HELI4RESCUE Report Summary

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Periodic Report Summary 1 - HELI4RESCUE (Heavy Payload Helicoper for Last Mile Rescue)

Project Context and Objectives:

The project HELI4Rescue is a Support Action funded by the European Commission. It addresses the transport of heavy loads within disaster areas to provide help and security to people in need for rescue and relief affected and caused by disasters. The solution to the transport issue has two sides to complement each other:
- Responding to disaster or crises, in terms of fighting emergency situations, rescuing people or restoring safety, having a need for disaster relief efforts such as deploying teams and appropriate equipment (e.g. search and rescue teams, facilities for the evacuation of victims, pumping systems, water purification units, medical units, emergency shelters, command and control centres, etc.);
- Transporting people and equipment to/from relevant disaster areas requires appropriate vehicles able to operate in such an environment. In case of a major disaster, proper infrastructures are usually not available for land transport. Today, air transport is often not appropriate, either because take-off and landing facilities are inoperative, do not exist or, when using helicopters, operating ranges and payloads are not big enough for efficient intervention.
Heli4Rescue addresses the possibility for Civil Security operators to use large air transport systems for deploying heavy loads on crisis sites to match the two sides of the problem. In the course of the project, in particular the deployment of systems in civil missions now being targeted only for military use will be investigated. A broad range of European Civil Security users is being involved in developing appropriate requirements for offering transport solutions to the management of large emergencies as often encountered in Europe. Air transport solutions potentially able to meet the requirements are examined, together with operational issues related to vehicle certification, operation regulation and dual-use, with the aim to develop functional specifications that will be fed into identified vehicle development and/of product investment programs. Especially, the European Future Transport Helicopter (FTH) program is considered. Potential solutions with large airships and transport Unmanned Airborne System (UAS) are also being examined. Business models taking into account pooling and sharing options will be proposed, as well as feasibility, economic aspects and potential benefits will be assessed. Support to the Civil Security policies will be prepared with dissemination activities and the development of roadmaps towards effective implementation of the analysed solutions and towards a common European approach for the definition of large air transport.
The project general objective is to contribute to bridge the current gap between Civil Security end-user needs and suitable air transport systems by
- Investigating the use of high capacity air transport systems for security users;
- Gathering and defining clear requirements for Civil Security users;
- Feeding these requirements, including a dual-use dimension, at an early stage into the definition of air transport vehicle programmes for VTOL;
- Defining interchangeable standards and concepts.

Project Results:

Within the reporting period the partners have worked on the content and deliverables, according to the working plan. In line with that, within the scope of WP2, the partners have successfully set up the Collaboration Club (CC) and rendering it operational as the main mean of getting input from sources externals to the project. Together with the members, four Collaboration Club meetings and workshops have taken place on the basis of deliverable D2.1 "Rules and procedures for the external Collaboration Club". Within those meetings, D2.2 "External contribution plan" and D2.4 "Methodology and tools for external input collection" have been used to gather the information needed for the successive work packages and deliverables.
In the course of such meetings and workshops the contents of D3.1 "Logistic problems in crisis response/ restoration and priority Civil Security users' needs" has been elaborated and validated. Deliverable D3.2 "Potential air transport solutions" was achieved. It includes an analysis of the state-of-the-art of air transport solutions in crisis environment and a comparison of different transport solutions for three different crisis scenarios. Furthermore the main characteristics of the three air transport solutions considered were described. WP3 was competed and closed.
Crisis and disaster management situations were investigated within WP4. This is a key work package aiming to deliver one of the main project results, namely a set of Civil Security user requirements. Deliverable D4.1 "Civil Security crisis

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and disaster management situations and requirements" summarising the output of WP4 was achieved.
WP5 is focused on air transport solutions capable of meeting the Civil Security user requirements retained in WP4. Work on supply chain scenarios, interoperability and logistics networks interaction was done and deliverables D5.1 and D5.2 dedicated to these topics have been achieved as drafts. Investigations on implementing airborne missions in the context of the proposed crisis management situations, end user requirements and logistics issues were performed for the three types of aircraft being focussed on in the project, namely the European Future Transport Helicopter, a heavy load airship and a medium load flexible Unmanned Airborne System, as large VTOL in their category of aircraft, with the aim to propose ad hoc functional specifications for these vehicles.
Information dissemination on the project was undertaken with the aim to raise awareness on the initiative and to prepare the ground for future exploitation of the expected project results. Deliverable D6.2 "Dissemination plan" was developed, including a dissemination strategy suited to the project's specific context and a dissemination plan for the whole project time frame. Several planned dissemination activities and events have been performed. A dedicated web site was developed as deliverable D6.3.

Potential Impact:

The main expected project results are:
- Validated Civil Security user requirements for large air transport systems;
- Functional specifications, compliant with the Civil Security requirements for the Future Transport Helicopter (FTH);
- Functional specifications, compliant with the Civil Security requirements, for Large Sized Airship (LSA);
- Functional specifications, compliant with the Civil Security requirements, for Transport Unmanned Aircraft System (TUAS);
- Use models for heavy load transport VTOL and VSTOL aircraft, taking into account common and interchangeable standards and concepts out of a civilian rescue and disaster relief perspective;
- Feasibility, economic and operational assessment of proposed use models with a key focus on civilian aspects resp. disaster sites;
- Road map for a common EU approach to large air transport system usage, providing cost effective solutions for civilian disaster relief situations.
These results are aimed primarily to support a European policy on Civil Security. Potential impacts can be envisaged at a strategic level: HELI4Rescue will provide concrete elements which can be used as a baseline to developments contributing to bridge the current gap between Civil Security end-user needs and suitable air transport systems. Related strategic impacts are to enhance cooperation between several stakeholders in Europe in order to overcome cost barriers and to benefit from large air transport facilities. This cooperation will lead to a common approach at EU level for large air transport systems. Strategic impacts will lead to further societal, environmental and economic impacts.

List of Websites:

www.heli4rescue.eu

Contact

Krause, Walter (EU Projects Officer)
Tel.: +49 89 12052713
Fax: +49 89 120527534
E-mail

Subjects

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