Executive Summary:
Over a total period of three and a half years and five months, the CONCORDE project researched needs, designed, developed, implemented and validated a system for improvement of coordination of Health Services in their response to different kinds of emergencies.
One major prerequisite was the full process analysis, identification of the primary needs and the concept design for a comprehensive end-to-end service, led by two major medical emergency practitioner partners. The system design was aided by interdisciplinary research and technology expertise to enrich the service.
with innovative real time information gathering features and decision support and brought meaningful results.

During the project a toolbox with modular software components was developed. These can be summarised as a) Incident management module (incident information, team management and hospital management), b) Interactive map, c) Patient management module, d) Rescue and Field applications, e) Tracking applications, f) Semantically driven decision support and prediction services. Replay for evaluation and learning is also enabled.

The overall ambition was to provide in real time full participant visibility, presentation of information required to perform their tasks in the incident, patient status and hospital resource visibility through the creation of a Common Information Space/CIS for all EMS participants in a given incident (irrespective of type or size). The CIS aims to significantly reduce the need and time for multiple voice communications to gain joint situational awareness and to improve coordination and informed decision making by enabling exchange of timely, accurate and reliable information. Facilitation of real-time information gathering is also a prerogative for the incorporation of meaningful decision support features, to further aid the quality of decisions made using the system.

To evaluate the operation and usability of the COncORDE system we performed two stages of pilot exercises, each of them testing at least two different emergency scenarios. The two stages reflected the level of maturity of the integrated prototypes and the feedback obtained served to improve the usability of the features, as well as overall system function.

The first prototype was tested in a virtual emergency training environment, which was an innovative and cost effective way of validating a system under development. The pilot 1 preparation included training needs analysis of the participants and the development and deployment of a targeted collaborative training program. The communication via the first prototype of the CIS allowed participants to successfully coordinate in managing ad hoc events, which highlighted the merits of the system design.

The pilot 2 field exercises tested the second prototype of the COncORDE CIS, enriched with the geo-location and tracking features. Two pilot scenarios focused on a) validation of the incident management features, b) patient and resource management features. Some challenges related to network strength and use of improvised field devices had to be overcome and the validation was successful. Following pilot 2, the evaluation notes that 85% of the desired functionality list (144 user requirements), is available. 66% of functionality is observed to be of a high-quality implementation with only minor improvements required from the end user perspective.

The pilot 2 preparation included further collaborative training delivery. The training evaluation results not only showed that the participants reached their training objectives, but they also indicated that the use of the COncORDE system contributed to the improvement in the targeted competency areas.

The observations and the feedback that COncORDE reduces the need for voice communication and overall makes communication much more effective was the biggest reward for over three years of team work of the COncORDE partners. Of course further technical work, testing and validation will be required in the pre-commercialisation phase, in order to provide robust evidence for the effectiveness of the system. At completion time of the project the partners have a clear exploitation plan and a roadmap with the necessary steps to bring the COncORDE system to implementation in practice.

Project Context and Objectives:
COncORDE is a Capability Project funded by the SEC-2013.4.1 theme “Development of decision support
tools for improving preparedness and response of Health Services involved in emergency situations. The project name stands for Development of Coordination Mechanisms During Different Kinds of Emergencies. Therefore the overall project task is to improve coordination in health system response in any size and kind of emergencies.

The specific Project Objectives are listed as follows:

Project Objective 1
• Improve preparedness and interoperability of medical services from local to international level

Project Objective 2
• Optimise coordination (of variable participants) and quality of response

Project Objective 3
• Enable monitoring, evaluation and improvement of response, use results for training

These project objectives should be reached by the development of an innovative toolbox of solutions with knowledge-enabled decision support.

The Context of the project can be summarised with the following keywords:
Improve coordination
Health services/EMS
Pan-European
All-Hazard
Innovative system
Decision support
Evaluation & Training

A summary overview of how the COncORDE project results meet the objectives is provided below:

Project Objective 1
• Improve preparedness and interoperability of medical services from local to international level

The COncORDE system improves preparedness and interoperability by providing easy to access, incident-based common information spaces, which link all participants in the emergency medical response. There is no system to date, which provides this type of service. Upon registration in the system, the participants can test their own incident plans using scenarios, which would help them identify gaps and solve issues in advance, prior to an incident occurring. Using the tool requires health systems to provide their local specifics (roles, plans, terminologies) in the preparation phase, these can be easily customised within the minimum data set of concepts for information exchange. The generic design of the system allows its use across boundaries, irrespective of whether they are municipal, national or international. The deployment of the system does not depend on integration with existing systems, nevertheless the system provides APIs for communication with external parties.

Project Objective 2
• Optimise coordination (of variable participants) and quality of response

As the COncORDE set of tools is deployed for operational use, it creates a Common Information
Space/CIS, which enables real-time sharing of operational information between ALL participants (incl. organisations) in the emergency medical response to a given incident. The system enables real-time situational awareness and informed decision-making and with this it improves the coordination of the response and its quality. The real-time operational information gathered enables also accurate feeds to decision support tools (the existence of which would be futile if they would not be processing accurate, relevant and timely information). Since the decision-support is designed to learn from real data, its contribution to the quality of decision-making will have practical relevance.

Project Objective 3
- Enable monitoring, evaluation and improvement of response, use results for training
Analysing results and taking the appropriate actions to remedy any shortcomings also leads to improved response. In addition, gaps in emergency response plans can be recognised much faster and bridged. As shown after the pilots, the system allows After-action evaluation. The pilots have also shown that it adds value to training outcomes. It can be used for the design of various scenarios for the purposes of training, these scenarios can be run both in a rigid manner to explore specific points, as well as in the form of freeplay to mimic the unpredictability of real-life situations. Further, since it records events from operational use, these can be replayed and training scenarios based on real life can be designed.

Moreover, the innovative and yet generic design of the system allows deploying it in any size and kind of emergencies, in any health system.

All project objectives have been achieved.

Project Results:
During the project a lot of foreground has been developed by the consortium partners and validated. The main result is the integrated COncORDE platform with all its services. By its design the platform meaningfully connects all EMS participants in emergency response, which are in generic terms the PSAPs (112/control rooms), the dispatched EMS responders, the First receiver hospitals and any involved Higher command centres. Since the participants by nature of the response organisation act in different geographical locations and different spaces of the workflow, which creates gaps in the common operational picture and loss of information, COncORDE addresses these gaps as a priority, to improve coordination within the health service, as a prerogative to meaningful coordination with other responder units.

The platform allows the creation of a Common Incident Space per incident, in which the participants exchange information in real time and gain joint situational awareness, which improves the quality of decision-making and the response.

The operational information exchange pertains to the fulfillment of the common organisation goal of the EMS responders, which is Patient Safety – getting the Right Patient, at the Right Time to the Right Place.

The platform consists of several modular components. These shall be listed below, along with an explanation of their functionalities, as they are linked in the integrated versions, (i.e. with cross-linking between modules), referred to as the COncORDE tools.
Incident management tool
The incident management tool (TRL6) is a core tool of the system and provides the environment for the integration of all other tools. It consists of:

The incident information tool
This tool collects and aggregates all the information provided about the incident. The information consists of the initial dispatch information as provided by PSAP to the system, the SITREPs as entered by the field commander and all the related other information that participants have provided about the incident. The incident information tool is linked to multiple other tools. The interactive map is embedded in the incident module and enables geo-location of the incident, tracking of all participants, patients, as well as finding and contacting other organisations (mainly hospitals). It also provides a link to the information on patients in the different stages of the incident, such as estimated patient numbers and initial information, physically acquired real-time data of all patients at the scene, as well as their immediate needs. Integration of semantic support provided by partner VTT enhances the spectrum of the functionalities offered.

The team management tool (Team table)
This tool aggregates the information about any participant logged into the incident. It combines event logging with the responder tracking tool. Complete overview over team is enabled, as well as role allocation (manual or via DSS) and communication (i.e. link to notifications). The tool also links to the hospital management tool, since hospitals are incident participants as well who are represented by the hospital commander in the team table. The hospital information and the patient information link via the DSS to enable referral allocation.
One additional feature is the ability to customise the actual content of a menu, if it differs across different jurisdictions and health systems.

Hospital management tool
This tool provides the ability to communicate with hospitals to obtain information on hospital capacity. It aggregates information on all hospitals fitting the search criteria. It allows a hospital summary view of capacity, visualising which hospital has joined the incident, inviting hospitals to join and referring patients (incl. providing patient e-form to hospitals). The information entered about type of specialties links to the semantic tool for suggestions of matching referral diagnosis from the patient status information tool to the type of hospital specialty to which the patient should be referred and to the decision support tool for allocation.

The COncORDE interactive Map
The COncORDE map (TRL6 reached of TRL9) comprises the second core tool to the entire system. It is built on pre-existing Esri map technologies as a dedicated service to support the COncORDE specific functionalities. The map integration supports not only the display of geographical maps, but it allows interactive work with the maps in real time, drawing, messaging, viewing participant and tracked asset location at any one time, viewing the associated information with the located participant/tracked asset, as well as conversion of map view to tabular views of all participants and tracked assets. It also allows
integration of third party service providers, such as weather, traffic and social network information. It provides “best route” calculations and suggestions and provides input into the decision support services/DSS tool for patient management (hospital allocation, evacuation and allocation to transport).

Patient management is supported by two tools:

Rescue Application
The rescue application (TRL6) enables emergency responders performing first triage on scene to estimate patients’ status (triage level1) either by selecting a colour, or through selecting the options presented by a triage algorithm display.

The data collected for each patient include the patient’s location, vital signs, the triage status and adult or child categorisation. A RFID card can automatically activate/register the ID of the patient. Monitoring health devices are used to transmit patient’s SPO2 and Heart Rate to the application through Bluetooth connection. Patients with monitoring devices can be continuously tracked should their condition deteriorate over time.

The Rescue Application data are synchronised with the patient table, which collates the entire real time information gathered on a patient throughout the incident management. The patients are also locate-able in real time on the map and the location icon displays the patient status as well.

Patient management tool
The patient status information tool (patient table and patient screens), TRL6, aggregates the entire information gathered on a patient during his emergency management. It starts collecting the information from the moment of the first physical encounter. The patient status information tool collects the following information: triage 1, location, ID, vital signs (from the Rescue application), gender, estimated age, medical assessment, interventions and treatment and needs for further management. It is the equivalent of an aggregated electronic pre-hospital patient care record (ePCR), which is already implemented at various stages of completeness in some health systems. The patient information tool goes beyond current ePCRs in that it enables the provision of information on patients who are currently not monitored at all or not monitored to the point of safe practice. In addition, its information is linked to the patient icon on the map. Even after hospital handover the patient information is still visible as long as the incident space is open, to allow accounting for all patients and tracing what happened to them. After the incident is closed, this information is retrievable for auditing purposes as well. The patient management tool allows a seamless and complete handover of the entire patient information to the receiving hospital and it also allows a prior view of the patient information, before the patient has arrived in the hospital. The tool consists of three interactive individual patient screens and the patients summary table. It is designed to be operated via a tablet for data entry.

The Assess screen features the innovative “Geographical Mannequin”, which “translates” via an underlying map-based service the anatomical area of injury from picture to text on the final Needs screen, see next pictures. The frame of the patient’s individual screens shows the triage 2 colour, depending on the injury score obtained during examination and from the sensor input.

A minimum data set of medical parameters, as well as treatments is enabled to be produced and maintain throughout the incident.

No personal patient data are collected, the system creates a numbered patient ID and only gender and
estimated age are entered, because these are the minimum data, which professionals can work with in an emergency.
The patient Needs screen provides information (referral diagnosis) to the semantic engine, which supports the system suggestions for suitable hospitals. There is a link to the hospital information tool. The patient Needs screen also provides information (referral diagnosis, priority as time to hospital) to the DSS for hospital allocation, evacuation and allocation to transport.

Two tracking tools have been developed:

Rescue Light
A lightweight version (TRL6) of the Rescue Application can monitor user’s location (e.g. en route staff, retrieval runner, transport officer, transporter crew, first receiver, bystander etc.), seen by others in in real time in the platform's map.

Collector Application
The COncORDE Collector application (TRL6) is based on the pre-existing TRL9 Collector Application by Esri for tracking. The modification consists in an adaptation to the user management service, allowing users of the COncORDE platform to be tracked automatically from the moment they join an incident. The application links to the user ID in the specific incident, so that the map displays not only the user ID, but also the role of the user in real time. By enabling the tracking, a user can be found on the map, tasks can be assigned and messages can be sent via the map.

Decision support, predictions and semantic services:

The COncORDE DSS tools offer specialised decision support services, the need for which was specified during the requirements analysis. Their function depends on the availability of reliable data gathered from the incident in real time. As such the DSS tools depend on the correct function of the other/new tools developed in this task.

EMS prediction tool
The DSS prediction tool (TRL5) predicts Medical Resources required to be dispatched after earthquake and flood, using historical data and machine learning techniques as to satisfy the demand. The objective of the medical resources estimation service is to provide alerts and logs of a new incident and make a prediction of resources required to be dispatched so. Historical data of past incidents (earthquakes, floods) regarding the number of victims requested medical assistance (Emergency Medical Service and hospitalisation), simulation tools, web services and machine learning techniques have been combined to do the predictions. Comparing actual and predicted victims needed hospitalisation showed that the models developed can predict medical resources required to be dispatched within acceptable errors. As soon as an EMS prediction is available from the EMS prediction service, the EMS vehicle prediction together with all incident’s information are transferred into the COncORDE platform via REST protocol.

DSS for team management
The decision support service for team management (TRL4) deals with the role allocation on the field
according to the credentials of available participants and the current resource needs.

DSS for patient management
The decision support service for patient management (TRL4) addresses the needs for transport vehicle allocation to patients during evacuation and subsequently first receiver (hospital) allocation. It addresses multiple patients, multiple vehicles and multiple first receivers at the same time, considering their profile in terms of needs, available capacity and expertise. The function of this tool depends on the system gathering and providing all the information required.

Semantic knowledge management tools
These tools (TRL4) support the COncORDE platform with knowledge management functionality towards Situation Awareness and the decision support and related services. Accordingly, the following SW tools and components have been developed:

• The Incident RDF semantic database: represents a flexible ontological model that serves as an intelligent context-aware semantic data store for incident related information. The actual data stored in the semantic database is composed of individuals of the concepts defined in the COncORDE core Incident ontology. The COncORDE core ontology, as well as instructions on how to create an incident description model that is based on the core ontology are published in the GitHub web-based repository hosting service (https://github.com/OntoRep/COncORDE). Moreover, a proof-of-concept semantic database implementation for storing and managing and the created incident models is realised with Fuseki RDF data server. The implemented semantic database provides also a REST SPARQL interfaces to query the hosted incident models.

• The EDXL based vocabularies: which aim at ensuring interoperability between COncORDE incident models and existing domain specific solutions and systems as well as to ensure the extensibility of knowledge based platform services. The open source implementation of the EDXL vocabulary is published to GitHub repository (https://github.com/OntoRep/EDXL).

• Semantically supported DSS functionality (Patient management support): which allows matching the profiles of patient’s injuries in form of referral diagnosis and required specialities of First Receivers (Hospitals) needed to manage the patient – Java implementation, REST API are provided.

• Semantic content management component: provides semi-automatic means to link various contents generated by humans to processes, tasks and run-time knowledge coming from the field. Moreover, the COncORDE content management component facilitates linking content items to specific incident models, which enables, for example, to easily retrieve all documents, images, etc. related to a specific emergency situation – Java implementation, REST APIs are provided.

The combination of all tools listed above comprises the full COncORDE platform version.

Other platform tools:

Bystander tool
This tool (TRL4) is jointly supported by the map functionalities, which include a social map for the members of the public to participate in a specific incident and by the user registration tool. It allows
bystanders to join the social space of an incident nearby and communicate with each other, as well as provide information to other bystanders, as well as responders. The information uploaded by bystanders will be propagated to the incident management tool and will be categorised and displayed to become visible that it comes from the public. The tool allows display of the information, viewing the geo-location where the information was sent from, as well as viewing bystander credentials in case any inclusion in the team is considered. This tool was not tested during the pilots, however it will be deployed for first validation at a Citizen’s resilience exercise 25.11.2017 in Twente.

Field application
The field app (testing in the Lab-TRL4) allows Field Commander or other authorised users (requires login) to monitor the patients and their condition in real time on the field. The list containing the patients is continuously updated with new patients or/and with updated information regarding already registered victims (new vital signs, new triage status, new coordinates etc.). Vital signs variations beyond the threshold values of the corresponding triage status configuration trigger system notifications. Patients are sorted by their triage status. The application also provides access to the main CONcORDE platform where more information is available regarding the incident (map showing patient’s location etc.)

The training tools
The training tools (TRL9) are not products developed in the project, however they have been deployed during platform validation and have added value to the platform services, especially after the integration between the virtual map and the CONcORDE map. For the exploitation phase the plan is to promote these tools together with the CONcORDE tools as an optional value added service. MeTracker is a distributed computer-based tool that supports users (training staff) managing all phases and tasks in a defined training process, i.e. Analyse, Plan, Execute, Evaluate and Lessons Learned. It is adapted to support the training in CONcORDE. Thus, it can be exploited as a relevant complementary service to CONcORDE. The Virtual training tool is based on pre-existing licensed software for virtual reality. In CONcORDE, the simulator has been configured to provide a virtual environment for the system testing and validation scenarios. This allows the trainees (CONcORDE first responders) to walk around in the virtual world handling the situation. In parallel the trainees use the CONcORDE tools to support their management processes. The game and the CONcORDE system are not technically linked at this point, except for the integration of the virtual map coordinates between the two. This approach of applying virtual scenarios for system testing is innovative and will be exploited as a very cost effective way to simulate field trials. What is even more important, is that the range of freeplay and the injects enabled by the game allow an ad libitum number of variations to test the boundaries of the system. At the same time the game scenarios can be used for collaborative training. The Training observation and evaluation tool builds on pre-existing methodology of partner CTAS, which will is adapted to the CONcORDE environment and needs. It focuses on evaluation of the quality of collaborative training.

Other SW output of the project, which is not integrated with the CONcORDE tools listed above:

Integration environment, TRL4
Existing platform extended and customised to fit the needed real-time communication and sharing of
Below we summarise the principle groups of CONcORDE’s exploitable results.


2. Core services with Rescue app/CS+.

3. CS+ with added value services compatible with last platform version= CS+v
   a) Various versions depending on which services are added – DSS services, EMS prediction service, Semantic KMT, Virtual Games
   b) Full version with all services added = CONcORDE platform

4. Technical IPR components, which can be exploited further outside the platform - Map, Collector app, Patient Module, Notifications, Rescue apps, Semantic KMT, Virtual Games, EMS predictions, User management V1, event logging V1, replay V1, Integration environment

5. Process design

Potential Impact:
CONcORDE is designed and developed with the ambition for a strong impact. Overall, the comparison with market products shows that the CONcORDE system retains its unique position in the market, with its innovative design, which creates a common information system space for all participants in an emergency medical incident, provides full participant visibility and patient status visibility, enables evaluation and training and is inclusive in nature, providing a generic matrix for the integration of other solutions. The general applicability and the customisability are also strong assets to bring the competitive edge. With these, CONcORDE fills a gap in the market by providing improved coordination between emergency medical response organisations. There are no such products on the market and the interest of responder organisations, including non-EMS has been high throughout.

The value propositions to the three conceptual customer groups can be summarised as follows:
System providers
Tangible opportunity for technology development and commercialisation in a market niche with unmet needs of high societal impact
System users
Improved situational awareness and incident response
Improved patient safety and health outcomes

Effective use of resource

System endorsers

Common platform for incident response, all-hazard, all health systems, compatible with existing practices and IT systems, contributes to standardisation

We shall recap below the impacts listed in the work programme and explain how the project results address the expected impacts.

SEC-2013.4.1-4

Improve preparedness and response of health services involved in large scale and/or cross border emergency situations....

Develop a comprehensive set of tools including scenarios, technology, operating procedures, training programs, logistics tools, legal, ethical and public acceptance studies that will be applicable to the health care domain both for training and for post-crisis evaluation...

Combine applications at local, regional, cross border and international levels...

In the first line the CONcORDE system provides a set of tools for operational use. By creating a Common Information Space/CIS, which enables real-time sharing of operational information between ALL participants (incl. organisations) in the emergency medical response to a given incident, the system enables real time situational awareness and informed decision-making and with this it improves the coordination of the RESPONSE and its quality. The real-time operational information gathered enables also accurate feeds to decision support tools (the existence of which would be futile if they would not be processing accurate, relevant and timely information). Using the tool requires health systems to provide their local specifics (roles, plans, terminologies), which can be easily customised into the generic set of MDS concepts for information exchange. Analysing results and taking the appropriate actions to remedy any shortcomings also leads to improved PREPAREDNESS. In addition, gaps in emergency response plans can be recognised much faster and bridged. As shown in the pilots, the system adds value to training outcomes.

The value of the system features is highest in large-scale emergencies, where there are multiple responders involved from multiple organisations, across distributed spaces and they have to manage a large number of patients and keep the overview. However the system is perfectly suited to also manage even single patient emergencies. It is well documented that even in smaller emergencies valuable information is lost or not made available on time. Overall, in any size of emergencies the improved coordination is expected to bring benefits in health outcomes and cost savings by enabling a more effective patient and incident management with the right information at hand.

The generic design of the system allows its use across boundaries, irrespective of whether they are municipal, national or international. The deployment of the system does not depend on integration with existing systems, nevertheless the system provides APIs for communication with external parties. As was shown in the pilots, the system allows the design of various scenarios for the purposes of training, these scenarios can be run both in a rigid manner to explore specific points, as well as in the form of freeplay to mimic the unpredictability of real-life situations.

The logistic tools developed focus on effective resource management based on historically collected data with which the system can be trained, as well as on business rules and logic. Of particular value is the ability to provide suggestions for patient allocation in the cases of multiple patients with different needs,
where hospital and transport availability have to be taken into consideration, as well as distances to hospital care, which play a major role in safe patient management. Currently there is no tool, which allows an overview and simultaneous decisions to be taken aided by best-case scenario data presentation.

The ethico-legal issues have been tackled in a pragmatic way, by a) following current best practices in health care on ethics, data protection and information governance and b) allowing local customisation of access, viewing and sharing rights to be performed, to comply with the relevant regulations. In addition the use of the system by non-professionals, i.e. resilient public is enabled as well and the system allows future testing for the correct constellations of information sharing rights by the public. The approach for the COncORDE system to incorporate ethical issue considerations upfront at design time attracts the attention and interest of researchers and practitioners. The problem solving approach is unique in the EU project research domain - while the solutions honour the regulations, the partners also clearly describe where common sense needs to be applied for meaningful results, to avoid unnecessary and unproductive theoretical debates impeding progress.

Overall the design of the system is in line with the currently widespread approach of information sharing via social networks (e.g. Facebook, WhatsApp etc.) and the use of a common information space for joint situational awareness on a specific topic is by now a matter of course across the globe. This makes the uptake and the acceptance of the concept to stakeholders rather easy.

Another strength is that the use of the COncORDE CIS does not impose any changes to usual practices and workflows, it just makes the usual communication more effective and again, this is a major success factor for uptake and acceptance.

The system has created a good matrix, which covers the workflow from the beginning of an incident until acceptance of patients to first receivers and from hereon the addition of various applications and solutions that would add value is welcomed. There is no such tool available in current practice that offers such a variety of possibilities to integrate existing solutions and leverage their impact. This will give SMEs a unique opportunity to increase their activities and competitiveness in the domain.

The COncORDE system also allows a clear view of which components of the information exchange are subject to standardisation, i.e. are generic and internationally applicable and which are better kept applicable to specific settings.

Some factors, which positively influence the expected impact are listed below:

• The design of the system is based on generally valid real life user needs and two experienced user organisations have developed the concept and tested it successfully.

• The system has created a great interest amongst international stakeholder and plans for further testing are confirmed.

• The consortium has clear IPRs and the exploiting partners are clear, agreements have been clarified.

• There is win-win collaboration with an Innovation Hub, UKeMED, which will take over the international promotion of results and sourcing of funding.

• The project has created a strong link with strategically important organisations such as the EENA and the WHO. Overall it is expected that the project will have an impact not only on EU civil protection and the crisis management community, but in fact worldwide impact is envisioned.

• The project results will boost crisis management researchers by providing the much-needed real life data for further analysis and evaluation. Current research is plagued by the lack of reliable data from incidents. COncORDE introduces the best practice approach of working with reliable information in a domain suffering from loss of information due to the absence of an appropriate tool to collate all available
information in real time.

- Last but not least, the current political situation characterised by increasing frequency of mass casualty incidents has led to a raised awareness of the public about meaningful emergency management tools. With its service offering and design COncORDE fills a very important gap in the current market. Bridging this gap will bring benefits for the entire society.

COncORDE targets the following general impacts:

An important contribution to societal impact is the concept that emergency response of health systems can be managed by a global approach, offering one system, which operates based on the commonalities between response systems but at the same time it addresses the need to observe local specifics of the response. There is no dependency on integration with legacy systems and at the same time connection to these is enabled via APIs. COncORDE offers an elegant and easy solution to the fragmentation in every aspect of society, for example regulations, response organisations, IT systems, medical approaches etc. and the myriads of debates in a non-threatening way.

It is easy for users to see the benefits that the system offers to them and the fact that using the system is possible with relatively minor preparation makes it very attractive. The training actions performed during the COncORDE project have clearly shown that the system helps uncover gaps in preparation and identify the weak points that need to be addressed. This in turn increases preparedness.

The socioeconomic impact from operational use is easy to convey – improved health outcomes and more effective resource management, which in turn means cost savings. Of course to reach this impact further development and validation studies are needed, but one does not have to be a rocket scientist to understand how this impact will be achieved.

COncORDE also contributes to the improved interoperability between emergency response services by offering the ground visibility within the health service response, which has not been available to date. It is obvious that there is no meaningful interoperability between different responder agencies possible without ensuring that there is operability in one’s own agency in the first place and COncORDE provides the solution to this problem. COncORDE’s potential contribution to creating operational visibility for Emergency Operation Centres has already been acknowledged in the WHO EOC NET working groups.

COncORDE contributes to standardisation of crisis management by providing a validated concept for communication during response, which is applicable to other response agencies as well and the interest expressed from related agencies – e.g. fire, military and search and rescue confirms that the potential for extension of the system is there.

A significant impact on SME’s and competitiveness of EU companies is expected, because the validated prototype provides a matrix to start integrating existing or emerging solutions and leveraging the efforts of the local industry in the crisis management domain. Numerous potential service extensions have been identified during the interactions with stakeholders, which after the successful prototype validations will be seriously pursued by the partners.

By offering functionalities which help harness the power of the resilient public, COncORDE will contribute to building a more resilient society, able to respond in a coordinated way to public health threats.

List of Websites:
www.concorde-project.eu