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COMMISSION COMMUNICATION

**On the implementation of the Preparatory Action on the enhancement of the European industrial potential in the field of Security research,
Towards a programme to advance European security through Research and Technology**

Introduction

Europe has entered a new phase in its history, marked by major political, demographic, social and economic evolutions. The challenge facing the EU-25 is to adapt and prosper within this changing environment, whilst being guided by the fundamental values and objectives of the Union.

Security is one particular global challenge that has recently come to the fore due to world events and societal changes. Europe needs to invest in a “security culture” that harnesses the combined and relatively untapped strengths of the “security” industry and the research community in order to effectively and innovatively address existing and future security challenges.

The Commission, encouraged by the European Parliament, the Council, and industry¹ is launching a “Preparatory Action²” in the field of Security Research, with a view to the establishment of a comprehensive programme after 2007.

The specific aims of this Communication are to explain why action now needs to be undertaken at Community level and to present the type of issues that need to be explored during the initial phase (the Preparatory Action) and the procedures applying (Programme of Work and Rules for Participation).

The Preparatory Action therefore constitutes a Commission contribution to the wider EU agenda to address Europe’s challenges and threats as set out, inter alia, in the European Security Strategy that was endorsed by the European Council in December 2003. It is complementary to the actions and efforts that are being deployed by the Member States and the other EU Institutions in this area. The Preparatory Action focuses in particular on the development of a research agenda for advanced security and will take account of the decisions to be taken in the Council and the Intergovernmental Conference concerning an Agency in the field of defence capabilities development, research, acquisition and armaments.

European Challenges

Security is an evolving concept and presents many challenges to the EU-25 that impact on a wide range of existing and emerging EU policies³, citizens’ concerns, including the protection against terrorist threats, and the adaptation of governance structures to effectively deal with these matters.

¹ European Parliament: Resolution 172 (April 2002), Presidency Conclusions of the Brussels Spring Council (21 March 2003), The Conclusions of the EU Competitiveness Council (13 May 2003), The Conclusions of the EU Thessaloniki European Council (20-21 June 2003), Star 21 (Strategic Aerospace Review for the 21st century).

² Preparatory actions, based on article 49, point 2b of the Financial Regulation N°1605/2002 and article 32, point 2 of the Implementing Rules on the Financial Regulation (N°2342/2002), are intended to prepare proposals with a view to the adoption of future Community actions.

³ Policies include Competitiveness (COM(2003) 704), Transport, Environment, Energy, Health, Consumer Protection, Finances, Trade, Space and Telecommunications; as well as the Common Foreign and Security Policy (CFSP) and the European Security and Defence Policy (ESDP). Also relevant are policies in respect of Justice and Home Affairs.

The European security strategy, “*A Secure Europe in a Better World*” that was first presented by the Secretary-General / High Representative to the Thessaloniki Council in June 2003 and was endorsed by the European Council in December 2003, outlines the global challenges and key threats. The Union is now challenged to develop and maintain the capabilities to deal with security related issues that are of common interest to the European citizen and Europe as a whole⁴. The paper proposes three strategic objectives for the Union:

- i. *Addressing threats*: The Union needs to use a range of instruments to deal with the current threats such as terrorism, proliferation of weapons of mass destruction, failed states, regional conflicts and organised crime.
- ii. *Building security in our neighbourhood*: The enlargement process will result in a territorial increase of 34% and the EU-25 will have direct borders with less stable regions. The EU will have to ensure that a consistently high level of security is established across its new, more diverse territory.
- iii. *An international order based on effective multilateralism*: In a world of global threats, markets and media, security and prosperity depend on an effective multilateral cooperation. No single European country is or will be able to tackle present or future broad and complex security problems entirely on its own.

Meeting these ambitions requires the Union to have the most technologically advanced instruments for anticipating new security threats and dealing with them in a way that serves its interests and respects its values.

Europe has comparative technological strengths in many areas (including dual-use technologies) and more explicit security-related areas but there is:

- i. A significant degree of duplication and fragmentation of structures and programmes,
- ii. Important problems of interoperability and cost-efficiency of security systems and infrastructures,
- iii. Unrealised potential for the cross-fertilization of ideas and results between the civil and non-civil security-related research fields,
- iv. A recognised under investment in RTD in this area in comparison to other regions in the world.

Europe now needs to capitalise on its strengths by adopting a more co-ordinated and coherent approach in innovation policies and research. This would contribute to the Barcelona objectives of realising an investment of 3 % of GDP in research and development by the year 2010. The cost of “non-action” could be unacceptably high – both politically and for the European citizen.

⁴ The final version of the European Security Strategy was adopted by the European Council on 12 December 2003 and provides the basis for the development of a new European security culture – including a framework for European security-related research in an enlarged Europe.

I. THE NEED FOR COMMUNITY RESEARCH AND TECHNOLOGICAL DEVELOPMENT IN THE FIELD OF SECURITY

Europe needs to tackle threats that are more diverse, less visible, and less predictable. This calls for behavioural changes as well as more innovative means to deal with complex situations to address security in a comprehensive manner (“comprehensive security”).

Europe must use its technological strengths to build the capability for deploying significant resources for peacekeeping, humanitarian aid and state-building activities, either on its own or in international alliances⁵. It requires an optimal use of the resources and the development of European industrial capabilities.

In an increasingly technological and knowledge-based world, excellence in Research and Technological Development (RTD) is a prerequisite for the ability to tackle the new security challenges. There is scope for significant added value and economies of scale in the field of security-related research through more effective co-ordination and harmonisation of requirements and consistent approaches at a European level to RTD activities, capabilities and competencies.

The experience of 20 years of European Research Programmes implemented on the basis of the “Community method” has proven the effectiveness of co-operative RTD activities and the value of collaborative projects in federating industrial effort leading to research excellence and value for money by fostering true competition and collaboration at a European level. The activities foreseen in security-related research and proposed in this Communication are not intended to replace Member States own efforts in this field; instead in accordance with the subsidiarity principle, their aim is to support, reinforce and supplement them, while providing a coherent reference framework at a European level. The activities will exploit synergies and complement ongoing RTD and policy work in Community programmes.

The Preparatory Action

The Preparatory Action is designed to assess the need for a further initiative that will complement and liaise with existing and future intergovernmental schemes; be open to all EU members and operate on the basis of Community principles; and contribute to bridging the current gap between generic civil research (as supported by EC Framework programmes) and national and intergovernmental programmes oriented to defence procurement needs.

Importantly, the Preparatory Action will also define at an EU level, based on European added value, ways to address issues related to serving an end user community essentially composed of public service organisations and, in particular, government departments and services, security agencies, non-governmental organisations, industry and the wider public sector.

Following the Commission proposal, the Budgetary Authority has accorded⁶ an amount of 15 Mio€⁷ for 2004 to launch a Preparatory Action entitled *‘Enhancement of the European*

⁵ The so called Petersberg’s tasks are expressly included in Article 17 of the Treaty on European Union and form an integral part of the European Security and Defence Policy (ESPD).

⁶ Budget decision, Plenary December 2003.

⁷ 9 Mio€ for EU-15 plus 6 Mio€ for EU-10 to be adopted as an amending budget.

*industrial potential in the field of Security research 2004-2006*⁸, with a view to contributing to the improvement of European citizens' security and in accordance with Article 157⁹. It is planned that the Preparatory Action will last three years with a estimated total budget of 65 Mio€ (subject to the decision of the Budgetary Authority).

A successful preparatory phase will prepare the basis for a decision by the European Parliament and Council to establish a European Security Research Programme after 2006, by identifying the optimal EU added value and priorities to be addressed in such a programme. The preparation of a European Security Research Programme will formally start with the adoption of this Communication, with a view to completing the exercise by the end of the Preparatory Action. The legal basis for such a programme will be decided on and implemented in accordance with the Treaty establishing the European Community, taking into account the developments with respect to a future Constitutional Treaty, including the creation of an Agency in the field of defence capabilities, research, acquisition and armaments, the seventh research Framework programme and other relevant issues.

II. THE IMPLEMENTATION OF THE PREPARATORY ACTION

1. ISSUES TO BE EXPLORED DURING THE PREPARATORY ACTION

The Preparatory Action provides an opportunity to undertake activities to identify and address critical issues in order to prepare the foundations for a comprehensive European Security Research Programme from 2007 onwards.

To implement this Action, a series of precursory activities (projects and supporting activities), established after a broad consultation with Member States, industry and research entities will be carried out at Community level that will reference, complement and build on existing RTD projects and studies undertaken already at European, regional, national and intergovernmental contexts.

Projects will aim at demonstrating the potential to address the immediate security challenges that Europe faces, as well as considering possible technical, contractual, and implementing issues to be developed for the future programme. A limited number of projects (between 6-8) will be funded annually, such as:

- Mission-oriented projects delivering tangible results in selected priority areas within the period of the activity;
- Pre-normative projects working in areas relating to standards and internationally interoperable systems, in particular between defence and other security organisations;

⁸ The Commission's Communication (COM(2003)113) 'Towards an EU Defence Equipment Policy' proposes to launch a preparatory action for advanced research in the field of global security.

⁹ Article 157, point 1, 4th indent of the T.E.C. 'foster better exploitation of the industrial potential of policies of innovation, research and technological development'.

- The understanding of human factors, social and ethical values including public perception relating to threats and security measures as well as the acquisition of the necessary skills to deal with such matters.

Supporting activities will aim at addressing the fragmentation of structures in Europe, the integration of heterogeneous networks, improving the understanding of the existing activities in specific fields, socio-economic and market studies, road-mapping, scenario building including threat analysis, and technology foresight exercises. They will also contribute to the exploitation and valorisation of the results. A limited number of supporting activities will be implemented through calls for proposals and call for tenders, addressing in particular:

- The establishment of conditions for stimulating the uptake of results by the user community including the development of interfaces with end-users, in particular government departments and services, security agencies, non-governmental organisations, industry and the wider public sector;
- The networking of stakeholders, benchmarking of existing activities and studies;
- The identification of the technologies that will be required for future European industrial investment;
- In addition, it is intended to establish a consultation and consensus-building platform with the relevant stakeholders, in line with the European technology platform concept already put to work in a number of fields such as aeronautics and endorsed by the European Council¹⁰. This activity will aim to develop a long-term vision and strategic agenda in security-related research.

2. PROGRAMME OF WORK AND PROCEDURES APPLYING TO THE PREPARATORY ACTION

This chapter contains the programme of work and procedures applying to the Preparatory Action. A call for proposals will be published toward the end of March 2004. The selection of the projects and the signature of the contracts will take place during the second half of 2004.

The Programme of work takes a mission-oriented approach. The activities are defined as collaborative multi-disciplinary, multi-stakeholder projects that will strive for a broad, strategic perspective in considering the topic areas addressed but give tangible outcomes that will provide the basis for the future Security Research Programme.

The activities will stimulate the integration of a critical mass of technologies, knowledge and resources to provide validated solutions to the specific security challenges identified. They will also explore and foster the conditions necessary to create an environment favourable to the enhancement of European scientific, technological and industrial capabilities in the field of security-related research.

¹⁰ Presidency conclusions, European Council, 20-21 March 2003.

The activities take account of the ongoing legislative and regulatory initiatives taken at Community level in different areas such as justice and interior affairs, taxation and customs, external relations, transport and energy, agriculture, health and others, aiming at supporting technologies and concepts. Related programmes need to be considered in order to complement these activities and avoid any unnecessary duplication of work and ongoing standardisation work must be taken into account.

2.1. FIELDS OF ACTIVITY

The activities should support EU policies and initiatives and be consistent with EU policies and values, especially addressing the major concerns of EU citizens with respect to security and privacy as well as those of common interest to Europe in a global context. In addition they should respect certain broader principles:

- i. The relevance of the activities to the objectives of the Preparatory Action and the potential to contribute tangible and demonstrable improvements in security that can be brought to “maturity” within the timeframe of the Preparatory Action;
- ii. The stimulation of market conditions and innovative mechanisms to create opportunities for European industry to gain a comparative advantage;
- iii. The ability of the consortium to carry out the activities successfully, and to ensure the management of the intellectual property and where applicable, the proper treatment of classified information;
- iv. The building of sustainable and effective partnerships, networks and working methodologies between (public) users, industry and research organisations.

The following priority missions have been identified in consultation with national authorities, industry and a Group of Personalities (section III):

- Improving situation awareness;
- Optimising security and protection of networked systems;
- Protecting against terrorism (including bio-terrorism and incidents with biological, chemical and other substances);
- Enhancing crisis management (including evacuation, search and rescue operations, active agents control and remediation);
- Achieving interoperability and integrated systems for information and communication.

The activities subject to grants in the context of the Preparatory Action will be projects and supporting activities addressing the priorities indicated, wherever needed and appropriate in co-ordination with the relevant standardisation work of the European standards organisations. These will be implemented through calls for proposals and calls for tenders. This priority listing does not prejudice the possibility of selecting additional projects that can be justified. The priorities of the Preparatory Action will be reviewed on a yearly basis.

2.2 PROJECTS

A. Improving situation awareness

Aim: to identify the main threats that could affect Europe, particularly land and sea borders and assets of global interest, by appropriate information gathering, interpretation, integration and dissemination leading to the sharing of intelligence. Concepts and technologies for improved situation awareness at the appropriate levels could be developed and demonstrated.

Relevant issues for Projects:

- Demonstration of concepts, technologies and capabilities for situation awareness systems, to enhance surveillance of land and sea borders, especially supporting measures for new land borders in EU-25 and assets of global interest.
- Demonstration of the appropriateness and acceptability of tagging, tracking and tracing devices by static and mobile multiple sensors that improve the capability to locate, identify and follow the movement of mobile assets, goods and persons, including smart documentation (e.g. biometrics, automatic chips with positioning) and data analysis techniques (remote control and access).

B. Optimising security and protection of networked systems

Aim: to analyse established and future networked systems, such as communications systems, utility systems, transportation facilities, or networks for (cyber) commerce and business, with regard to the security of use, vulnerabilities, and identification of interdependencies to show how to implement protective security measures against both electronic and physical threats.

Relevant issues for Projects:

- Development of standardised methodologies and decision tools for assessing the nature of the potential threat to critical networked infrastructures and to assess the respective vulnerabilities.
- Demonstration of measures for enhanced protection and assurance of elements critical to public, private and government infrastructures to maintain security in an enlarged Europe.
- Development of detection, prevention, response and alert capabilities to strengthen information and control systems, integrating, where appropriate, the use of space-based assets as well as fixed terrestrial and wireless terrestrial systems.

C. Protecting against terrorism (including bio-terrorism and incidents with biological, chemical and other substances)

Aim: to identify and prioritise the material and information requirements of governments, agencies and public authorities in combating and protecting against terrorism and to deliver technology solutions for threat detection, identification, protection and neutralisation as well as containment and disposal of threatening substances including biological, chemical and nuclear ones and weapons of mass destruction.

Relevant issues for Projects:

- Demonstration of effective integration of active and passive sensor techniques, suitable for a wide range of platforms and data correlation techniques for detection and identification systems.
- Development of models of large scale dispersion over large areas and using multiple routes of high risk pathogens of concern (smallpox, anthrax, C. botulinum, Yersinia pestis, haemorrhagic fever viruses, Francisella tularensis and genetically modified organisms) to produce a validated model for use by public authorities.
- Demonstration of the viability of technologies and protocols for personnel, facilities and equipment decontamination against biological or chemical or other substances.
- Assessment and identification of the overall needs of an enlarged EU for biosafety level 4 laboratories in order to guarantee optimal complementarity and development of an effective methodology for networking.

D. Enhancing Crisis Management (including evacuation, search and rescue operations, active agents control and remediation)

Aim: to address the operational and technological issues that need to be considered from three perspectives: crisis prevention, operational preparedness and management of declared crisis.

Relevant issues for Projects:

- Development of shared information management tools and models to facilitate the efficient integration of diverse emergency and management services with attention to *inter alia*: organisational structures, inter-organisational co-ordination and communication; distributed architectures and human factors.

E. Achieving interoperability and integrated systems for information and communication

Aim : to develop and demonstrate interoperability concepts for (legacy) information systems in the domain of security, enabling the linking of existing and new assets in clusters to offer improved performance and enhanced adaptive functionality. To support interoperability, system providers need to involve end-users and standardisation.

Relevant issues for Projects:

- Develop and demonstrate with existing and potential categories of users, concepts and architectures for internationally interoperable systems and standards, for example in control and command as well as communication and information exchange systems. Attention should also be given to dependability, organisational aspects, protection of confidentiality and integrity of information.

2.3 SUPPORTING ACTIVITIES

A small number (to a maximum of 10) of supporting activities are foreseen annually on topics selected with a focus on RTD roadmaps, standardisation or requirement analyses,

dissemination, networking and coordinating activities, relevant to the need to improve the security of the European citizen and society, such as:

- Scenario building exercises for assessing threats and perceived risk to strategic sites and assets;
- Identification of the critical areas (social, psychological, strategic, information) to reduce risks and vulnerability;
- Technical and financial feasibility studies of a European security information system (including the use of space-based assets);
- Survey of good practice in screening measures (goods and persons) in Member States, and other regions and including an evaluation of the economic viability (costs and throughput) of activities and of the transferability of systems and capabilities across the enlarged EU;
- Developing procedures and good practice to define at EU level, relevant new technologies and capacities based on the needs of various public services.

2.4 MANAGEMENT

The Preparatory Action and all the activities related to the preparation of the programme will be managed and executed by the Commission services.

Although there are clear differences with the current 6th Framework programme, in particular the mission oriented approach and the rules for intellectual property rights and participation, well-tested procedures and instruments currently applicable in the Community research programmes are the basis for the management of the Preparatory Action activities.

Calls for proposals and Calls for tenders will be published in the Official Journal of the Community based on the Programme of Work established in consultation with stakeholders.

Grant contracts based on Commission models for standard grant agreements with elements as appropriate and necessary from the 6th Framework programme contracts will be established for the projects, following the principles laid out in the Annex to this Communication. Supporting activities can receive a grant contract if they are selected following a call for proposals, or service contract if their selection follows a call for tenders. Particular efforts will be made to keep the implementation of the Preparatory Action flexible and simple to enable optimal testing of the concepts outlined. The Commission will respect EU regulation on classified and confidential information. Further details on the implementation are provided in the Annex to the Commission Decision on the implementation of the Preparatory Action on the enhancement of the European industrial potential in the field of Security research.

2.5 REVIEW AND ASSESSMENT

The Commission will inform the European Parliament, the Council and Member States on a regular basis of the results and progress made in the implementation of the Preparatory Action. It will report on:

- Specific technological implementations and other achievements as well as deliverables of the initiative;
- The degree of competency pooling and consensus reached on a European security research strategy amongst the key stakeholders;
- The future needs for security-related research to support EU policies in specific areas and to contribute to the new security challenges in a changing world.

III. LONG TERM PERSPECTIVES

To complement these activities and in order to give a longer term vision to the security research a high-level “Group of Personalities” chaired by Commissioners Busquin and Liikanen (Research and Information Society respectively) and including CEOs from industry and research institutes, high level European political figures, members from the European Parliament and observers from intergovernmental institutions, has been established.

The Group will, in particular, elaborate a vision and propose a basis for establishing the future requirements of EU Security RTD and the contribution that could be made to addressing the new security challenges in a changing world.

The Group of Personalities will prepare a policy oriented report on their vision for security research in Europe, that will be the subject of a Commission Communication foreseen for Spring 2004.

IV. CONCLUSION

This Communication responds to repeated requests to the Commission by the European Parliament, Council and industry. It constitutes a specific response to the Presidency conclusions of the Competitiveness Council of 13 May 2003.

The launching of the Preparatory Action is a timely reaction to the growing security challenges that Europe is facing as set out, inter alia, in the recently adopted EU Security Strategy. The Preparatory Action is a Commission contribution to the wider EU agenda to address Europe’s challenges and threats. It is complementary to the actions and efforts that are being deployed by the Member States and the other EU Institutions in this area. The Preparatory Action focuses in particular on the development of a research agenda for advanced security and will take account of the decisions to be taken in the Council and the Intergovernmental Conference concerning an Agency in the field of defence capabilities development, research, acquisition and armaments. The Preparatory Action also constitutes a contribution to the Initiative for Growth (EU Council conclusions, 16-17 October 2003) by providing an opportunity to reinforce European technological and industrial potential in this area.

The Communication sets out the main objectives of the Preparatory Action, outlines the initial actions that the Commission intends to take as well as the procedures for its implementation.

Member States, industry and the research community are and will continue to be the main Commission partners during the development of the new programme. In addition to the technological focus of the action, socio-economic aspects, the acquisition of skills and public awareness raising are also issues that will be addressed during this preparation phase.

The Preparatory Action should lead to a European Security Research Programme starting in 2007. Experience and knowledge gained from this phase will help to ensure that the future Research Programme will be optimally designed by the relevant EU institutions, with appropriate financial resources, and that it will contribute to the technological excellence and capabilities for the EU to promote peace, security and prosperity both within and beyond Europe.