Evolution of Emergency Copernicus services

Berichterstattung

Projektinformationen

E2mC

ID Finanzhilfevereinbarung: 730082

Projektwebsite

DOI
10.3030/730082

Projekt abgeschlossen

EK-Unterschriftsdatum
29 Oktober 2016

Startdatum
1 November 2016

Enddatum
30 April 2019

Finanziert unter
INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Space

Gesamtkosten
€ 1 850 000,00

EU-Beitrag
€ 1 500 000,00

Koordiniert durch
E-GEOS SPA
Italy

Periodic Reporting for period 2 - E2mC (Evolution of Emergency Copernicus services)

Berichtszeitraum: 2017-11-01 bis 2019-04-30

Zusammenfassung vom Kontext und den Gesamtzielen des Projekts

Within the "Evolution of Copernicus Services" research broader theme, E2mC focuses on the "Operationability of crowd sourcing for the EMS"
The project aims at demonstrating the technical and operational feasibility of the integration of social

media analysis and crowdsourcing within the full Copernicus EMS (Mapping and Early Warning) and at developing:
a) a prototype of the innovative Copernicus Witness, a new EMS Service Component conceived to exploit social media analysis and crowdsourcing capabilities oriented to improved information management for emergency responders and b) a prototype of the Social Crisis Map, a new Product type of the EMS Portfolio.
The E2mC innovative technological bulk is a Social&Crowd Platform aimed at improving the geo-information for Civil Protection, on a 24/7 basis, by increasing its quantity (additional data), its quality (live maps combined with social multimedia contents) and its timeliness (first crisis map available within few hours). This will result in early confirmation of alerts from Early Warning Systems and in first rapid impact assessment from the field.
In line with well established Copernicus principles, the design, development and demonstration of the innovative Copernicus Witness will be user driven, where in this case users are not only beneficiaries of products but they also actively contribute to content generation as witnesses (citizens as “sensors”) and as part of a “crowd” (Web 2.0 collaboration).
The overall objective of E2mC are:
1. Design and develop a prototype of the innovative and scalable S&C Platform, able to analyse heterogeneous social media data streams (different data: text, image, video from different sources: Twitter, Facebook, Instagram), to federate heterogeneous and distributed crowdsourcing platforms (crisis and emergency specific platforms: Tomnod, HOT, SBTF, GeoTag-X, UN Asign, etc. generic platforms: Crowdcrafting, Epicollect), to provide the new Social Crisis Map and to build a fully EC/Copernicus EMS branded crowdsourcing and citizen reporting platform, designed taking into account the strategic and operational needs and logics of emergency responders.
2. Demonstrate the operational usefulness of the Copernicus Witness, the new Copernicus EMS Component based on the functionalities developed within the S&C Platform, acting as a reference tool for Civil Protection Authorities and Humanitarian Aid operators to collect trustable information from their networks of volunteers and associations; the Component will include a section that will be openly accessible to any Citizen with “moderated” contents.
3. Demonstrate the tangible benefits of the S&C platform to the Copernicus EMS within realistic and operational scenarios jointly designed with the Copernicus EMS providers and a selection of Copernicus EMS expert users and potential new users to evaluate tangible benefits to the Copernicus EMS in terms of enhanced service performances (quality, timeliness and production capacity). Fully integrated in the Copernicus EMS legacy architecture it will optimize the available information for emergency responders and ultimately contribute to improved emergency management.
4. Assess the quality and credibility of the information generated through the analysis of social media data or gathered through crowdsourcing mechanisms, assess if and under which conditions such information can be trusted by Civil Protections and Humanitarian Aid operators in their decision making process and develop actionable technical and procedural measures to increase the level of trust associated to such information flows.
5. Define a roadmap for the full uptake of the Copernicus Witness within the Copernicus EMS, taking into account the knowledge and experience gathered in the demonstration phase as well as deeply analysing the governance aspects related to the operations and exploitation of the Copernicus Witness both in the Copernicus EMS context and in the broader panorama of crisis/emergency management initiatives.

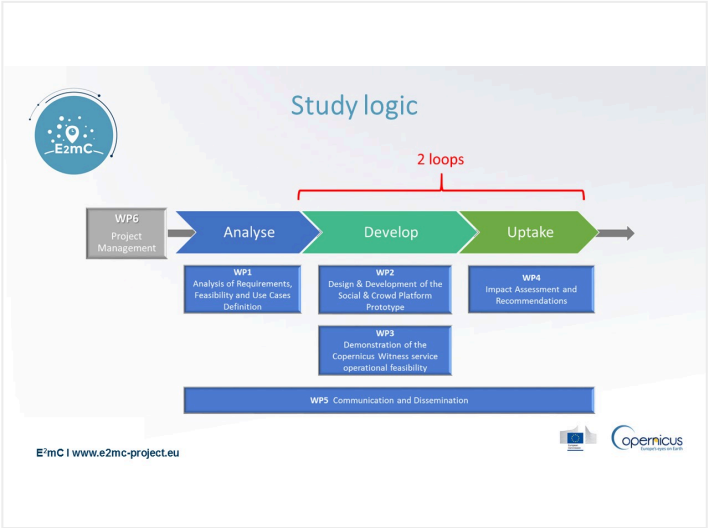
Arbeit, die ab Beginn des Projekts bis zum Ende des durch den Bericht erfassten Berichtszeitraums geleistet wurde, und die wichtigsten bis dahin erzielten Ergebnisse

The project Work Plan is organised on a 27 months (extended to 30 months after an amendment, dec. 2018) period through six Work Packages, carrying on the core activities according to a two loops process.
In the overall period the following activities have been carried out: 1 Analysis of requirements, feasibility and Use Cases definition to perform the requirements analysis for crowdsourcing and social media use in crisis management, to consolidate the addressable Copernicus EMS service evolution challenges and to analyse integration issues. 2 Design, develop, integrate and test the prototype S&C Platform . 3 the definition of the scenarios for execute the demonstrations and provide the spatial and qualitative assessment of the demonstration results. 4 evaluation of the impact of the E2mC Platform and the Witness service in terms of Performance, Usability, Efficiency (the positive impact of E2mC Witness on the EMS production) 5 Communication and dissemination activities to promote the project results during its life cycle. 6 Project Management to assure the proper consortium and technical coordination, as well as to manage the project's steering bodies and the Ethic issues.
Exploitation phase prosecutes after the project end, to include the Witness service in the operational workflow of Copernicus EMS and to provide interested end-users with pre-operational access to the Platform.

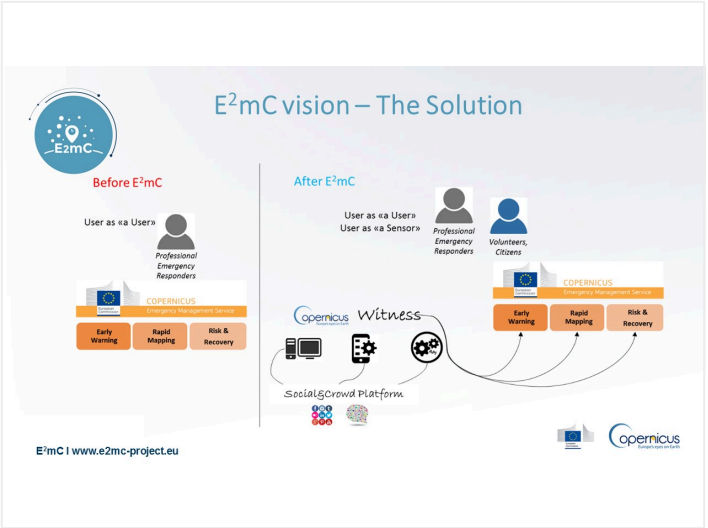
Fortschritte, die über den aktuellen Stand der Technik hinausgehen und voraussichtliche potenzielle Auswirkungen (einschließlich der bis dato erzielten sozioökonomischen Auswirkungen und weiter gefassten gesellschaftlichen Auswirkungen des Projekts)

The fundamental innovation of E2mC is related to the combination of satellite technologies with social media and crowdsourcing in the context of emergency management. E2mC will provide, as an added value, an early warning monitoring capability via the routine broad monitoring of social media and a semantic reasoning engine for processing and evaluating social media (text, images and videos). Hence, the combination of satellite and social media/crowdsourcing technologies will offer the opportunity for significant advances from a technical standpoint in the areas of social media analytics, sound, image and video analysis, as well as in the field of federated crowdsourcing and satellite emergency mapping. The specific E2mC achievements beyond the state of the art are oriented to exploit a: - New approach to multilingual social media analysis
- Innovative unified semantic engine that exploits the human intelligence of the crowd - Innovative approach to geocoding posts from social media - Innovative techniques for image and video analysis - Changing the traditional approach to crowdsourcing
E2mC project results will strongly impact on boosting competitiveness of industrial actors both inside EU (Copernicus and non-Copernicus related) and International Markets, since E2mC will demonstrate

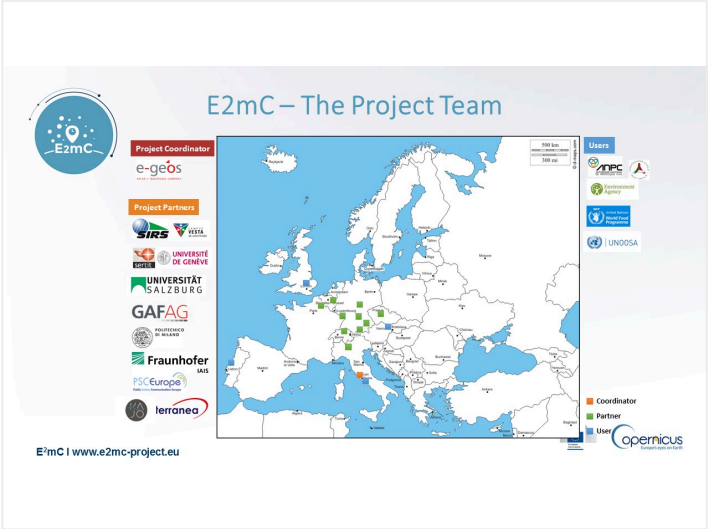
the validity and usefulness of social media analysis techniques coupled with crowdsourcing in a manner that will stimulate additional business opportunities also beyond crisis management. Potential impacts are: 1 Enhance the European industry's potential to take advantage of emerging market opportunities and capacity to establish leadership in the field; 2 Boost competitiveness of the industrial actors in EU and national procurements; 3 Establish a proof-of-concept or a prototype, which can act as reference for the independent assessment of Copernicus service evolution, in light of product extensions and service improvements; 4 Enlargement of the Copernicus EMS active user community



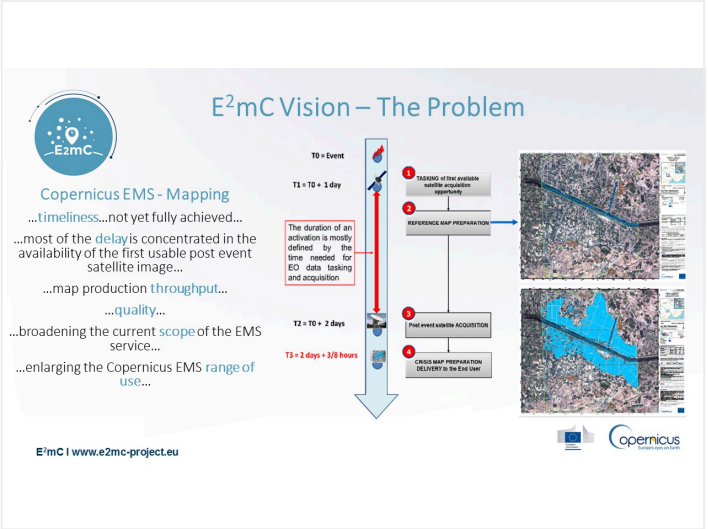
E2mC Project study logic



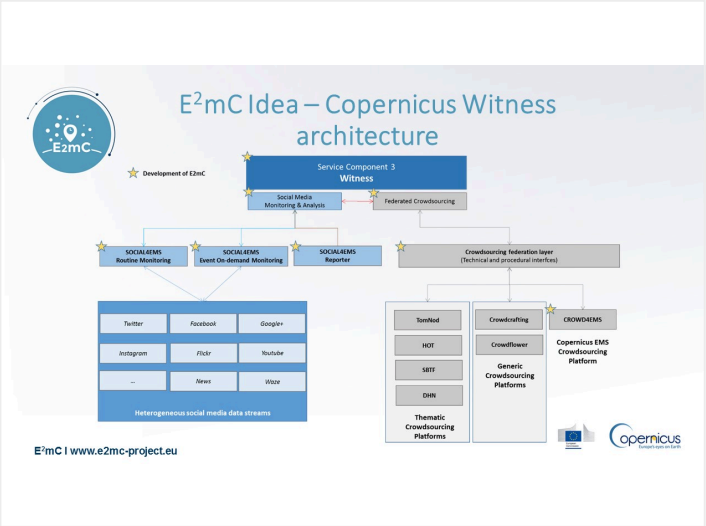
E2mC Vision – The Solution



E2mC The project team



E2mC Vision – The Problem



E2mC 'Witness' logical architecture

Letzte Aktualisierung: 9 Juli 2024

Permalink: https://cordis.europa.eu/project/id/730082/reporting/de