

Multi-Agency Cooperation In Cross-border Operations



MACICO

MACICO will develop a concept for interworking of security organisations in their daily activity. It deals with cooperation of security organisations that do not use the same radio network, but in some missions could take benefit of a share of their respective infrastructure. Use cases such as pursuit of criminals across a border or close support of vehicles going through a border, disaster relief operations require security organisations from both countries to communicate together and to continue to communicate with their control room.

Main focus

Security organisations increasingly face interoperability issues at all levels (technical, operational and human) as they interact with other national, regional or international organisations. Not only assets and standards must be shared across Europe to empower joint respons-

es to threats and crisis in an increasingly interconnected network, but also security organisations have to benefit from interoperability functionality in their day-to-day work.

MACICO's main goal is addressing in a short-term perspective the needs for improved systems, tools and equipments for radio communication in cross-border operations (cross-border surveillance, cross-border pursuit,...) as well as during operations taking place on the territory of other member states (high scale civil crisis operations or complex emergencies needing support of Public Safety Services from other Member States). On the other hand, MACICO encompasses the interoperability issues European countries will be faced to in a long term perspective, tackling the necessary transition between currently deployed legacy network and future broad band networks.

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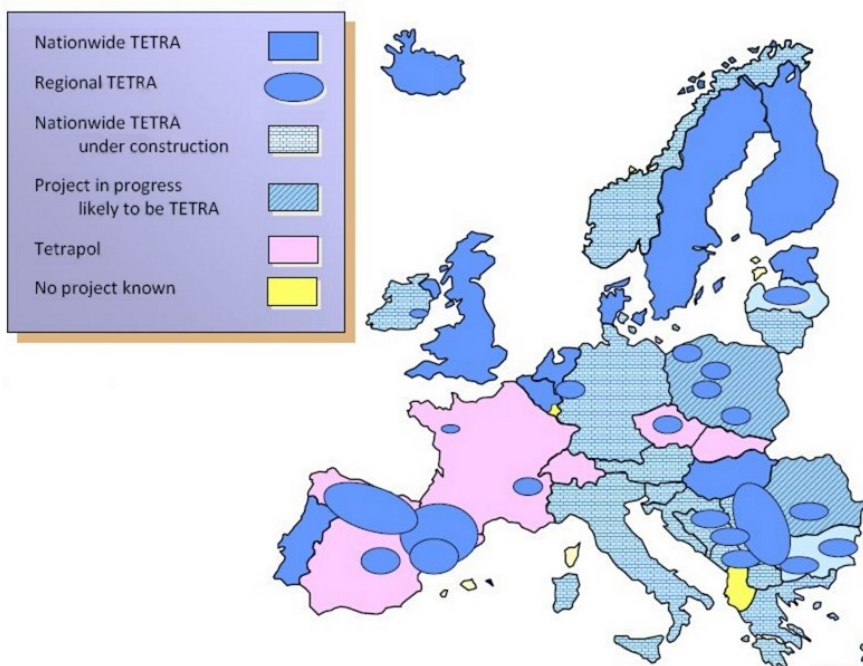
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Approach

The interoperability will be addressed through 2 major aspects:

- Procedures and requirements to allow the use of a radio terminal by foreign subscribers in a deployed network. Gateways that will be configured to manage interworking of group communications and individual calls. These gateways are going to present the legacy interface to the network, and as the solution intends to propose a "standardisable" interface between the two networks.

The "Open and available interface" shall be selected between in the interface that the network provider publishes and maintains.

The inter Network Interface shall be able to manage the required voice services between the two networks.

The interoperability will be managed, independently by the operators of each of the network:

- typically the operator of the Network A will indicate which group communication from network A, he wants to interconnect with an agreed "inter Network group communication" exchanged on the Inter Network Interface;

- symmetrically a similar Job is done by the operator of the opposite network.

When both configurations are done and activated, the group communication will be propagated

from one network to the other.

Each Gateway is in charge:

- to interface the Network as it expects it.

- to encrypt / decrypt Voice flow according to the rules of its network.

- to exchange in technology and provider agnostic mode voice flow to the other gateway (IPsec technology can be used to protect inter gateway voice transfer).

The design Phase of the project will analyse and select the most appropriate available and open Interface, and design the gateway according to it.

Main results

Operational procedures

◆ Decisions should be taken at the lowest appropriate level with coordination at the highest necessary level. The doctrine and training describe the way in which people, processes and technology combine to enhance decision making through the use of a common operating picture that provides mission critical information available to appropriate staff.

◆ A joint training syllabus builds upon existing single-service training to prepare individuals and organisations to respond to planned events and spontaneous incidents. This gives clarity of roles and responsibilities, allowing each to understand the

others' capacity and capability at incidents.

Demonstrator

◆ The ultimate goal is to validate the demonstration in existing environment. According to the couple of networks the appropriate Architecture will be selected and demonstrated:

◆ Tetra-Tetra: the use of ISI (ETSI Standard) will allow this interoperability;

◆ Tetra-Tetrapol: "one gateway" will ensure the interoperability;

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Impact

- The interoperability approach will create new business opportunities for introduction of new applications, devices and services and will decrease the operation costs by reusing existing infrastructures in heterogeneous environments.

- The outcomes of MACICO interest a global installed base of users which is forecasted to increase by over 2.5 million from 2008 to 2013. Digital terminals in active use are estimated to increase from 11.9% to 32.7% of the installed base from 2008 to 2013. MACICO enhances the synergies between the private networks and give possibilities to be linked directly to public safety organisations which could increase motivations for adopting digital technologies. Moreover, the global Tetra market installed base is forecast to grow with a CAGR of 20.8% over the five year forecast period.

- MACICO project is centred on the public safety sector (police, fire, paramedic, custom, ...). Nevertheless, other sectors divided by end-user application as PMR and PAMR could profit by the outcomes of MACICO: transportation, military, utilities, ...

- In areas, such as Asia and Oceania, where the developed European PMR solutions perfectly match, the interoperability would be a decisive advantage to gain the market.

About Celtic

Celtic is a European research and development programme, designed to strengthen Europe's competitiveness in telecommunications through short and medium term collaborative R&D projects. Celtic is currently the only European R&D programme fully dedicated to end-to-end telecommunication solutions.

Timeframe: 8 years, from 2004 to 2011

Clusterbudget: in the range of 1 billion euro, shared between governments and private participants

Participants: small, medium and large companies from telecommunications industry, universities, research institutes, and local authorities from all 35 Eureka countries.

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