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EUROPEAN PLATFORM ON NEW TECHNOLOGIES STRATEGIC ORIENTATIONS

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1 INTRODUCTION

The « European platform on new technologies » project takes place in an environment which is characterised by :

- the strengthening of the European Union
- the outbreak of new challenges for the departments of Civil Protection of the member States, and
- the development of new technologies.

I. Europe is building up. This means first an increasing number of exchanges within the European economic area, and second the development of European directives which play an increasing part in every aspect of today's social, economic and political life in the fifteen member States. In this regards, the aim of this project is to analyse the needs of the Departments of Civil Protection at a European level, so as to find common European solutions in the fields of natural and technological hazards, in a context which is highly characterised by an increasing competition.

II. The challenges in the field of civil protection. Three elements are to be taken into account : an increasing degree of vulnerability to the risks, a great number of actors and some answers currently provided which are efficient but which could be even more efficient.

First remark : contemporary societies, which are characterized in particular by great urban concentrations, an important development of transportation networks and an unprecedented development of structures, are becoming more and more vulnerable to risks of all kinds, both natural and technological. Moreover, technological risks occur more frequently than they used to, and their consequences are greater.

Second remark : in the field of civil protection, a great number of actors work on field, which makes rescue operations very difficult to be carried out, with an increasing part played by local authorities. Similarly, not only budget cuts but also the increasing number of risks lead to a more and more frequent European cooperation between Civil Protection teams, with an aim at making the means implemented more profitable.

Third remark : The system of answers currently provided is generally speaking efficient. However, since contemporary societies have more and more difficulties to face natural and technological calamities, a better anticipation of the risks would allow a better efficiency.

In this context, the aim of this project is to try and provide common answers to the new needs of the European Department of Civil Protection.

III. The contribution of new technologies. The word « new technologies » refers to spatial techniques, new information and communication technologies (NICT) and geographical information systems (GIS). Each of these technologies presents the following advantages and drawbacks :

Spatial techniques : a global coverage, a unified point of view, a large scope, and very few risks of technical problems.

NICT : a great calculating power, a quick and easy transfer of information, a greater possibility to work together on an interdisciplinary basis.

GIS : this is the very tool of convergence. It allows very quick exchanges of information between research centres, industries and operational actors.

The aim of this project is to see to what extent the use of these new technologies could provide relevant answers to the new needs of the European Departments of Civil Protection.

This very document aims at defining the general objectives of the project as well as the great orientations which will allow it to be carried out to an end.

2 AIMS

An analysis of the current national situations in the fifteen member States allows to draw the following inventory of fixtures :

At a national level, the Departments of Civil Protection today have securised and catastrophe proof means of telecommunication which, depending on the modes of organisation of each country, allow exchanges of voices, data and videos between operational commanding centres.

At the appropriate administrative level, the emergency and prevention intervention plans are regularly updated, so as to take into account the evolution of land settlements, networks and structures, as well as the evolution of risks, such as the variation in the importance of floods and of the periods when they occur.

The carrying out of Analysis and Risk Coverage Schemes also allows, thanks to a better understanding of the hazards, to provide the most adequate answers in terms of rescue means to mobilize. In order to carry out these schemes, in particular in the area of natural risks, spatial techniques and geographical information systems are used.

The national Departments of Civil Protection have, at last, at a national, regional and local level, forecasting means to better anticipate crises. These forecasts are made either by their own services or by meteorological departments, departments specialised in floods forecasts, geographical departments or other departments, according to the nature of the danger and of the local administrative structures. They integrate in particular meteorological data, land watch networks and tele-detection device used with specific models.

Besides, mutual information agreements have been signed between member States, at the relevant administrative level, in the field of forecasting.

Moreover, in some cases, the Departments of Civil Protection have technical means to alert and inform the populations in case of emergency, if a dam breaks or a flood occurs very quickly.

Once the crisis is over, the Departments of Civil Protection would like to have – which is not always the case for the time being – a quick and neutral assessment of the damage so as to easily get back to normal life and help the victims benefit from a quick compensation.

At the European level, member States now have some tools to work together efficiently. In particular, the European mechanism which aims at strengthening cooperation in the field of rescue operations, which was implemented by decision N° 2991.792.CE Euratum of the Council dated October 23rd 2001, constitutes a relevant tool to ensure a better protection at the European level of the people but also of the environment and goods in case of a major natural, technological, environmental emergency.

The commanding centres are today linked together at the appropriate level thanks to telecommunication means which are securised and catastrophe proof and which allow exchanges of voices, data and videos.

Besides, member States can now help each other, exchanging specialised teams, in particular when cross-border or trans-national events occur.

Thirdly, member States already benefit from a quick and independent information on international crises.

To finish with, they are able to provide a quick and coordinated help on the whole planet.

Nevertheless, a better cooperation, and in particular the use of more performing tools could improve the already existing devices.

3 STRATEGIC ORIENTATIONS

The final aim of this project of European platform on new technologies is to draw the architecture of the future European Civil Protection doctrine, for the coming 10 or 15 years. The difficulty of this task relies on the necessity there is to combine a whole series of crucial parameters which are : the hierarchy of responsibilities, the principle of subsidiarity, the respect of national specificities, the plurality of actors, the single commandment principle and the worry to anticipate.

Among the major needs diagnosed with the different actors of the Civil Protection at a European level, one can list the following elements of difficulty, which could constitute as many great strategic orientations for the years to come :

Cooperation between the different actors :

The cooperation between the different actors working in the field of Civil Protection could be strengthened and improved thanks to the implementation of working platforms.

Alert of the populations in case of an impending danger :

Thanks to a more systematic and organised use of television, radio, alarms,...the populations could be better alerted in case of an impendent danger (i.e dam break or sudden flood).

Forecast, anticipation and follow up of floods :

In order to be able to forecast, anticipate and follow up floods with more efficiency, it is necessary to improve the networks that allow to evaluate the water levels at a ground level, the intensity of rains, the quantity of rains, the saturation point of water in the grounds. Similarly, a more precise flood model could be designed (in a plain environment / torrential floods), as well as a model for underground flows, reappearances, or movements of underground water expanses, so as to allow an earlier alert of the populations. Finally, the extent of the area overwhelmed with floods, the duration of floods, the height of floods and the current speed could be precisely measured.

Forecast, anticipation and follow up of forest fires :

In order to improve the forecast, anticipation and follow up of forest fires, it would be necessary to improve the tools that allow to forecast the raise in temperature as well as the strength and force of winds. Similarly, it would be useful to measure the vegetation water stress and the level of ground water stocks thanks to a satellite view. Finally, a map of fuels would usefully complement the existing device to forecast and anticipate forest fires.

Surveillance of seismic and volcanic areas and of areas subject to ground movements :

In order to improve the surveillance of seismic, volcanic or subject to ground movement areas, it would be very useful to have device or tools that would allow an analysis of the precursory movements, the accumulation of distortions/constraints, the degree of ground dampness, and other forewarning signs (temperature abnormalities). Ideally, these measures could be integrated and contribute in particular to the building up of a geophysical model concerning landslides and mining subsidence.

Follow up of industrial pollutions (hydrocarbons spread in the sea, toxic gas):

It could be useful to use tools which could allow a better knowledge of currents, temperatures and waves' height, so as to better follow up the evolution of industrial pollutions (hydrocarbons and toxic gas). Similarly, the setting up of a model concerning the movements or separation of layers would allow a better understanding of these phenomena.

Exchanges of information between member States :

In order to improve the exchanges of information between member States, it could be useful to define a model of European data to be exchanged on a regular basis, in the interest of all.

Regional archives :

It would be useful to have archives that could be exploited at a regional level, for the whole European territory. These data could include in particular generic elements as well as elements regarding land occupation at a 1:10.000 or 1: 25.000 scale.

Floods :

Regarding the forecast, anticipation and follow up of floods, these would be greatly improved if we could use maps of the areas overwhelmed with floods, in particular focusing on the peak of the floods, with a follow up of the rise and fall of the floods. These maps could be drawn for a

maximum of floods and for all the sloppy basins concerned. Finally, numerical land models could be produced, with a 0.5m precision in altitude on the sloppy basins.

Ground movements :

As far as ground movements are concerned, it could be useful to have a historical series of the ground movements over the last 10 years, as well as maps concerning the declinations at a 1 :10.000 or 1 :25.000 scale, and maps concerning ground dampness updated on a weekly basis at least (more often in case of meteorological crises).

Emergency telecommunication networks :

In order to improve communication, it would be useful to develop emergency communication networks with guaranteed information flows that would also be able to work including in a period of crisis for local, regional and national operations.

Individual portable radio, localization and mapping systems :

At the same time, it would be a good thing to have individual portable radio, localization and mapping systems to help carry out rescue operations.

Archives specialised on worldwide crises:

At a European level, it would be useful to have some archives specialised on great worldwide crises, and in particular those concerning Europe, that all member states could refer to.

Data base on great transborder risks :

Similarly, it would be useful to have a data base on great trans-border risks (transportation of dangerous elements, particular industrial settlements, sloppy basins ...).

Interconnection between the national crisis centres :

In order to improve efficiency and communication, it would be useful to have interconnections between the different national crisis centres, via securised communication networks (voice, fax, video conference, data) – proposal included in the decision dated October 23rd 2002.

ANNEX A GREAT PROGRAMMES

Here are some of the great European programmes which could be analysed in the project :

European plans of action in the field of Civil Protection

National plans

For France, law of modernisation of the Civil Protection

INTERREG

Others

European spatial strategy

GMES

The future missions and the new sensors
GALILEO
Telecommunications

European research strategy
The 6th RDCP
The national programmes
The information society

Some examples of these programmes applied to Civil Protection
Fuego
Pactes
Italscar
Egeris/Formidable