pilot	**ST1:** SSI THL RIVM FHI RKI NIJZ CDPC **ST2:** SSI THL RIVM FHI ICSIII **ST3:** RIVM **ST4:** SSI **ST 5:** THL **ST6:** FHI	All BEN	Yes (part of salaries are own contributions) No (subcontracting)

		Development of data management protocol for diagnostic test data on STEC in the MSIS-lab database and explore data transfer protocols for integrated surveillance with the genotypic data in the reference laboratory database.			
T2.2	Outbreak & Signal detection	This task focuses on improving algorithms for outbreak detection using routine surveillance data. Subtask 1: Review of outbreak detection activities Survey of the types of surveillance systems and outbreak detection methods currently used by the member states. Identifying gaps and needs in detecting outbreaks from routine surveillance data. Define common terminology for different aspects of surveillance data and outbreak detection. Specify common use cases for outbreak detection. Subtask 2: Benchmarking of outbreak detection methods Developing an evaluation framework that allows a fair and useful comparison of outbreak detection methods for different use cases, including the use of several appropriate performance metrics. Evaluation of outbreak detection methods on a diverse set of datasets either through data sharing or federated evaluation. Subtask 3: Tool development Development of tools for outbreak detection and evaluation. Outbreak detection methods that were developed in the earlier tasks or already exist as ready to use tools or available legacy code from active outbreak detection systems have to be provided as tools with a consistent interface in terms of input data and resulting signals. An evaluation tool that can be performed on different datasets and with the developed outbreak detection tools has to be developed and provided to the piloting member states. Subtask 4: Piloting and training Deployment of the developed tools from Subtask 3 in order to identify the most relevant outbreak detection methods for the local situation of the piloting systems. Setting up the identified outbreak detection tools. Regular use and evaluation of the outbreak detection methods. Reviewing results, experiences and tools to summarize in teaching materials and provide training for interested member states.	GER **RKI** **ST1:** RKI NPHC NVSC ICSIII **ST2:** RKI AGES THL SSI NPHC NVSC **ST3:** RKI AGES SSI THL **ST4:** RKI RIVM MFH NPHC NIJZ NIH SSI THL	All: BEN Except ICSIII: AP	Yes (part of salaries are own contributions) No (subcontracting)

Milestones and deliverables (outputs/outcomes)

Milestones *are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.*
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
Deliverables *are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.*
For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.

For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
For each deliverable you will have to indicate a due month by when you commit to upload it in the Portal. The due month of the deliverable cannot be outside the duration of the work package and must be in line with the timeline provided below. Month 1 marks the start of the project and all deadlines should be related to this starting date.
The labels used mean:

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Sensitive — limited under the conditions of the Grant Agreement
EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444.

Milestone No (continuous numbering not linked to WP)	Milestone Name	WP No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS10	Kick-off workshop	2	SSI	Workshop spring 2023 in Denmark to (i) introduce participants, (ii) introduce their country's lab surveillance system including needs & gaps and relation to national policies and (iii) produce an overview of lab-reporting data elements that are within scope. Participants can include microbiologists, physicians, surveillance and health IT specialists and other relevant parties.	4	Workshop held
MS11	Logical data model: workshop	2	SSI, RIVM	Back-to-back workshop with kick-off workshop to discuss scope of data elements, cases, entity-relationship model and testing strategy.	4	Workshop held
MS12	Survey on surveillance and outbreak detection systems	2	RKI	Gathering information about the use of surveillance systems, terminology, data formats and outbreak detection methods in the different member states.	4	Survey sent out to MS
MS14	Workshop on outbreak detection use cases	2	RKI	Reviewing existing outbreak detection systems and discussing gaps and needs. Identify common use cases for outbreak detection and common terminology.	5	Workshop held
MS21	Logical data model	2	SSI, RIVM	Review of existing models. Scope of data elements, use cases, entity-relationship model and testing strategy defined. Test data collected.	9	Report and demonstration of completed data collection
MS22	Benchmarking	2	RKI	Comparison of outbreak detection methods with a diverse set of datasets in a systematic way.	12	Report/Compilations of data and tools publicly available
MS27	Available Tools	2	RKI	Development and provision of open tools for outbreak detection and evaluation.	15	Tool is developed
MS33	Open-source reference data implementation	2	RIVM	Open-source implementation of the use cases of T2.1.2 including API and reference data. Tests performed according to testing strategy and successful, with possible deviations justified.	21	Open-source package(s) available on public repository, including for other Member States
MS34	Data transfer protocol integration	2	SSI	Technical integration of national standard data transfer protocol in the majority of clinical microbiology laboratories in DK	21	Demonstration of integrated data transfer protocol in MiBa
MS35	Common data model application	2	THL	Description of how the common data model is applied nationally in FI, including the data transfer of STEC	21	Report submitted to WP lead

				subtyping/genotyping data from at least one clinical laboratory and lessons learnt.			
MS36	Requirement mapping for data export and integration	2	FHI	Explore export and integration of STEC data from MSIS lab database to the molecular STEC database of the STEC reference laboratory. Develop guidelines for harmonized diagnostic testing and reporting of STEC. Mapping technical and legal requirements for data reporting to national surveillance systems		21	Report on outcomes submitted to WP lead
MS37	Site visits	2	SSI, RIVM, THL, FHI	Information exchange and capacity building. This includes the organization of a site visit for other piloting partners.		24	Site visit held
MS38	Integration in piloting systems	2	RKI	Deployment of outbreak detection and evaluation tools in the piloting systems. Regular use and evaluation by the piloting member states.		24	Evaluation Report per Pilot
Deliverable No (continuous numbering linked to WP)	Deliverable Name	WP No	Lead Beneficiary	Type	Dissemination Level	Due Date (month number)	Description (including format and language)
D2.1	Final work package report	2	SSI, RKI	*[R — Document, report]*	*[SEN — Sensitive]*	30	Language: English Format: PDF

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

Work Package 3

Work Package 3: Hospital surveillance / Surveillance of severe infectious diseases that lead to hospitalization			
Ensure consistence with the detailed budget table (if applicable).			
Duration:	M1 – M24	**Lead Beneficiary:**	THL
Objectives *List the specific objectives to which this work package is linked.*			
▪ Aim: to build a foundation for timely, comparable, and representative surveillance of severe infections leading to hospitalization in each Member State ▪ 2. Inventory and mapping of all relevant health data sources for integrated surveillance of severe infections leading to hospitalization, and to assess and overcome legal and technical barriers. ▪ 3. In Member States relying on sentinel-based approach, the aim is to establish or improve the representativeness and timeliness of surveillance, using only electronic reporting. ▪ 4. In Member States using nation-wide register-based public health surveillance, the aim is to integrate clinical information on hospitalized patients with microbiological data (typing and microbial resistance).			
Activities (what, how, where) and division of work *Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.*			

*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.*
Note:
In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.
The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.
If there is subcontracting, please also complete the table below.

Task No (continuous numbering linked to WP)	Task Name	Description	Participants		In-kind Contributions and Subcontracting (Yes/No and which)
			Name	Role (COO, BEN, AE, AP, OTHER)	
T3.1	Establish or improve sentinel-based electronic surveillance of serious infectious diseases or syndromes from hospitals in participating Member States.	The general aim is to move forward from paper-based data collection to electronic, and from aggregated data collection to individual (person/case-based) data collection. The digital readiness for implementing electronic data collection and reporting will be assessed. Subtask 1: Member State survey and Inventory of surveillance systems A survey will be conducted among participating Member States (MS) to create an inventory of current surveillance systems for severe infections leading to hospitalization in all MS participating. The inventory shall contain the following aspects: coverage and representativeness, type of data (individual or aggregated), timeliness and method of data collection (electronic or paper-based) and definition of a severe infection. We will map additional relevant health data sources that could possibly be added to the sentinel-based surveillance system in each participating MS. For new data sources, we will identify possible legal and technical barriers, and make an inventory of practises to overcome them. Both the mapping and identification will be part of the MS survey. We will organize a workshop for all participating MS to present the results of the survey and a draft inventory report. Active MS will also present their preliminary plans for piloting. Subtask 2: Piloting innovative approaches to surveillance in the actively participating Member States Participating MS will be grouped according to the expected contribution and activity level. Countries that can actively contribute to this task and participate in the process, will pilot innovative approaches to surveillance of severe infections. Other countries have the role of "interested listener" and will provide input and reactively contribute. These MS will benefit from the development steps in the pilots. Currently (2022-06-18) the active participants for this task are Latvia, Netherlands and Slovenia – at least these countries will pilot. The "listener participants" are Belgium, Croatia, Cyprus, Czech Republic, Italy, Malta and Spain. Finland will lead this task. The pilots to be carried out in three active MS, and other country-specific activities will build capacity through professional development. The pilots and activities will be coordinated with the MS ministries, so that they are	**Subtask 1:** Sciensano CIPH MPHS SZU **THL** ISS CDPC MFH RIVM NIJZ CSFJA **Subtask 2 & 3:** **THL** CDPC RIVM NIJZ	All BEN	Yes (part of salaries are own contributions) No (subcontracting)

		aligned with national policies on public health surveillance in each country. Each pilot will also take into account how to adjust the surveillance for unexpected events. Subtask 3: Report on results of the pilots (main WP deliverable) The added European public health value of the piloted approaches will be evaluated. The experiences and evaluation of the pilots will be compiled into a report, that will form the main Milestone for this task: Recommendations for digitalised surveillance systems of severe infectious diseases leading to hospitalisation			
T3.2	Integrate clinical information on hospitalized patients with microbiological data (typing and microbial resistance), in Member States using nation-wide register-based public health surveillance.	The general aim is to integrate clinical information on hospitalized patients with microbiological data (typing and microbial resistance). Subtask 1: Member State survey and Inventory of surveillance systems A survey will be conducted among participating Member States (MS) to create an inventory of current surveillance systems for severe infections leading to hospitalization in all MS participating. The inventory shall contain the following aspects: coverage and representativeness, type of data (individual or aggregated), timeliness and method of data collection (electronic or paper-based) and definition of a severe infection. We will map additional relevant health data sources that could possibly be added to the register-based surveillance system in each participating MS. For new data sources, we will identify possible legal and technical barriers, and make an inventory of practises to overcome them. Both the mapping and identification will be part of the MS survey. We will organize a workshop for all participating MS to present the results of the survey and a draft inventory report. Active MS will also present their preliminary plans for piloting. Subtask 2: Piloting innovative approaches to surveillance in the actively participating Member States Participating MS will be grouped according to the expected contribution and activity level. Countries that can actively contribute to this task and participate in the process, will pilot innovative approaches to surveillance of severe infections. Other countries have the role of "interested listener" and will provide input and reactively contribute. These MS will benefit from the development steps in the pilots. Currently (2022-06-18) the active participants for this task are Finland, Italy, Malta, Norway and Poland – at least these countries will pilot. The "listener participants" are Austria, Croatia, Czech Republic, Slovenia and Spain. Finland and Italy will co-lead this task. The pilots to be carried out in five active MS, and other country-specific activities will build capacity through professional development. The pilots and activities will be coordinated with the MS ministries, so that they are aligned with national policies on public health surveillance in each country. Each pilot will also take into account how to adjust the surveillance for unexpected events. Subtask 3: Report on results of the pilots (main WP deliverable)	**Subtask 1:** AGES CIPH SZU **THL** **ISS** MFH NIPH NIH NIJZ CSFJA **Subtask 2 & 3:** **THL** **ISS** MFH NIPH NIH	All BEN	Yes (part of salaries are own contributions) No (subcontracting)

		The added European public health value of the piloted approaches will be evaluated. The experiences and evaluation of the pilots will be compiled into a report, that will form the main Milestone for this task: Recommendations for digitalised surveillance systems of severe infectious diseases leading to hospitalisation			

Milestones and deliverables (outputs/outcomes)

Milestones *are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.*
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
Deliverables *are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.*
For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.
For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
For each deliverable you will have to indicate a due month by when you commit to upload it in the Portal. The due month of the deliverable cannot be outside the duration of the work package and must be in line with the timeline provided below. Month 1 marks the start of the project and all deadlines should be related to this starting date.
The labels used mean:

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Sensitive — limited under the conditions of the Grant Agreement
EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444.

Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS6	MS Survey has been defined, agreed upon and launched	3	THL	Define the contents of the survey Pre-pilot the survey with active MS Launch the survey on Webropol	3	Survey available on Webropol.
MS13	MS Survey filled-in	3	THL	A survey will be conducted among participating MSs to create an inventory of current surveillance systems for severe infections leading to hospitalization in all Member States participating.	4	All participating MS have responded to the survey.
MS15	Workshop on results of the survey (MS3.2), draft version of report and preliminary plans for pilots.	3	THL	The results of the survey and a draft report on the inventory will be presented in a workshop, organized for all participating Member States (jointly for Task 1 and Task 2).	6	Workshop has been organized.
MS16	Report on the MS Survey and description of piloting plans.	3	THL	This is the first interim report on WP3.	6	Report has been delivered to WP1/Coordination.
MS20	Pilots started in both Task 1 and Task 2	3	THL	At least three pilots started in Task 1 and at least five pilots started in Task 2	7	Plans for each pilot have been described by the MS and approved by the WP leader and task leader(s).

MS31	Interim report on the piloting	3	THL, ISS	This is the second Interim report on WP3 (on the piloting in Task 1 and Task 2)		18	Report has been delivered to WP1/Coordination.
MS39	All pilots are concluded.	3	THL	Each piloting Member State will report on the implementation and results of their pilot.		24	Reports for each pilot have been submitted to WP leader and task leader(s).
Deliverable No (continuous numbering linked to WP)	**Deliverable Name**	**Work Package No**	**Lead Beneficiary**	**Type**	**Dissemination Level**	**Due Date (month number)**	**Description (including format and language)**
D3.1	Recommendations for digitalised surveillance systems of severe infectious diseases leading to hospitalisation	3	THL	*[R — Document, report]*	*[SEN — Sensitive]*	30	The experiences and evaluation of the pilots will be compiled into a report, that will form the main deliverable for Work Package (both tasks 1 and 2). Format: electronic (PDF). Language: English

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

Work Package 4

Work Package 4: One Health			
Ensure consistence with the detailed budget table (if applicable).			
Duration:	M1 – M24	**Lead Beneficiary:**	RIVM - NHI
Objectives *List the specific objectives to which this work package is linked.*			
The close interactions between humans, animals and the environment hold a risk of emergence of infectious diseases, due to the likelihood of spillover events. Early warning surveillance at the human, animal, environmental interface able to trigger timely public health actions is a key pillar of effective public health surveillance regarding detecting emerging pathogens and outbreaks of existing zoonoses. The vision of this WP is to form and strengthen partnerships in a One Health manner where data for action is shared in a structured way. The specific objective of WP4 is to support EU MS and JA partner countries in developing One Health surveillance structures with integration of data/signals from the human, animal, and environmental domains to enhance i) the capability of detecting (re)emerging pathogens with zoonotic potential and performing public health risk assessments, ii) source identification of outbreaks, and iii) research into targeting interventions. According to this scheme, the work of this WP is organized over 3 tasks focusing on foodborne disease, zoonotic influenza, and vector-borne disease. Within each of the 3 tasks, 3 subtasks will be carried out concerning goal definition (signalling/surveillance, selection of pathogens, etc.) and stakeholder analysis, systems mapping, and piloting promising approaches. The first two subtasks will be executed jointly across the main tasks to ensure a common approach and methodology. Sub-task leaders will interact with the co-leaders of the 3 tasks. It is recognized that different MSs are at a different stage regarding One Health surveillance. This allows MSs that place early in the process to learn from MSs with more advanced One Health surveillance systems. Depending on the level of development, MSs can thus proceed at different pace throughout the WP. The organisation of the tasks by disease group ensures concentration of disease-group specific expertise regarding stakeholders, types of data, specific barriers, data flows, laboratory diagnostics, public health response actions (e.g., food tracing vs blood and transplant safety actions etc.) while the two cross-cutting subtask enable working across disease-type-siloes. The pilots on promising approaches will lead to the description of best practices (case studies) which may pave the way for a potential European-wide approach. This WP will work closely with the upcoming activity under "CP-g-22-04.01 Direct grants to Member States' authorities: setting up a coordinated surveillance system under the One Health approach for cross-border pathogens that threaten the Union".			

Activities (what, how, where) and division of work

Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.
*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.*
Note:
In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.
The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.
If there is subcontracting, please also complete the table below.

Task No (continuous numbering linked to WP)	Task Name	Description	Participants		In-kind Contributions and Subcontracting (Yes/No and which)
			Name	Role (COO, BEN, AE, AP, OTHER)	
T4.1	Foodborne disease	Many foodborne pathogens originate in the animal reservoir from where they can spread to humans via food, water, direct contact with animals or the environment. Identification of the dynamics of the circulating pathogens' types (e.g., altered virulence and/or antimicrobial resistance) in the animal reservoir can provide an early warning for public health. In addition, the sharing of harmonized typing data provides opportunities to perform cross-sectoral clustering analysis of isolates obtained from clinical patients and food/animals/environment for rapid identification of clusters of cases and outbreaks' sources. Finally, harmonized datasets of typing information on pathogens from humans, animals/food, and the environment provides ample opportunities for enhanced epidemiological research into the relative importance of reservoirs and transmission routes to human disease burden. Subtask 4.1.1. Goal description and stakeholder analysis. Here, the goals and perimeter of the surveillance are discussed and refined (signaling, risk assessment, systematic surveillance for outbreak detection, research, etc.). Subsequently, a stakeholder analysis will be performed which will identify and characterize the key players and prioritize them according to their interest and importance. There are several methods available to perform a stakeholder analysis. We will largely follow the guidelines of the One Health European Joint Programme Joint Integrative Project MATRIX, which recommends the Mendelow's matrix that classifies stakeholders by their level of interests and influence. The stakeholder analysis will be performed in a brainstorming setting where stakeholders will be identified and placed in the specific quadrants of the matrix. This task could also include already available goal descriptions and/or stakeholder analysis present in MSs. Subtask 4.1.2. Systems mapping of current and desired situation. In this subtask the current status/organization of One Health surveillance will be mapped in a dedicated workshop with selected stakeholders, or a previously done mapping will be evaluated for need of updating. The mapping visualizes how the system currently operates and what can be improved. Through iterative and successively broader integration steps, a draft map of stakeholders, their roles and relations are co-created. The map represents the joint perspectives of the participating stakeholders and shows current structures	ISS SSI RIVM WBVR	BEN BEN COO AE	Yes (part of salaries are own contributions) No (subcontracting)

		and practices. These are the foundations that can be used to build upon. Automatically this process will identify barriers/needs (legal, technical) to be addressed in realizing effective data-sharing in a One Health context. This task could also include updating already existing mapping in MSs. Subtask 4.1.3. Piloting promising approaches. Based on the stakeholder analysis and the systems mapping, piloting of implementation of One Health surveillance systems will be conducted. Pilots will be designed at country-level to take into account the different pace One Health is developed in the different countries, as well as locally relevant needs. Where applicable, the stakeholders concurring to the One Health management of foodborne infections and outbreak events, identified in the countries conducting the pilots, will be involved, and the design will be developed encompassing the entire process of surveillance. Identification of legal constraints possibly hindering the sharing of information, including sensitive data, among sectors will be a focus. The design of the pilots will take into consideration the priority foodborne pathogens considered by the zoonoses directive, in particular Salmonella and STEC infections. The work builds on previous work done e.g. in One Health EJP. This activity will include the selection of best procedures for identification of cases (e.g. case definitions in place, notification procedure) and for the detection and typing of the pathogens, including preparedness for ongoing and future changes (e.g. increased application of culture-independent diagnostic tests). Another focus is harmonization of selected procedures and diagnostic and typing methodologies as well as the assembling of data into a standard suitable for the prompt sharing between the different stakeholders/sectors. The selection of flexible IT platforms for the data collection, analysis and sharing, granting a distributed access to all the actors involved in the surveillance and outbreaks' management will be based on the system mapping and the identified solutions, which will be considered as the more robust will be proposed for implementation. Emphasis will be given to the systems for the early identification of cluster of cases, using algorithms and software for which enough data on their robustness are available in the scientific literature. Similarly, solutions used in routine surveillance programs in the participating countries will be preferentially used. In this respect, for example the joint molecular typing database being developed by EFSA and ECDC will be considered as a possible source of genomes' clustering software and algorithms for the pilots to be implemented in the framework of the project. Where applicable, a new system mapping of the situation will be conducted after piloting, with an evaluation of the solutions applied and a report on the applicability on a large scale will be produced.			
T4.2	Zoonotic influenza	Influenza viruses of swine and avian origin have the potential to adapt and cross the species barrier to humans. Since every human infection with a zoonotic influenza virus potentially poses a pandemic threat, all cases are notifiable to the World Health Organization (WHO) under the International Health Regulations (Organization, 2014) and need to be closely investigated in a One Health setting. Subtask 4.2.1. Goal description and stakeholder analysis. We will proceed as described in Task 4.1.1. Subtask 4.2.2. Systems mapping of current and desired situation. We will proceed as described in Task 4.1.2.	SSI FHI Sciensano RIVM	BEN BEN BEN BEN	Yes (part of salaries are own contributions) No (subcontracting)

		Subtask 4.2.3. Piloting promising approaches. Based on the stakeholder analysis and the systems mapping an action plan will be made for piloting implementation of One Health surveillance systems. We will proceed as described in Task 4.1.2. The design of the piloting will take into consideration key gaps and challenges in integrating new signals, using a One Health approach. For example, active surveillance for zoonotic influenza virus infections in persons occupationally exposed to swine and birds will be explored. A specific emphasis will be given to swine flu. Pigs are susceptible for influenza viruses from humans and other animals and are sometimes referred to as a "mixing vessel" for creation of new influenza viruses though reassortment (exchange of gene segments) (5). Better knowledge about the influenza viruses circulating in pigs is therefore important for public health in order to rapidly detect new viruses with zoonotic and pandemic potential. The objective of this pilot study is to enhance the virological surveillance in swine by i) active virological sentinel screening of swine at farm level (incl. improving testing methods), ii) compare any influenza viruses detected in swine with influenza viruses from humans with state-of-the-art methods like whole-genome-sequencing, iii) vaccination coverage survey.			
T4.3	Vectorborne disease	Over 17% of all infectious diseases are vectorborne, i.e., are transmitted by vectors, small organisms such as mosquitoes or ticks in which the causal pathogen can multiply and, in some cases, evolve and that have an active role in the transmission of a pathogen from one host to the other. They can be caused by either parasites, bacteria, or viruses. Vector borne disease cause globally over 700 000 deaths each year. In the European Union, some vector borne diseases are endemic (occurring every year) such as leishmania, West Nile fever, tick borne encephalitis, others have caused occasional outbreaks showing some level of local transmission capacity but are more frequently imported from other endemic countries (e.g., chikungunya, dengue, malaria), while for other diseases, so far, there is evidence of importation but not of local transmission (e.g., rift valley fever, yellow fever). Many factors may facilitate the introduction and establishment of disease vectors, reservoirs or pathogens in new geographic areas and could lead to the emergence of a disease in Europe: international travel and trade, e.g., legal, and illegal trade in animals and animal products, new agricultural practices and land-use patterns, socio-demographic evolution, and climatic changes. For this reason, often vectorborne diseases are emerging and re-emerging and their epidemiology is constantly evolving (Control, 2022). Subtask 4.3.1. Goal description and stakeholder analysis. We will proceed as described in Task 4.1.1. Subtask 4.3.2. Systems mapping of current and desired situation. We will proceed as described in Task 4.1.2. Subtask 4.3.3. Piloting promising approaches. Based on the stakeholder analysis and the systems mapping an action plan will be made for piloting implementation of One Health surveillance systems. We will proceed as described in Task 4.1.3. The design of the piloting will take into consideration key gaps and challenges in integrating new signals, using One Health approach. Emphasis will be the exchange of "mature" surveillance system for vectorborne disease to partner, and the subsequently	ISS NVSC CSFJA	BEN BEN BEN	Yes (part of salaries are own contributions) No (subcontracting)

		apply those to their local needs. This might be on West Nile virus, tickborne encephalitis, Chikungunya, or other since the systems should be general in nature.			

Milestones and deliverables (outputs/outcomes)

__Milestones__ are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
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For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
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Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS17	Agreed harmonized methodology regarding goal analysis and stakeholder analysis across tasks	4	RIVM	The 3 tasks within Wp4 use the same methodology regarding the subtasks. A working group over the tasks will be established to define a common methodology/approach	6	Harmonized methodology agreed
MS18	Agreed harmonized methodology regarding systems mapping across tasks	4	RIVM	The 3 tasks within Wp4 use the same methodology regarding the subtasks. A working group over the tasks will be established to define a common methodology/approach	6	Harmonized methodology agreed
MS23	Goal description, stakeholder analysis and systems mapping completed for foodborne zoonoses	4	ISS	The goal, stakeholder analysis and systems mapping are completed for foodborne zoonoses.	12	Report on systems mapping and piloting of One Health surveillance of foodborne disease

MS24	Goal description, stakeholder analysis and systems mapping completed for zoonotic influenza	4	SSI	The goal, stakeholder analysis and systems mapping are completed for zoonotic influenza.		12	Report on systems mapping and piloting of One Health surveillance of zoonotic influenza
MS25	Goal description, stakeholder analysis and systems mapping completed for vectorborne disease.	4	ISS	The goal, stakeholder analysis and systems mapping are completed for vectorborne disease.		12	Report on systems mapping and piloting of One Health surveillance of zoonotic influenza
Deliverable No (continuous numbering linked to WP)	**Deliverable Name**	**Work Package No**	**Lead Beneficiary**	**Type**	**Dissemination Level**	**Due Date (month number)**	**Description (including format and language)**
D4.1	Final report	4	ISS	*[*R — Document, report*] [*	*[*SEN — Sensitive*]*	30	Final report on systems mapping and piloting of One Health surveillance of foodborne disease, zoonotic influenza and foodborne zoonoses. Format: PDF. Language: English

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

Work Package 5

Work Package 5: Evaluation			
Ensure consistence with the detailed budget table (if applicable).			
Duration:	M1 – M30	**Lead Beneficiary:**	CIPH
Objectives *List the specific objectives to which this work package is linked.*			
The objective of this WP is to perform a systematic and objective assessment of the relevance, efficiency, effectiveness, impact, economic and financial viability, as well as sustainability of the project in the context of its objectives. Specific objectives: ▪ To evaluate if project processes are going according to plan ▪ To evaluate whether the participants (WP leaders, stakeholders, MS representatives, etc.) are satisfied with the project's processes			

- To assess the outcomes of JA
- To monitor whether deliverables are produced on time and in accordance with the proposed objectives (JA outputs)
- To evaluate the ability to implement the new findings of this JA in Member States (the feasibility factor; JA outcomes)

Activities (what, how, where) and division of work

Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.
*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.*
Note:
In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.
The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.
If there is subcontracting, please also complete the table below.

Task No (continuous numbering linked to WP)	Task Name	Description	Participants		In-kind Contributions and Subcontracting (Yes/No and which)
			Name	Role (COO, BEN, AE, AP, OTHER)	
T5.1	Evaluation plan	Evaluation plan will include creating of objectives, methodology, indicators and time plan.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions) Yes (subcontracting) - S1, External evaluator (CIPH) - €3,000.00
T5.2	Development of evaluation tools	Creation of evaluation surveys that are going to be sent out to the participants after key meetings.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions) Yes (subcontracting) - S1, External evaluator (CIPH) - €3,000.00
T5.3	Evaluation workshop	Workshop with WPLs with the aim of gaining a deeper insight into satisfaction with JA processes and the direction of development of the JA itself.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions) No (subcontracting)
T5.4	Interim evaluation	Interim evaluation activities will be carried out to check the correspondence between planned activities and timetable.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions) No (subcontracting)
T5.5	Analysis of evaluation results	Analysis will include creation of checklist of process, output and outcome indicators based on surveys filled by participants after key meetings and workshop outputs.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions) No (subcontracting)
T5.6	Final evaluation	Final evaluation activities will be carried out to monitor the implementation process for WPs activities and assessment of achievement of JA specific objectives.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions) No (subcontracting)
T5.1	Evaluation plan	Evaluation plan will include creating of objectives, methodology, indicators and time plan.	CIPH and all Partners	COO, BEN and AE	Yes (part of salaries are own contributions)

					Yes (subcontracting) - S1, External evaluator (CIPH) - €3,000.00

Milestones and deliverables (outputs/outcomes)

__Milestones__ are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
__Deliverables__ are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.
For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.
For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
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Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS7	Evaluation plan	5	CIPH	List of process, output and outcome indicators prepared. Key strategic document for evaluation of the JA will contain all the basic elements of process evaluation, including key evaluation objectives and key process evaluation activities.	3	Strategic document for evaluation of the JA, including key evaluation objectives and key activities. Format: PDF, languague: English
MS19	Evaluation survey	5	CIPH	Evaluation surveys for the participants prepared.	6	Evaluation tool available
MS29	Evaluation workshop	5	CIPH	Workshop with WPLs to ascertain qualitative interviews and in-depth insight into WPs and stakeholders.	16	Workshop Report
MS32	Interim evaluation	5	CIPH	Interim report contains the analysis of JA progress, evaluates the level of accomplishment of each WP's objectives. It summarizes the results of the questionnaires, focus groups, documents and draft deliverables analysis, and overall progress of the JA. Format: PDF, languague: English	18	Document available on the official web site
MS41	Checklist	5	CIPH	Creation of checklist of process, output and outcome indicators.	30	Document sent to WP leaders
MS42	Final evaluation	5	CIPH	Final evaluation activities will be carried out to monitor the implementation process	30	Document available on the official web site

				for WPs activities and assessment of achievement of JA specific objectives.			
Deliverable No (continuous numbering linked to WP)	**Deliverable Name**	**Work Package No**	**Lead Beneficiary**	**Type**	**Dissemination Level**	**Due Date (month number)**	**Description (including format and language)**
D5.1	Final Evaluation Report	5	CIPH	*[R — Document, report]*	*[SEN — Sensitive]*	30	Final Evaluation Report submitted

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

Work Package 6

Work Package 6: Dissemination

Ensure consistence with the detailed budget table (if applicable).

Duration:	M1 – M30	**Lead Beneficiary:**	RIVM - NVSC

Objectives

List the specific objectives to which this work package is linked.

The objective of this WP is to achieve efficient and effective visibility, awareness, and acceptance of the project to internal and external stakeholders.
A specific and appropriate communications and dissemination strategy ensuring visibility for, and awareness of, the project will be developed, implemented, and evaluated. The outcome of this will mean greater awareness of the Joint Action and its benefits to the European population.

Activities (what, how, where) and division of work

Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.
*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.*
Note:
In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.
The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.
If there is subcontracting, please also complete the table below.

Task No (continuous numbering linked to WP)	**Task Name**	**Description**	**Participants**		**In-kind Contributions and Subcontracting (Yes/No and which)**
			Name	Role (COO, BEN, AE, AP, OTHER)	
T6.1	Communication/dissemination plan	A communication plan will be developed on the MS and Union level, including: - Stakeholder analysis and needs assessment - Defining key messages - Identification of most effective channels - Timing of dissemination activities Implementation of Communication / dissemination plan	RIVM NVSC	BEN BEN	Yes (part of salaries are own contributions) No (subcontracting)

T6.2	Project communication materials	- Logo - Website - Leaflet - Project-specific templates (presentation, letters, reports, etc.)	RIVM NVSC	BEN BEN	Yes (part of salaries are own contributions) No (subcontracting)
T6.3	Training and learning	This task will assist the core WPs in organizing and executing training / site-visits / workshops within core WPs 2, 3 and 4	RIVM NVSC	BEN BEN	Yes (part of salaries are own contributions) No (subcontracting)
T6.4	Communication/dissemination Report	A communication report about implementation of MS and Union level dissemination activities	RIVM	BEN	Yes (part of salaries are own contributions) No (subcontracting)

Milestones and deliverables (outputs/outcomes)

__Milestones__ are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
__Deliverables__ are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.
For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.
For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
For each deliverable you will have to indicate a due month by when you commit to upload it in the Portal. The due month of the deliverable cannot be outside the duration of the work package and must be in line with the timeline provided below. Month 1 marks the start of the project and all deadlines should be related to this starting date.
The labels used mean:

Public — fully open (⚠ automatically posted online on the Project Results platforms)
Sensitive — limited under the conditions of the Grant Agreement
EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444.

Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS2	Communication /dissemination plan	6	RIVM NVSC	This milestone will ensure a clear communication plan in the early phase of the project	2	Communication plan document delivered and shared within consortium
MS3	Project communication materials (logo + leaflet + templates)	6	RIVM NVSC	This milestone will control the timely availability of project communication materials and tools.	2	Package of communication materials and tools ready to be distributed / disseminated within the consortium
MS8	Website	6	RIVM	A website will be created for internal and external communication	3	Website launch

Deliverable No (continuous numbering linked to WP)	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month number)	Description (including format and language)
D6.1	Dissemination report	6	NVSC	*[R — Document, report]*	*[SEN — Sensitive]*	30	Report on the total of dissemination and communication activities executed during the JA

							submitted. Format: PDF, language: English

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

Work Package 7

Work Package 7: Sustainability			
Ensure consistence with the detailed budget table (if applicable).			
Duration:	M12 – M36	**Lead Beneficiary:**	NVSC
Objectives *List the specific objectives to which this work package is linked.*			
The aim of this WP is to enhance project collaboration and effective project management for the consortium. To accomplish this, several objectives have been set. The specific objective of this WP is to integrate best practices of surveillance in national policies and improve cooperation mechanisms between EU Member states. The specific objectives of this WP will include: 1. Developing a sustainability plan and roadmap to implementation of integration surveillance 2. Fostering sustainability of core actions engaged by the JA WPs and uptake at the national level.			
Activities (what, how, where) and division of work *Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.* *Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader. Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.* ***Note:*** *In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.* *The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.* *If there is subcontracting, please also complete the table below.*			

Task No (continuous numbering linked to WP)	Task Name	Description	Participants		In-kind Contributions and Subcontracting (Yes/No and which)
			Name	Role (COO, BEN, AE, AP, OTHER)	
T7.1	Sustainability working group	Sustainability working group will consist of the leaders of the other work packages and ad hoc invited experts and other stakeholders.	NVSC RIVM RKI SSI THL NHI CIPH	BEN COO BEN BEN BEN BEN BEN	Yes (part of salaries are own contributions) No (subcontracting)
T7.2	Sustainability plan (JA and nationals)	A Sustainability plan (JA) will be developed including: a) objectives and analysis of the benefits from the joint action	NVSC All BEN partners	BEN COO & BEN	Yes (part of salaries are own contributions)

		results/deliverables integration in policies; b) analysis of the activities that could be implemented at a national level only and of the activities that need to be facilitated at a European level; c) legal documents that are necessary for the continuity of activities; f) a model national sustainability plan which will be then adapted and implemented at a national level by the partners.			Yes (subcontracting), a legal advisor will be subcontracted to provide advice on the sustainability issues and the possibilities of amending existing legislation.
T7.3	Interim Report on the Sustainability	The report about the progress of National and JA sustainability plans implementation.	NVSC All BEN partners	BEN COO & BEN	Yes (part of salaries are own contributions) No (subcontracting)
T7.4	Final Report: Roadmap to implementation of integration infectious diseases surveillance	The final report about the implementation of National and JA sustainability plans and a description of the activities that will continue after the end of the JA.	NVSC All BEN partners	BEN COO & BEN	Yes, a legal advisor will be subcontracted to provide advice on the sustainability issues and the possibilities of amending existing legislation.

Milestones and deliverables (outputs/outcomes)

Milestones *are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.*
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.
Deliverables *are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.*
For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.
For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
For each deliverable you will have to indicate a due month by when you commit to upload it in the Portal. The due month of the deliverable cannot be outside the duration of the work package and must be in line with the timeline provided below. Month 1 marks the start of the project and all deadlines should be related to this starting date.
The labels used mean:

Public — fully open (⚠ automatically posted online on the Project Results platforms)
Sensitive — limited under the conditions of the Grant Agreement
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Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date (month number)	Means of Verification
MS26	Sustainability plan	7	NVSC	The Sustainability plan will consist of activities which are planned to implement, monitoring, horizontal and vertical integration, dissemination of national plans, required documents for continuity of activities	12	Sustainability plan available
MS28	National sustainability plans	7	NVSC	National sustainability plan consists of sustainability objectives and their implementation, monitoring, horizontal and vertical integration, funding, challenges.	15	National Sustainability plans available

MS40	Reports on the progress of National sustainability plans implementation	7	NVSC	Information and data need for the report on the progress will be collected via questionnaire which will be disseminated to the partners		24	Report on the progress of National sustainability plans implementation is available
MS43	Sustainability working group meetings	7	NVSC	Sustainability working group will discuss about sustainability related issues		36	Sustainability Working Group minutes
Deliverable No (continuous numbering linked to WP)	**Deliverable Name**	**Work Package No**	**Lead Beneficiary**	**Type**	**Dissemination Level**	**Due Date (month number)**	**Description (including format and language)**
D7.1	Final Report: Roadmap to implementation of integration infectious diseases surveillance	7	NVSC	*[R — Document, report]*	*[SEN — Sensitive]*	36	The final report on the implementation of National and JA sustainability plans and a description of the activities that will continue after the end of the JA. Format: PDF, languague: English

Estimated budget — Resources
See detailed budget table (annex 1 to Part B).

4.3 Timetable

Timetable (projects of more than 2 years)
Fill in cells in beige to show the duration of activities. Repeat lines/columns as necessary.
Note: *Use actual, calendar years and quarters. In the timeline you should indicate the timing of each activity per WP. You may add additional columns if your project is longer than 6 years.*

ACTIVITY	YEAR 1				YEAR 2				YEAR 3			
	Q 1 1-3	Q 2 4-6	Q 3 7-9	Q 4 10-12	Q 1 13-15	Q 2 16-18	Q 3 19-21	Q 4 22-24	Q 1 25-27	Q 2 28-30	Q 3 31-33	Q 4 34-136
Task 1.1 - Project management												
Task 1.2 – Effective project collaboration												
Task 2.1 – Improving laboratory-based reporting												
Task 2.2 – Outbreak & signal Detection												
Task 3.1 - Establish or improve sentinel-based electronic surveillance of serious infectious diseases or syndromes from hospitals in participating Member States.												

Task 3.2 - Integrate clinical information on hospitalized patients with microbiological data, in MS using nation-wide register-based public health surveillance.												
Task 4.1.1. Goal description and stakeholder analysis.												
Task 4.1.2. Systems mapping of current and desired situation.												
Task 4.1.3. Piloting promising approaches												
Task 4.2.1. Goal description and stakeholder analysis.												
Task 4.2.2. Systems mapping of current and desired situation.												
Task 4.2.3. Piloting promising approaches.												
Task 4.3.1. Goal description and stakeholder analysis.												
Task 4.3.2. Systems mapping of current and desired situation.												
Task 4.3.3. Piloting promising approaches.												
Task 5.1 Evaluation plan												
Task 5.2 Development of evaluation tools												
Task 5.3 Evaluation workshop												
Task 5.4 Interim evaluation												
Task 5.5 Analysis of evaluation results												
Task 5.6 Final evaluation												
Task 6.1. Communication/dissemination plan												
Task 6.2. Project communication materials												
Task 6.3. Training and learning												
Task 6.4. Communication/dissemination report												
Task 7.1 – Develop Sustainability plan												
Task 7.2 – Develop National sustainability plans/actions (documents on integration in national policy)												
Task 7.3 - Sustainability working group meetings (reports)												
Tasks 7.4 - Reports on the progress of National sustainability plans implementation												
Task 7.5 - Final Report: Roadmap to implementation of integration surveillance												

4.4 Subcontracting

Subcontracting
Give details on subcontracted project tasks (if any) and explain the reasons why (as opposed to direct implementation by the Beneficiaries/Affiliated Entities).
Subcontracting — Subcontracting means the implementation of 'action tasks', i.e. specific tasks which are part of the EU grant and are described in Annex 1 of the Grant Agreement.
***Note:** Subcontracting concerns the outsourcing of a part of the project to a party outside the consortium. It is not simply about purchasing goods or services. We normally expect that the participants have sufficient operational capacity to implement the project activities themselves. Subcontracting should therefore be exceptional.*
Include only subcontracts that comply with the rules (i.e. best value for money and no conflict of interest; no subcontracting of coordinator tasks).

Work Package No	Subcontract No (continuous numbering linked to WP)	Subcontract Name (subcontracted action tasks)	Description (including task number and BEN to which it is linked)	Estimated Costs (EUR)	Justification (why is subcontracting necessary?)	Best-Value-for-Money (how do you intend to ensure it?)
5	S5.1	External evaluator	CIPH, Task 5.1 and Task 5.2 Expert to pride input into the Evaluation Strategy as well as key strategic indicators to assess achievement of objectives	€3,000.00	External evaluation will provide insight from independent experts on the quality of our proposed evaluation materials and the strategy by which we are planning to evaluate the Action. This will help us to ensure the highest possible quality of data collection for evaluation purposes, as well as obtaining quality and useful information exchange during the Workshop. The external evaluation will thus complement the Evaluation Strategy itself and provide inputs on how to ensure the highest possible quality of the JA evaluation.	External evaluators will be selected according to the criteria of the input they can provide in terms of evaluation. In addition to the price criteria, the offer that includes inputs on how to achieve the highest possible quality of evaluation data and the best ways to present them will be taken into account.
7	S7.1	Legal advisor	Task T7.2 and T7.4 NVSC	€30,000.00	To provide advice on the sustainability issues and the possibilities of mending existing legislation.	The legal advisor will be subcontracted according to the public procurement procedures (requirements for the supplier will be prepared and the supplier who meets the requirements and offers the lowest price will be chosen)

Other issues: *If subcontracting for the project goes beyond 30% of the total eligible costs, give specific reasons.*	N/A

5. OTHER

5.1 Ethics

Ethics
If the Call document contains a section on ethics, describe ethics issues that may arise during the project implementation and the measures you intend to take to solve/avoid them.

N/A

5.2 Security

Security
If the Call document contains a section on security, describe security issues that may arise during the project implementation and the measures you intend to take to solve/avoid them.
Indicate if there is need for EU classification of information (Decision 2015/444) or any other specific security measures.

N/A

6. DECLARATIONS

Higher funding rate (if applicable)	YES/NO
Do you fulfil the conditions set out in the Call document for a higher funding rate? If YES, explain and provide details.	YES
We fulfil the criteria on that we have *bodies from at least 14 participating Member States participate in the action, of which at least four are Member States whose GNI per inhabitant is less than 90 % of the Union average*. In UNITED4Surveillance we have 11 out of 21 beneficiaries that are from Member States whose GNI per inhabitant is less than 90 % of the Union average. With affiliated entities and associated partners included, we have 17 out of 34 bodies that are from Member States whose GNI per inhabitant is less than 90 % of the Union average.,	

Double funding Information concerning other 5.1.2e for this project ⚠ *Please note that there is a strict prohibition of double funding from the EU budget (except under EU Synergies actions).*	YES/NO
We confirm that to our best knowledge neither the project as a whole nor any parts of it have benefitted from any other EU grant *(including EU funding managed by authorities in EU Member States or other funding bodies, e.g. Erasmus, EU Regional Funds, EU Agricultural Funds, European Investment Bank, etc)*. If NO, explain and provide details.	YES
We confirm that to our best knowledge neither the project as a whole nor any parts of it are (nor will be) submitted for any other EU grant *(including EU funding managed by authorities in EU Member States or other funding bodies, e.g. Erasmus, EU Regional Funds, EU Agricultural Funds, European Investment Bank, etc)*. If NO, explain and provide details.	YES

Financial support to third parties (if applicable)
If in your project the maximum amount per third party will be more than the threshold amount set in the Call document, justify and explain why the higher amount is necessary in order to fulfil your project's objectives.

N/A

ABBREVIATIONS

AGES – Austrian Agency for Health and Food Safety
API – Application Programming Interface
ARS – Tuscany Regional Health Agency, Italy
AT – Austria
BE – Belgium
BMSGPK – Federal Ministry of Social Affairs, Health, Care and Consumer Protection (Bundesministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz), Austria
CDPC – Centre of Decease Prevention and Control, Latvia
CIPH – Croatian Institute of Public Health, Croatia
CSFA – Regional Ministry of Health and Families of Andalusia, Spain
CY – Cyprus
CZ – Czech Republic
DE – Germany
DGS – Directorate-General of Health, Portugal
DG Sante – Directorate General for Health and Food Safety / SPF, France
DK - Denmark
TA – Estonia
ES – Spain
FI – Finland
FOHM – Public Health Agency of Sweden (Folkhälsomyndigheten), Sweden
FR – France
HDIR – Directorate of Health, Norway
HPSC – Health Protection Surveillance Centre, Ireland
HR – Croatia
HU – Hungary
IE – Ireland
INSP – National Institute of Public Health, Romania
ISCIII – Instituto de Salud Carlos III, Spain
IRFMN – Mario Negri Institute for Pharmacological Research, Italy
ISS – Istituto Superior di Sanita, Italy
IT – Italy
LT – Lithuania
LV – Latvia
MFH – Health Promotion and Disease Prevention Unit, Ministry for Health, Malta
MoA - Ministry of Health, Croatia
MoH – Ministry of Health, Italy
MPHS – Medical and Public Health Services, Ministry of Health, Cyprus
MS – Member States
MT – Malta
NIJZ – Slovenian National Institute of Public Health, Slovenia
NIPH – Norwegian Institute of Public Health, Norway
NIPH NIH - NRI – National Institute of Public Health – National Institute of Hygiene – National Research Institute, Poland
NL – The Netherlands
NLZOH – National Laboratory of Health, Environment and Food, Slovenia
NO – Norway
NPHC – The National Public Health Center, Hungary
NVI – Norwegian Veterinary Institute, Norway
NVSC – National Public Health Center under the Ministry of Health, Lithuania
PL – Poland
PT – Portugal
RIVM – National Institute for Public Health and the Environment, The Netherlands
RKI – Robert Koch Institute, Germany
RO – Romania
Sciensano – Belgian Institute for Health
SE – Sweden
SI – Slovenia
SSI – Statens Serum Institut, Denmark
STEC – Shiga toxin-producing *E.coli*
SZU – The National Institute of Public Health, Czech Republic
TA – Health Board (Terviseamet), Estonia
THL – Finnish Institute for Health and Welfare (Terveyden ja hyvinvoinnin laitos), Finland
UCPH – University of Copenhagen, Denmark
UKCLJ – University Medical Centre Ljubljana, Slovenia
WBVR – Wageningen Bioveterinary Research, The Netherlands
WP – Work Package

REFERENCES

Commission, E. (2021, 12 1). *Communication* Retrieved from https://ec.europa.eu/info/sites/default/files/communication-addresssing-covid19-challenges.pdf

Commission, E. (2022, 4 26). *COVID-19 - Sustaining EU Preparedness and Response: Looking ahead*. Retrieved from https://ec.europa.eu/health/publications/covid-19-sustaining-eu-preparedness-and-response_en

Fund, I. M. (2022, January). *Rising Caseloads, A Disrupted Recovery, And Higher Inflation*. Retrieved from Rising Caseloads, A Disrupted Recovery, And Higher Inflation: https://www.imf.org/en/Publications/WEO/Issues/2022/01/25/world-economic-outlook-update-january-2022

Institutes, I. I. (2022). *Building global public health capacity*. Retrieved from https://www.ianphi.org/

Organization, W. H. (2014). *International Health Regulations (2005) Third Edition*. Retrieved from https://www.who.int/publications/i/item/9789241580496

Programme, O. H. (2021). *One Health Risk Analysis System*. Retrieved from https://www.ohras.eu/page/home/61eedcdbbc93b661d531c779

Programme, O. H. (2021). *MATRIX: Connecting dimensions in One-Health surveillance*. Retrieved from https://onehealthejp.eu/jip-matrix/

ANNEXES

Standard
Detailed budget table (annex 1 to Part B) — *uploaded*
CVs (annex 2 to Part B) — *uploaded*
Annual activity reports (annex 3 to Part B) — *N/A*

List of previous projects (annex 4 to Part B) — *uploaded*
Special: Other annexes (annex X to Part B) — *N/A*

HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
1.0	15.04.2021	Initial version (new MFF).