FREESIC

Free Secure Interoperability Communications

Through the FREESIC project, the University of Luxembourg has benefited from European research funding.

Communication interoperability in crisis management

In this modern day and age with all its complexities and inter-actions, emergency services and civil protection agencies across Europe are faced with growing challenges that require effective coordination and interoperability across several organisations when responding to and managing major incidents. Within this context, the aim of the FREESIC project was to create a solution that would allow highly secure and cost-effective interoperability between communication infrastructures all over Europe.

Interoperability barriers in relation to communication systems still exist at regional, national and European levels between Public Protection and Disaster Relief (PPDR) organisations. Such barriers often have an impact on the effectiveness of PPDR agency responses, especially during a crisis. They also limit the data flow in day-to-day operations where access to such shared information considerably improves situation awareness.

Coordination across borders and cultures

The need for effective coordination and interoperability can cross state boundaries and involve the deployment of specialist resources from one country to another. To achieve optimum effectiveness between agencies, good communications systems that enable seamless and reliable information exchange are necessary. It is also important to take into account the fact that different agencies, whether in the same or in different countries, use different processes, procedures and protocols and also have different hierarchical governance structures, cultures and indeed organisational aims and objectives.

The FREESIC project has developed a cost-effective innovative solution addressing technological, organisational and legal issues. It builds effective and secure interoperability systems for emergency response organisations so that communications and information exchange can be carried out in the most challenging of circumstances. The solution has been elaborated by a transnational partnership involving organisations from the Czech Republic, Luxembourg, Poland, Slovakia, Spain and the United

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Kingdom. The University of Luxembourg has led the work in the fields of acceptance and scenario testing by users as well as dissemination and exploitation of the project results.

Developing a universal gateway

The vision of the FREESIC partners was to develop a solution that would allow the interconnection of responder agency communication systems without major investment and close to zero operational costs, while making it possible to continue using existing communication systems. The solution developed is based on a universal gateway with customisable adapters that enable third party infrastructures to be connected to the FREESIC Unified Communication Network. End-users will handle network management tasks through the collaboration site based on web 2.0 components that allow users to configure their own interoperability attributes.

PPDR organisations connected to FREESIC will then be able to exchange required information with partner agencies regardless of state borders via the FREESIC Gateway. Agencies can even ask their system integrators to develop an adapter to the FREESIC Gateway that connect their own communication system with the FREESIC platform. Any kind of communication system can be easily integrated at minor costs.

Thanks to the FREESIC collaboration web, the interoperability platform is operated in a decentralised way based on web 2.0 principles. This is done in accordance with transparent interoperability rules enabling the interconnection of an organisation´s communication system.

Considering actual user behaviour to spur solution acceptance

FREESIC focuses on potential end-user expectations, habits and constrains with a special emphasis on non-technical barriers that first responder organisations in Europe face when attempting to set up interoperability with partner agencies. FREESIC project partners have consulted on such non-technical barriers with over 50 stakeholder organisations across 10 EU states. Furthermore, involvement with a wide range of end users has resulted in a series of suggested solutions to these identified barriers. This interaction also enables the user interface of the FREESIC collaboration web to be adapted to end-users' expectations, habits and vocabulary, and provides an interoperability tool with which they can quickly become familiar.

The first FREESIC test and evaluation was conducted in Slovakia in May 2013. The first prototype was used as the main communication channel for first responders during a civil protection exercise called "FREESIC Nitra 2013". The main task was to create near real conditions for emergency teams handling crisis situations. The FREESIC partners received feedback from real end-users and evaluated the developed communication platform.

The Seventh European Framework Programme for Research and Technological Development (FP7) was the European Union's main financial instrument to support European research during the 2007-2013 period. The funding programme continues under Horizon 2020, the Framework Programme for Research and Innovation, supporting a wide range of research domains with a budget of € 79 billion (2014-2020).

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