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**Examining the creation of a European Border Surveillance System (EUROSUR)**

**_Impact assessment_**

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EN                                                                                              EN

# TABLE OF CONTENTS

**EN**             3             **EN**

**Lead DG:     Justice, Freedom and Security**

**1.     POLITICAL ORIENTATIONS, PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES**

In the Communication COM(2006)733 final of 30 November 2006 on Reinforcing the Management of the EU's Southern Maritime Borders, the Commission proposed to establish a permanent *Coastal Patrol Network* for the southern maritime external borders and to create a *European Surveillance System for Borders (EUROSUR).*

The European Council of 14/15 December 2006 stated that "priority will be given to examining the creation of a European Surveillance System for the southern maritime borders; FRONTEX is invited to establish as soon as possible, together with the Member States of the region, a permanent Coastal Patrol Network at the southern maritime borders."

In response to these European Council conclusions, this report examines the different policy options for the creation of a European Border Surveillance System.

The Commission Legislative and Work Programme (CLWP) for 2008 foresees that Member States will be supported in tackling illegal migration through a European border surveillance system. According to the CLWP 2008 the main aim of this strategic initiative is the creation of a common information sharing environment for the maritime domain, covering the Mediterranean Sea, the southern Atlantic Ocean (Canary Islands) and the Black Sea. A phased approach for the creation of a European border surveillance system should noticeably increase internal security in the Schengen area by preventing illegal immigration, trafficking of human beings, terrorism etc., but also reduce considerably the tragic death toll of illegal immigrants by rescuing more lives at sea.

This impact assessment has been elaborated on the basis of the BORTEC feasibility study[1] prepared by the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (FRONTEX). Available results of projects carried under the 2004-2006 Preparatory Action for Security Research and under the 6th Framework Programme for Research and Development have also been taken into account. Attention has been paid to synchronize with works done for the setting up of the European Patrols Network.

Finally, the parts of this report dealing with maritime borders are embedded into the overall framework of the Integrated Maritime Policy for the European Union[2].

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[1]     Study on technical feasibility of establishing a surveillance system (European Surveillance System), Warsaw, presented by FRONTEX on 12 January 2007. A summary can be found in Annex 7. See also the "Feasibility study on the control of the European Union's maritime borders" presented by CIVIPOL on 4 July 2003, Council document 11490/1/03 REV1 FRONT 102 COMIX 458.

[2]     Communication on an Integrated Maritime Policy for the European Union, COM(2007)575 of 10 October 2007, and the accompanying action plan - SEC(2007) 1278 - in which explicit reference to EUROSUR is made.

On 15 June 2007, in the course of the 25<sup>th</sup> meeting of the Committee on Immigration and Asylum the Commission presented a first outline (see document MIGRAPOL 186 in Annex 2) on how to set up a *European Border Surveillance System (EUROSUR)* in 3 phases between 2008 and 2013 to the Member States.

In this meeting, Member States welcomed the approach and agreed that EUROSUR should not only cover the *southern maritime borders*, but also the *eastern land borders* of the EU.

In two technical meetings with Member States on the development of a future European Border Surveillance System, the different phases and components outlined in the document MIGRAPOL 186 were presented and the technical and practical aspects were discussed in detail.

In the first meeting, which took place on 17 July 2007 (see Annex 3 for the programme), presentations were given on selected national land and maritime border surveillance systems; border-related security research under the Preparatory Actions for Security Research (PASR) and the 7th Framework Programme for research and technological development, satellite surveillance and border security; Global Monitoring for Environment and Security (GMES); reporting systems (e.g. LRIT) and networks (e.g. SafeSeaNet) in the maritime domain.

In the second meeting, which took place on 12 October 2007 (see Annex 4 for the programme), presentations were given on the Black Sea Border Coordination and Information Centre; the Baltic Sea Regional Border Control Cooperation; and the "SEAHORSE" project concerning the cooperation with African countries.

The major part of the meeting was dedicated to a discussion of the general concept and the different steps presented as well as the questions asked in a background paper prepared for this meeting (see Annex 5).

This assessment has been drafted with input from numerous contacts between the Directorate-General for Justice, Freedom and Security and other Commission services (GMES Bureau of DG ENTR, DG TREN, DG FISH, JRC) as well as FRONTEX, which have also been invited to the meetings of the "EUROSUR inter-service group" on 25 September 2007 and on 5 October 2007. Contacts have also been established with other relevant agencies (EDA, ESA, EUSC).

Since all relevant stakeholders have been consulted in the preparation of the Communication, the minimum standards for consultation have been met.

An inter-service meeting on the draft impact assessment was held on 20 November 2007. The Commission's Impact Assessment Board provided its opinion on 4 December 2007. To take into account the recommendations of the Impact Assessment Board, the following changes have been introduced:

(1)     In Chapter 2.3.3, the reasons for the extension of the geographical scope of EUROSUR to the Black Sea and the eastern land border has been explained by describing how smuggling networks were re-routing their operations and so the migratory pressure in 2006 once border controls have been reinforced.

(2)     In Chapter 4.1, a description of the base line scenario has been inserted, presenting the current legal, practical and technical limitations to border surveillance. Additional information on the legal obligations with regard to human rights and data protection can be found in Chapters 2.3.6 and 6.4.

(3)     In Chapter 2.2, more information has been provided the scope and size of the problems faced, in particular on illegal immigration. In the description of the different policy options in Chapter 4 more information has been added to explain how the impact of the different options, which could also be carried out separately, could be increased considerably if applied jointly. It has also been clarified which specific objectives are linked to which general objectives.

(4)     In a table at the end of chapter 6.1, the relevant Community financial programmes are presented and the studies needed to determine the financial impact have been identified.

It should be noted that the different options and steps proposed in this assessment should not be regarded as concrete actions, but rather as a roadmap providing the main parameters for the development of a European Border Surveillance System. Therefore a number of studies identified in this assessment have to be carried out before concrete actions can be taken.

## 2.     PROBLEM DEFINITION

### 2.1.     Border surveillance

Since the entry into force of the Treaty of Amsterdam in 1999, a number of common measures have been adopted to improve the management of the external borders of the European Union in accordance with Article 62 (1) and (2) of the EC Treaty.

In 2002, following the Commission's Communication on an integrated management of the external borders of the EU Member States[3], the Council adopted a plan for the management of the EU external borders[4], containing the following five components of a common policy of integrated management of external borders: a common operational co-ordination and co-operation mechanism, common integrated risk analysis, personnel and inter-operational equipment, a common corpus of legislation and burden sharing between the Member States and the Union.

Built around the three pillars of common legislation, common operations and financial solidarity, key steps were taken towards the implementation of these five components with the adoption of the Schengen Borders Code[5], the Practical

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[3]     Communication COM(2002) 233 of 7 May 2002 from the Commission to the Council and the European Parliament, "Towards integrated management of the external borders of the Member States of the European Union".

[4]     "Plan for the management of the external borders of the Member States of the European Union" agreed by the Council on 13 June 2002, doc. 10019/02 of 14.6.2002.

[5]     Regulation (EC) No 562/2006 of the European Parliament and of the Council of 15 March 2006 establishing a Community Code on the rules governing the movement of persons across borders (Schengen Borders Code) (OJ L 105, 13.4.2006, p. 1).

Handbook for Border Guards (Schengen Handbook)[6] and the rules for local border traffic[7], the establishment of the FRONTEX-Agency[8], the creation of the Rapid Border Intervention Teams[9] and the creation of the External Borders Fund[10]. Furthermore, in order to cope with the current migration pressure in the Mediterranean Sea and the Canary Islands, the European Patrols Network (EPN) is currently being set up.

All these steps have to be seen within the framework of a concept for integrated border management, which consists of the following dimensions:[11]

- Border control (checks and surveillance) as defined in the Schengen Borders Code, including relevant risk analysis and crime intelligence;

- Detection and investigation of cross border crime in coordination with all competent law enforcement authorities;

- The Schengen four-tier access control model (measures in third countries, cooperation with neighbouring countries, border control, control measures within the area of free movement, including return)12;

- Inter-agency cooperation for border management (border guards, customs, police, national security and other relevant authorities) and international cooperation;

- Coordination and coherence of the activities of Member States and institutions and other bodies of the Community and the Union.

As defined in the Schengen Borders Code and in the Schengen Handbook, border control, which is in the responsibility of the Member States, consists of checks carried out at border crossing points (*border checks*) and surveillance of borders between border crossing points (*border surveillance*).

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[6]    Commission Recommendation C(2006) 5186 of 6 November 2006 establishing a common "Practical Handbook for Border Guards (Schengen Handbook)" to be used by Member States' competent authorities when carrying out the border control of persons.

[7]    Regulation (EC) No 1931/2006 of the European Parliament and of the Council of 20 December 2006 laying down rules on local border traffic at the external borders of the Member States and amending the provisions of the Schengen Convention (OJ L 29, 3.2.2007, p. 3).

[8]    Council Regulation (EC) No 2007/2004 of 26 October 2004 establishing a European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union, OJ L349 of 25.11.2004, 1.

[9]    Regulation (EC) No 863/2007 of the European Parliament and of the Council of 11 July 2007 establishing a mechanism for the creation of Rapid Border Intervention Teams and amending Council Regulation (EC) No 2007/2004 as regards that mechanism and regulating the tasks and powers of guest officers (OJ L 199, 31.7.2007, p. 30).

[10]    Decision No 574/2007/EC of the European Parliament and of the Council of 23 May 2007 establishing the External Borders Fund for the period 2007 to 2013 as part of the General programme "Solidarity and Management of Migration Flows" (OJ L 144, 6.6.2007, p. 22).

[11]    Conclusions of the 2768th Council Meeting on Justice and Home Affairs, Brussels, 4-5 December 2006, doc. 15801/06 (Presse 341), p. 26.

[12]    The model in its entirety has been described in the EU Schengen Catalogue on External borders control, Removal and readmission: Recommendations and best practices, February 2002.

Whereas border checks are regulated in detail in the Schengen Borders Code and in the Schengen Handbook, the provisions on *border surveillance* are kept rather general and can be summarized as follows:

Border surveillance is defined as the surveillance of borders between border crossing points and the surveillance of border crossing points outside the fixed opening hours, in order to prevent persons from circumventing border checks.

The main purpose of *border surveillance* is to

- prevent and discourage unauthorised border crossings;

- counter cross-border criminality; and

- take measures against persons who have crossed the border illegally.

Border surveillance shall be carried out by border guards whose numbers and methods shall be adapted to existing or foreseen risks and threats. It shall involve frequent and sudden changes to surveillance periods, so that unauthorised border crossings are always at risk of being detected. The resources should be selected in accordance with the type and nature of the border (land, inland waterway or sea).

Border surveillance shall be carried out by stationary or mobile units which perform their duties by *patrolling* or *stationing* themselves at places known or perceived to be sensitive, the aim of such surveillance being to apprehend individuals crossing the border illegally.

The main tasks of *patrolling* are:

- To monitor the terrain they operate in;

- To ensure that there is no risk to public policy and internal security in the patrolling area;

- To check documents of persons being in the area, who are not known to the patrol team;

- To stop all suspected persons who do not have any documents and ask them to explain in detail their reasons for being in that area;

- To stop and bring to the nearest border guard's station persons who crossed or tried to cross the border illegally.

Special dogs for tracking should be used during patrolling. Helicopters, patrol boats and terrain vehicles should also be used in order to enhance the patrolling and monitoring of the border.

The main tasks of *stationing* are:

- To observe the places which are perceived to be sensitive to illegal border crossing or smuggling;

- To stop and bring to the border guard station people who tried or crossed the border illegally.

Surveillance may also be carried out by technical means, including electronic means (i.e. radars, sensors, and infrared vision at night).

Under the Finnish Presidency, an effort has been made to define an integrated border management strategy[13]. In this strategy document, several general aims for border management have been enumerated, of which the following are linked to *border surveillance*:

- Avoiding the serious consequences which irregular immigration can have on immigrants who put their physical integrity and lives at risk;

- Preventing offences in the sphere of or related to irregular immigration, as well as enabling action against them;

- Anticipating and preventing action by organised crime groups involved in irregular immigration, as well as facilitating their prosecution;

- Cooperating with countries of origin and transit on the above in the interests of prevention, as well as implementing the cooperation policies and actions required to ensure that irregular immigrants do not leave their countries of origin or transit;

- Preventing irregular immigration and the entry of persons who do not meet the entry conditions;

- Detecting persons who are running serious risks in their attempts to enter irregularly, and facilitating appropriate action by border services;

- Serving as a tool in the combat against terrorism, and organised cross-border crime.

**2.2.    The scope and size of the problem**

*2.2.1.    Illegal immigration*

Taking into account differences in demographic developments, living conditions and political stability in Europe compared to a number of other regions of the world, the current pressure of illegal immigration at the external borders of the European Union is likely to continue in the future.[14]

In the recent years in particular the southern EU Member States are facing a considerable number of sub-Saharan and Asian migrants using routes going through

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[13]    The JHA Council of 4/5 December 2006 took note of the deliberations of the Strategic Committee on Immigration, Frontiers and Asylum on a strategy for integrated border management as contained in doc. 13926/3/06 of 21.11.2006, doc. 15801/06 (Presse 341), p. 26.

[14]    For information on the length of the external land and maritime borders of the EU Member States and for the number of third country nationals apprehended after having crossed these borders in 2005 and 2006, see Annex 5.

Northern Africa and the Mediterranean Sea and the southern Atlantic Ocean to reach European shores. The following methods are being used:

- *Small craft aiming to reach the coast clandestinely*. It is estimated that this method accounts for the major part of detected illegal immigration by sea. It mainly concerns Spain (coasts of Andalusia and the Canary Islands), Italy (Sicilian coast and the Pelagian islands, in particular Lampedusa), Malta and Greece (Aegean Islands near Turkey and Crete, but also the continental territory). The crossings are usually organised by local people smugglers, using small craft or dinghies which are not seaworthy and which are therefore jeopardising the lives of their occupants.

- *Large ships, usually at end-of-life, which either deliver persons transported clandestinely to the coasts in smaller craft or are left in distress during the voyage or near the coasts*. This type of immigration is carried out by ships run by criminal organisations under a flag of convenience from a country often located far from the Mediterranean. These ships are often unseaworthy from the safety point of view (overcrowded, in poor condition, no lifeboats or safety equipment). They normally rely on the complicity of the authorities in the port of departure.

- *Merchant shipping and pleasure craft* (more rarely, fishing boats and cruise boats), with the clandestine disembarkation of illegal immigrants in the port.

- *Ferries with illegal passage via an authorised point of passage*. This mainly involves ferries leaving from Morocco, Algeria and Tunisia and arriving in Spain (Almeria, Algeciras and Tarifa) and France (Sète and Marseille).

As for the other external maritime borders (Baltic Sea, North Sea, northern part of Atlantic Ocean), the risk of illegal immigration is regarded as low and concerns in general only "port-to-port" flow (e.g. stowaways, sailors who fail to return to their ships).

| Member State | Number of migrants intercepted at sea or arrived on the shore in 2007 | Source |
|---|---|---|
| **Spain:**<br>*Canaries*<br>*Gibraltar area[15]*. | 5 680 (by end of June)<br>2 138 (by end of June) | Spanish Police |
| **Malta** | 1 174 (by August 15) | Ministry of Interior |
| **Italy:**<br>*Lampedusa* | 8 937 (by August 30) | Ministry of Interior |
| **Greece** | 2 782 migrants intercepted at sea (by end of July) | Ministry of Mercantile Marine |

However, also at the external land borders different methods are continuously developed and experimented with by facilitators of illegal immigration, such as a synchronisation of the departures in order to overwhelm national authorities of EU Member States, leading to serious difficulties in coping with high numbers of irregular migrants arriving at the same time.

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[15] Including Ceuta and Melilla.

The actions being considered in this assessment should provide the authorities responsible for border control in the Member States with more timely and reliable information to detect, identify and intercept those attempting to enter the EU illegally, thereby reducing the number of illegal immigrants who manage to cross the external borders of the EU undetected. The tracking of means of transports used by illegal immigrants might facilitate the readmission and removals of illegal immigrants.

In this context, it should be noted that the flows of irregular migrants and of asylum seekers and refugees are mixed, as both categories usually use the same channels and facilitators to arrive to the EU. Asylum must therefore continue to be an important feature and an effective option for persons requiring international protection.

2.2.2.    *Loss of life at sea*

Many illegal immigrants and persons in need of international protection are travelling in conditions of extreme hardship and are taking great personal risks in their attempts to enter the EU illegally by hiding in vehicles, on cargo vessels, etc. In the last years there have been a number of cases in which third country nationals have lost their lives when attempting to cross the external land and maritime borders illegally.

However, the practice of travelling on board of small boats or unseaworthy ships (boats in poor condition, overcrowded, without any safety equipment, illumination, etc.) has multiplied drastically the number of unfortunate migrants and refugees who are loosing their lives by drowning in the Atlantic Ocean between Africa and the Canary Islands and in the Mediterranean Sea.

Even if it is impossible to determine the number of migrants loosing their life at sea when trying to reach the shores of the EU Member States[16], the tragic death toll is unacceptable to a civilised society and must therefore be significantly reduced. The actions being considered in this assessment should improve the capacity to detect small boats in the open sea, leading to more search and rescue activities and thereby saving more lives at sea, while also monitoring third country coasts in order to prevent immigrants from using such boats.

However, it has to be ensured that persons rescued at sea who are in need of international protection are not deprived of their rights, but identified at the reception sites following disembarkation. It should be underlined, that third countries are, of course, under the same obligations in this respect.

2.2.3.    *Terrorism and organised cross-border crime*

Border surveillance not only serves to prevent unauthorised border crossings, but also to counter cross-border crime such as terrorism, trafficking in human beings, drug smuggling, smuggling of weapons etc. Significant financial means, notably due to an involvement in different kinds of illegal activities, and the affordability of new

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[16]    A list of press reports can be found on http://fortresseurope.blogspot.com/2006/02/immigrants-dead-at-frontiers-of-europe_16.html

technical means provide groups involved in organised crime with a wide range of possibilities and equipment.

To counter these threats is first and foremost a task for the police forces and intelligence services of Member States. However, an effective border management system both at national and European level contributes significantly to reducing the risks of known or suspect terrorists entering the European Union from the outside and is also a valuable tool for fighting cross-border crime.

## 2.3. The current response

### 2.3.1. *Current surveillance infrastructure and coordination at national level*

For the time being, national border surveillance systems are covering with permanent and mobile surveillance means only a few, selected parts of the EU external borders. As far as the eastern land borders are concerned, only the Slovak Republic is currently finalising the setting up of a national surveillance system covering the *whole* length of its external border with Ukraine (97km). Concerning the maritime borders, France is one example for a Member State planning to develop a fully integrated surveillance system covering *all* its coasts.

The BORTEC study has shown in the eight Member States forming the EU southern maritime border, about 50 authorities from up to 30 different institutions are involved in border surveillance, sometimes with parallel competencies and systems.

### 2.3.2. *Current coverage of surveillance tools*

Due to technical (current performance of radar/optical sensors, limited availability/resolution of satellites) and financial limitations, the areas covered by surveillance are currently restricted to certain flat or coastal areas and those areas of the land border or open sea in which operations are carried out.

Technical solutions have in particular to be found for the current inability to detect and track small vessels, which are used for smuggling people and drugs into the EU.

### 2.3.3. *Displacement effects along the external borders*

As soon as border controls in one area have been reinforced or one illegal immigration route has been closed down, the smuggling networks use other methods and techniques or re-route their operations and so the transfer of the migratory pressure to other Member States or third countries not prepared to face them.

These displacement effects have been clearly shown in the threat assessment carried out by FRONTEX in June 2007 within the context of the External Borders Fund, in which the situation of illegal migration at the external land and maritime borders of the Member States in 2006 has been examined in detail:[17]

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[17] The report which has been presented to the Commission on 22 June 2007 is restricted and has therefore not been published.

Whereas the Greek-Turkish border coast has continued to face considerable numbers of illegal immigrants in 2006, the most noticeable increase took place at the external borders of Spain. Tighter border control measures in Ceuta and Melilla as well as by Morocco have led to a partial shift of the migration flows to Italy, mainly to Lampedusa, but also to Malta, which was facing increasing flows of migrants having embarked on North African shores. But above all, Sub-Saharan nationals and traffickers have found a new route leading to the Canary Islands, resulting in mass arrivals in 2006.

Out of all EU land borders, the Greek-Albanian border turned out to be the most difficult one, being under huge pressure from illegal migrants and traffickers, even more than the Greek-Turkish land border.

Furthermore Poland, Slovakia and Hungary continued to face a major illegal migration pressure at their external land borders with Ukraine in 2006. In particular at the Slovak-Ukrainian border, the prevailing modus operandi has been to cross the green border in small groups by hiding in the mountainous terrain, usually with the help of facilitators. FRONTEX is expecting that illegal migrants from the CIS countries and Asia will continue to use this route.

In comparison, the number of illegal border crossings at the external land borders of the Scandinavian and Baltic countries continued to be very low in 2006. The same applies for the maritime borders in the Baltic Sea, the North Sea and the northern part of the Atlantic Ocean, where only very few cases related to illegal migration were reported in 2006, posing no significant risk for the time being.

The threat assessment concludes that whereas in 2006 the main migration pressure has been at the southern maritime borders of the EU, illegal migration will remain to pose a significant risk also at the eastern land borders of the EU.

Consequently, a common framework for surveying the entire length of the Union's external borders, focusing in a first step on the southern maritime and eastern land external borders, is needed.

2.3.4.    *Maritime surveillance*

Whereas land border control can focus on the border line, the maritime borders are a vast space which is filled with a huge number of legitimate activities such as fishing, commercial shipping, and pleasure boating that can nevertheless be easily exploited for unlawful purposes.

The different authorities entrusted with protecting the EU maritime domain are setting up or have set up ship reporting systems like the *Automatic Identification System* (AIS), the *Long Range Identification and Tracking System* (LRIT) and the fishing *Vessel Monitoring System* (VMS), which can all be used for identification and tracking of vessels. Awareness in the maritime domain therefore requires monitoring the compliance of *all* activities, detecting with the help of surveillance and ship reporting systems anomalies that may signal illegal acts and generating intelligence that enables law enforcement authorities to stop unlawful entry into the EU area.

### 2.3.5. *Pressure on third countries*

The migration pressure presents considerable challenges not only for the Member States on the northern, but also for the third countries located on the southern shores of the Mediterranean Sea in terms of detection, apprehension, reception and further processing and readmission of migrants. It is therefore necessary to include these areas into surveillance activities and to support and to cooperate with the countries of origin and the countries of embarkation of illegal immigrants on the basis of existing relations and on the enhancement of practical cooperation already established.

### 2.3.6. *Legal framework[18]*

The legal framework for the surveillance of the external border depends essentially on where this surveillance is carried out – on land or on sea. It consists of a set of international rules of various kinds[19], and Community (Schengen *acquis*) and national legislation.

At all external borders (land, maritime, air), Member States' authorities have to fulfil their obligations which arise from international and regional instruments on fundamental rights and the protection of refugees, such as the prohibition on sending a person back to a country where he or she risks being exposed to torture or to inhuman or degrading treatment[20] and the prohibition on refusing entry to and expelling ("*refoulement*") refugees[21].

In the context of combating illegal immigration by sea, the following principles must be underlined:

- The sovereignty of the coastal State over its territorial sea and its right, in accordance with the principle of proportionality, to take the measures necessary to prevent the passage through its territorial waters of ships engaged in the illegal transportation of migrants to this coastal State. These rights cover contiguous waters to a large extent.

- Freedom of navigation on the high seas (including in exclusive economic areas) and the principle of the exclusive jurisdiction of the flag State are principles that prevent the adoption of national powers concerning foreign ships engaged in the illegal transportation of migrants, without the authorisation of the flag State.

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[18] For further details see Study on the international law instruments in relation to illegal immigration by sea, Commission staff working document SEC(2007) 691 of 15.5.2007, on which this chapter is based upon.

[19] Palermo Protocol against the smuggling of migrants by land, air and sea, supplementing the United Nations Convention against Transnational Organised Crime, 2000; United Nations Convention on the Law of the Sea (UNCLOS), 1982; Convention for the Safety of Life at Sea (SOLAS), 1974; International Convention on Maritime Research and Rescue (SAR), 1979; 1951 Convention and 1967 Protocol relating to the Status of Refugees.

[20] Article 3 of the 1950 European Convention on Human Rights and Fundamental Freedoms and Article 3 of the 1984 Convention against Torture. See also Article 7 of the International Covenant on Civil and Political Rights.

[21] Article 33 of the 1951 Geneva Convention. Nevertheless, the fact that a State must comply with this prohibition with regard to persons who are rescued or intercepted at sea within its jurisdiction does not necessarily mean that the persons concerned must be disembarked in that State or that that State automatically becomes responsible for examining, where appropriate, their applications for asylum.

- The principle whereby any State can exercise jurisdiction in international waters with respect to boats or other craft which may be regarded as not having a nationality (which is the case, normally, with illegal immigration by sea via the Mediterranean Sea and the southern Atlantic Ocean).

- The obligation of States which are parties to the Protocol against the smuggling of migrants by land, air and sea, supplementing the United Nations Convention against Transnational Organised Crime, to prevent and sanction the illegal trafficking of migrants by sea and to cooperate as far as possible to this end.

- The obligation to rescue persons in distress at sea.

With regard to the surveillance of maritime borders, the nature of the waters in which surveillance is carried out is essential, in particular whether it is done in the territorial waters of the State exercising the control powers or the territorial waters of a third country, or the high seas.

- There does not appear to be any legal obstacle to a State establishing mechanisms for the surveillance of the maritime area on its **coasts**[22], even where these mechanisms enable boats to be detected from the time of departure from a neighbouring State.

- In their **territorial seas**, States can freely introduce fixed or movable surveillance and detection mechanisms to ensure compliance with their immigration legislation, the only restriction being that such mechanisms must not hamper innocent passage or transit passage through international straits[23].

- The coastal State can also exercise state authority powers aimed at preventing immigration infringements in a **contiguous zone** of up to twenty-four nautical miles from the coast.

- Generally speaking, a **neighbouring State** can also authorise other States to carry out surveillance of its coasts using their own ships.[24]

- Even if no State can claim sovereignty or jurisdiction over the **high seas**, freedoms of navigation and overflight of the high seas can be exercised by warships and military aircraft or similar craft of any State for the purpose of patrol and surveillance, including combating illegal immigration[25].Freedom of the high seas includes also the possibility of building installations authorised by international law[26].

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[22]   Such as the Spanish SIVE system.
[23]   Articles 24 and 44 of UNCLOS.
[24]   The powers that these ships can exercise in practice in the territorial sea of the coastal State will depend on the scope of the authorisation granted by the latter.
[25]   For the purposes of navigation and overflight, the Exclusive Economic Zone (EEZ) regime corresponds to that of the high seas.
[26]   Article 87 of UNCLOS. With regard to the EEZ, the coastal State may construct artificial islands and other installations and works, including those required for surveillance and to combat smuggling of migrants. However, constructing them in waters corresponding to the EEZ of a third State is not possible without the authorisation of the latter if such installations and works can be regarded as artificial islands or if they have economic purposes or could undermine the rights of the coastal State in the EEZ

- Freedom of navigation and overflight also includes freedom to allow the navigation in the **superjacent waters** (underwater or on the surface) and **air space** of devices, including unmanned devices. However, as explained further below, certain technical and legal issues need to be further analysed and solved to allow unmanned aerial vehicles (UAVs) to fly in civil airspace.

Ongoing and planned studies, including those on the study on the international law instruments in relation to illegal immigration by sea and a study analysing the legal basis for collection of data, access to data and sharing of data and information in the context of maritime surveillance systems, as well as future studies and activities identified in the Communication, will therefore be used to identify and assess the need for legislative action.

## 2.4. **Does the EU have the right to act?**

The legal basis for EU action is to be found in Article 62(2)(a) of the EC Treaty. Border surveillance is regulated at EU level in Article 12 of the Schengen Borders Code, which delegates implementing powers to the Commission under a comitology procedure. The mandate of FRONTEX[27] covers border management in general and therefore provides that FRONTEX can take measures related to operational coordination, exchange of information, risk analysis and research and development as relevant for border surveillance.

In order to address the problems identified in the previous section it is necessary to envisage a common technical framework to support Member States' authorities to act efficiently at local level, command at national level, coordinate at European level and cooperate with third countries in order to detect, identify, track and intercept persons attempting to enter the EU illegally outside border crossing points. A European Border Surveillance System – EUROSUR - should support the Member States in reaching situational awareness[28] on the situation at their external borders and increase the *reaction capability*[29] of their national law enforcement authorities. Such a framework would be set up without affecting the respective areas of jurisdiction and competences of national authorities in Member States nor replacing any well-functioning existing systems.

A key operational objective should be to use information collected by different systems in a more coherent manner, while paying attention to geographical circumstances and differences between types of borders, in particular between land and maritime borders and to confidentiality issues (need-to-know basis).

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[27] Council Regulation (EC) No 2007/2004.
[28] Situational awareness measures how the authorities are capable of detecting cross-border movements and finding reasoned grounds for control measures.
[29] The reaction capability measures the lapse of time required to reach any cross-border movement to be controlled and also the time and the means to react adequately to unusual circumstances.

### 3. OBJECTIVES

#### 3.1. General policy objectives

By improving the surveillance at the external border, in particular by improving cooperation and the exchange of information between Member States, EUROSUR shall contribute to the following three general policy objectives:

**(1)** **Reduction of the death toll of illegal immigrants by rescuing more lives at sea.**

**(2)** **Reduction of the number of illegal immigrants who manage to cross EU external borders undetected outside border crossing points.**

**(3)** **Increase internal security of the EU as a whole by contributing to the prevention of trafficking in human beings, drug smuggling, terrorism etc.**

#### 3.2. Specific and operational policy objectives

##### 3.2.1. *Specific policy objectives:*

The following specific policy objectives contribute in particular to general policy objective 1:

– Help the Member States to carry out search and rescue activities more efficiently, thus preventing loss of life at sea.
– Promote the participation of relevant third countries in border surveillance activities.
– Support neighbouring third countries in fulfilling their international obligations on search and rescue and readmission.

The following specific policy objectives contribute in particular to general policy objectives 2 and 3:

– Provide a common technical framework to support Member States' authorities to act at local level, command at national level, coordinate at European level and cooperate with third countries in order to detect, identify, track and finally intercept persons trying to enter the EU illegally outside border crossing points.
– Provide Member States' authorities with surveillance information on their external borders on a more frequent, reliable and cost-efficient basis.
– Assist the Member States in reaching maximum situational awareness on the situation at their external borders.
– Increase the reaction capability of national authorities involved in border control and internal security.
– Ensure that costly tools and systems are used to their full capability.
– Based on risk analysis, increase length of external borders covered by surveillance.

*3.2.2.* *Operational policy objectives:*

The following operational policy objectives contribute in particular to general policy objective 1:

–       Enhance the capacity of neighbouring third countries to manage their own borders.

–       Increase the areas of the high seas covered by surveillance.

–       Increase the capacity to detect small boats in the open sea.

–       Monitor third country coasts to facilitate actions to prevent immigrants from using such boats.

–       Improve technical performance of surveillance tools (UAVs, buoys, etc.).

–       Increase effectiveness of surveillance tools (e.g. by combining satellites).

–       Collect unique as well as common information sets that are beneficial to the whole maritime community and combine in a meaningful manner to determine what significant knowledge is present in all available data.

The following operational policy objectives contribute in particular to general policy objectives 2 and 3:

–       Streamline at national level command and coordination mechanisms of authorities involved in border control.

–       Provide for a tactical command function for real time coordination of observation and risk analysis as well as for the initiation and command of reaction activities.

–       Establish secured and reliable communication links that can be used for communication with border patrols.

–       Organise centralised intelligence, analysis, planning and managerial functions that cover all fields of border control.

–       Combine strategic information gathered from various sources in order to recognise patterns and analyse trends, thereby supporting the detection of migration routes and the prediction of risks.

–       Improve confidence in identification of potentially suspicious targets so as to optimize the subsequent interventions.

–       Provide the framework for near real-time information exchange between Member States.

–       Provide a technical platform for the coordination of joint tactical and operational management functions between Member States.

–       Support the implementation of actions coordinated by FRONTEX in high-risk areas.

–       Provide information on the pre-frontier area on a more frequent and reliable basis.

–       Enhance the capacity of neighbouring third countries to fight organised crime, trafficking in human beings and drug smuggling.

–       Guarantee flexible and adjustable allocation of operational resources for border management.

- Share information available in existing surveillance and reporting systems across computer networks and make it available for display in all command centres and mobile assets of the participating authorities.

- Fuse available data to fill information gaps and to reduce the uncertainty in information received from various sources.

- Develop capabilities to recognise patterns, analyse trends and detect anomalies and thereby predict risks.

- Avoid needless duplicative collection of information, e.g. by military and civil authorities, by using the same tools (satellite, sensors).

- Enable tracking of target utilised for a criminal activity and identified abroad until interception on EU territory.

- Improve monitoring of all ships operating in complex coastal regions with a large number of islands.

## 4. POLICY OPTIONS

This Section elaborates the policy options that could address the problems in the current situation and contribute to the achievement of the policy objectives. The policy options include altogether nine separate actions. The actions have been grouped into four policy options:

**Policy Option 1:** A status quo policy option involving no new actions;

**Policy Option 2:** **Interlinking and streamlining existing surveillance systems and mechanisms at Member States level:** This option includes mainly actions that could be implemented within the existing legislative framework and based to a large extent on actions already under preparation and that should therefore be relatively straightforward to implement in the short term;

**Policy Option 3:** **Development and implementation of common tools and applications for border surveillance at EU level**: This option includes all of the actions of policy option 2 plus additional, mainly non-legislative actions that would require either further time for implementation respectively further specification and that would entail some expenditure; and

**Policy Option 4:** **Creation of a common monitoring and information sharing environment for the EU maritime domain:** This option includes all actions of policy options 2 and 3 plus the development of an **integrated network of maritime reporting and surveillance systems** which is legally and technically complex and needs more examination and is likely to be long term in nature.

In practice defining the policy options in this way has been iterative. The policy options are outlined in the table below. The actions have been numbered and classified according to whether they would contribute to the reduction of the number of illegal immigrants who manage to enter the EU undetected; the reduction of the tragic death toll of illegal immigrants by rescuing more lives at sea; the increase internal security of the EU as a whole by contributing also to the prevention of trafficking in human beings, drug smuggling, terrorism etc.

**Table – Overview of Policy Options**

| Description of policy option | |
|---|---|
| **Policy Option 1** | No changes are made to the current situation other than those that are already planned and confirmed. |
| **Policy Option 2**<br><br>**Interlinking and streamlining existing surveillance systems and mechanisms at Member State level** | 1. Providing the essential infrastructure at national level through streamlining of command and coordination mechanisms by setting up a **national coordination centre** and a **national surveillance system** in each of the Member States located at the EU southern and eastern borders to cover all or selected parts of the external borders.<br><br>2. Interlinking the national infrastructures in a **communication network** for regular information exchange and coordination of activities between Member States' authorities as well as with FRONTEX.<br><br>3. Logistical and financial **support to neighbouring third countries** in setting up an infrastructure comparable to the one described above (surveillance system; coordination centre; assets for interception). |
| **Policy Option 3**<br><br>Development and implementation of common tools and applications for border surveillance <u>at EU level</u> | **All measures mentioned under Policy option 2 plus**:<br><br>4. **Research and development to improve the performance of surveillance tools** (e.g. UAVs, buoys, etc.) to increase the area covered and the number of suspicious activities detected within as well as to improve confidence in identification of potentially suspicious targets so as to optimize the subsequent interventions.<br><br>5. **Common application of surveillance tools** (e.g. satellites, UAVs, planes) to provide Member States' authorities with surveillance information on their external borders and the pre-frontier area on a more frequent and reliable basis. FRONTEX could act as a facilitator e.g. to liaise with service providers in order to receive satellite imagery or to co-ordinate the use of UAVs.<br><br>6. **Common pre-frontier intelligence picture** to enable a targeted intelligence reaction: For example on the basis of intelligence received from third countries authorities, a target (e.g. vehicle, vessel) utilised for a criminal activity has been identified abroad and is being tracked by using satellites or ship reporting systems until interception on EU territory. |
| **Policy Option 4**<br><br>**Creation of a common monitoring and information sharing environment for the EU maritime domain** | **All measures mentioned under Policy options 2 and 3 plus**:<br><br>7. **Development of an integrated network of surveillance systems for the Mediterranean Sea, the southern Atlantic Ocean (Canary Islands) and the Black Sea**, in which information from ship reporting systems, surveillance systems and tools and other sources is being collected, fused, analyzed and disseminated for internal security purposes, linking not only the border control authorities, but all authorities involved in maritime affairs together through a "common operational picture".<br><br>8. Extension of the above mentioned network to the **Atlantic Ocean, North and Baltic Sea** with special emphasis on creating a common information sharing environment for the EU maritime domain, covering all aspects of maritime safety and security with the general framework of the EU Maritime |

| Description of policy option |
| --- |
| Policy. |

**4.1. Policy Option 1 – Status quo**

In line with 1999 Tampere and 2004 The Hague Programmes, the 2005 Action Plan (COM(2005)184final) identified actions for 10 priorities for 2005-2010.[30] Under priority 4 (Internal borders, external borders and visas), in particular the following actions have been identified:

• Full integration of new Member States which joined in 2004 into Schengen

• SIS II operational

• FRONTEX Agency is coordinating and assisting Member States' action in surveying and controlling their external borders (as of October 2005). First evaluation in 2007 (Communication to be adopted in February 2008)

• Biometric identifiers integrated in travel and identification documents from 2005 onwards

• VIS available and steps toward creation of common visa application centres

In line with this priority and built around the three pillars of common legislation, common operations and financial solidarity, key steps were already or are currently being taken, which contribute and are critical to the assessment of the general policy objectives, such as:

• Adoption of the Schengen Borders Code, the Practical Handbook for Border Guards (Schengen Handbook) and the rules for local border traffic,

• Establishment of the FRONTEX-Agency,

• Creation of the Rapid Border Intervention Teams,

• Creation of the External Borders Fund,

• Ongoing setting up of the European Patrols Network.

On the basis of this common legislation and by using joint operations coordinated by FRONTEX, the EU Member States and the Schengen-associated countries are applying high standards in protecting and surveying their external borders. However, despite all these efforts, the Member States still face a number of challenges which have already been described in detail in Chapter 2.3.

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[30] 1. Fundamental rights and citizenship; 2. Fight against terrorism; 3. Migration management; 4. Internal borders, external borders and visas; 5. A common asylum area; 6. Integration; 7. Privacy and security in sharing information; 8. Fight against organised crime; 9. Civil and criminal justice; 10. Freedom, Security and Justice: sharing responsibility and solidarity.

The following summary of challenges and of the existing situation elaborated by FRONTEX in the BORTEC study shall serve as a **baseline scenario** for the steps and actions proposed under the policy options 2, 3 and 4:

- In general, surveillance of the maritime areas is currently carried out by aerial, land and naval means of the Member States performing patrolling activities. Member States have land based surveillance and monitoring systems which are providing partial or full coverage of the coastal zones. Whereas Member States are currently developing their maritime surveillance systems to cover more areas, surveillance of the Open Sea is not frequent, but still based on the patrolling activities of each Member State. Taking into account that the Mediterranean Sea and the Atlantic Ocean around the Canary Islands represent a wide area, significant effort is needed to adequately cover this area.

- Targets have to be detected visually and/or by technical equipment. Current surveillance technology does not enable the detection of all targets present in the maritime areas. The smaller the boats, the more difficult it is to detect them.

- A considerable diversity of threats towards EU can be observed, as illegal activities are well organised and carried out in a very flexible manner, characterised by continuous evolution of new modi operandi and efforts to evade law enforcement measures that are put in place.

- The legal frameworks of Member States, the EU and the international community set limitations on surveillance activities and interventions.

- At present, a multitude of national authorities are involved in maritime surveillance, having different responsibilities and different means (see table on next page). These national authorities are collecting information for their own purposes, but are usually not able to share information needed or useful for other authorities. For adequate performance, all these bodies need to cooperate – both within Member States, and across Member States within the EU. However, the current national systems do not allow for full data fusion and integration into a common maritime picture.

- Surveillance of the maritime areas is not surveillance of movement across a line (as in the case of land borders), but across an area which has its inner boundary at the coast.

- A European Integrated Border Management System needs to work uniformly across the entire extent of the EU external border, without differences in effectiveness or quality between the Member States. For that reason the same working practices need to be followed and equivalent systems need to be used.

Surveillance of areas of departure can be a very effective EU approach. To optimally perform surveillance and also to deal with illegal immigrants found at sea, it is necessary to cooperate with third countries; namely countries of origin and countries of embarkation of illegal immigrants.

**TABLE: Compilation of information provided on Member States in the BORTEC study**

| | PORTUGAL | SPAIN | FRANCE | MALTA | ITALY | SLOVENIA | GREECE | CYPRUS |
|---|---|---|---|---|---|---|---|---|
| **Concept** | Planning SIVICC | SIVE – integrated surveillance system run by Guardia Civil | SPATIONAV – centralised integrated system for Customs, Gendarmerie, Navy | VTS also used for surveillance purposes | Different services supported by different systems | Police radar station | Competencies and tools centralised with Coast Guard | Radar stations |
| **Authorities** | Guardia Nacional Maritime Police Ports and Maritime Transport Institute Air Force, Navy, Aliens and Borders Service (SEF) | Guardia Civil National Police Customs Navy , Air Force SASEMAR (Directorate of Mercantile Marine) | General Secretary to the Sea / Maritime Prefects, Border Police Maritime Gendarmerie Gendarmerie Nationale Maritime Affairs Customs, Navy | Armed Forces Maritime Authority Police | Guardia di Financa Navy Coast Guard Polizia di Stato Carabinieri Customs | Police Customs Maritime Directorate (Ministry of Transport) Armed Forces | Coast Guard Police Customs Navy Army Air Force | Police Customs Ports Authority Fisheries Dept. Army SAR Authority |
| **Systems** | **LAOS** run by Guardia Nacional  **SIVICC** – integrated surveillance system to replace LAOS in 2007 | Guardia Civil: **SIVE** - Command and Control Centres collect information and give orders for interception. SASEMAR: VTS, AIS | **SPATIONAV** Common naval surveillance system SPATIONAV V1 to be completed in 2007/2008, including AIS, SafeSeaNet, VTS, etc. | VTS AIS VMS | Guardia di Financa: **C4I** Navy: **MCCIS** Coast guard: **VTMIS** Ministry of Interior designed common communication system | AIS VHF ship report system VTS | Coast Guard: **VTMIS** incl. VTS, connected to VMS, AIS. | VTS **ACRS** – Advanced Coastal Radar for Surveillance VMS |
| **Means** | Maritime Police: vessels, boats Guardia NR: speed boats Air Force: aircraft; helicopters Navy: patrol boats | Guardia Civil boats, helicopters. SASEMAR: aircraft, helicopters, vessels, boats Navy: Ships Air Force: SAR unit with aircraft and helicopters | Maritime Gendarmerie: vessels, boats Customs: boats, aircraft, helicopters Maritime Affairs: vessels, boats Gendarmerie Nat.: boats, helicopters Civil Security: helicopters Navy: aircraft, helicopters, vessels | Armed Forces: aircraft, vessels, boats | Guardia di Finanza: aircraft, helicopters, vessels, boats Coast Guard: vessels, boats, aircraft, helicopters Navy: vessels, helicopters, aircraft. | Police: boats, helicopters Maritime Administration boats | Coast Guard: vessels, boats, airplanes, helicopters, vehicles incl. mobile radars | Police: boats, airplane, helicopters |

The aim of a European Border Surveillance System as defined in the BORTEC study is therefore to detect targets early enough to enable the identification of emergencies in order to give adequate help and to intercept targets before they are able to hide or disappear at sea or land, while paying special attention to the following four types of challenges:

- To have coverage ensuring the detection of all targets

- To be able to handle the bulk of information

- To have a coordinative approach

- To have sufficient flexibility

Based on these findings and the proposals made in the BORTEC study, under the following three policy options concrete steps will be presented to contribute to the achievement of the three policy objectives by:

(1)     Interlinking and streamlining existing surveillance systems and mechanisms <u>at Member States level</u>

(2)     Development and implementation of common tools and applications for border surveillance <u>at EU</u> level

(3)     Creation of a <u>common information sharing environment</u> by setting up an integrated network of maritime surveillance systems

However, besides promoting the cooperation and information exchange between different authorities involved in border surveillance and improving the performance of surveillance tools, two more options could be taken into consideration:

(1)     A 4$^{th}$ option would be that Member States use EU and national funding to invest at large scale in additional assets like ships, helicopters, planes, satellites, etc.

However, the financial means for border control available at EU and national level are much more limited than e.g. for the defence sector, meaning that they are not sufficient to cover all present and future risk areas. Furthermore, such additional investments would not provide any guarantees that the surveillance at the external borders is enhanced in a uniform manner, leading to the risk that certain critical areas might not be covered sufficiently by surveillance.

(1)     A 5$^{th}$ option would be to considerably increase the number of operational personnel carrying out border control.

However, since the External Borders Fund does not cover the costs of staff, the additional costs would have to be borne by the national budget of the Member States concerned, neglecting the aspect of solidarity and burden-sharing among Member States. Furthermore, simply increasing the staff of national border control authorities would not contribute to a more efficient cooperation at EU level:

### 4.2. Policy Option 2 - Interlinking and streamlining existing surveillance systems and mechanisms <u>at Member States level</u>

#### 4.2.1. *Introduction*

As outlined above and also in the *strategy deliberations on integrated border management*[31], the pressure arising from illegal migration and cross-border crime is constant. The routes, directions and modus operandi may vary depending on the time and circumstances. At national level, in order to guarantee flexible and adjustable allocation of resources for border management, it is necessary to organise centralised intelligence, analysis, planning and managerial functions that cover all fields of border control. For the purpose of land and sea border surveillance, a tactical command function is necessary for real time coordination of observation and risk analysis as well as for the initiation and command of reaction activities. Joint tactical and operational management functions between Member States could, where appropriate, be created and coordinated by FRONTEX. This should, where possible, embrace partner countries, who could be involved in planning, coordination and operations.

#### 4.2.2. <u>*Step 1*</u>: *National coordination centre and national surveillance system*

4.2.2.1. National Co-ordination Centre

In the MEDSEA[32] and BORTEC studies FRONTEX proposed that in the eight Member States forming the EU southern maritime border[33] *National Coordination Centres* shall be set up to coordinate and supervise the operational centres at local level which are handling the daily operational surveillance activities at the coast as well as the surveillance activities in the open sea. Under the EPN (European Patrols Network, some of these developments are already being implemented in two phases:[34]

- EPN I: As of May 2007, a permanent joint operation by FRONTEX and Member States on patrolling activities covering defined areas of the Mediterranean Sea and the Atlantic Ocean is being carried out.

- EPN II: Until the end of 2008, FRONTEX and Member States shall establish the organisational structure, in particular by setting up the National Coordination Centres which shall strengthen the cooperation and coordination among the Member States involved in the EPN.

For EUROSUR, this process started under the EPN should be extended by setting up national coordination centres also in, as a priority, the Member States bordering the

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The JHA Council of 4/5 December 2006 took note of the deliberations of the Strategic Committee on Immigration, Frontiers and Asylum on a strategy for integrated border management as contained in doc. 13926/3/06 of 21.11.2006, doc. 15801/06 (Presse 341), p. 26.

[32] MEDSEA Feasibility study of 14 July 2006 on Mediterranean Coastal Patrols Network; prepared by FRONTEX. For a summary of the study see Annex 7.

[33] Portugal, Spain, France, Malta, Italy, Slovenia, Greece, Cyprus.

[34] A detailed summary can be found in Annex 9.

Russian Federation, Belarus, Ukraine and Turkey, forming the EU eastern land borders and the EU maritime borders in the Black Sea[35].

By using surveillance, reporting and intelligence data, the national coordination centre, which would form the central part of the national surveillance system, would ensure close to real-time local, regional (e.g. Canary Islands) and national decision-making among *all* national authorities carrying out border control tasks.

In a best-case-scenario, the NCC could have *Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)* capabilities to provide *situational awareness*[36] of conditions and activities along the external borders of the Member State as well as all necessary tools to react accordingly.

It is of course up to the Member States to determine the authority responsible for the national coordination centre. Several civilian and possibly also military institutions could be represented in the national coordination centre, provided there is a civilian chain of command. The national coordination centre could also have a direct communication link to other relevant national authorities (e.g. maritime authorities; military authorities).

One issue to be further examined is the use of military information and intelligence for border surveillance in general and the use of use of military tools for maritime border surveillance in particular. Whereas authorities involved in maritime border surveillance have usually sufficient assets for coastal areas, the involvement of the navies is of particular importance to sustain maritime operations on the high seas.

4.2.2.2. National Border Surveillance System

As mentioned, at the moment only very few Member States have set up a surveillance system covering the whole length of their external border, while a number of Member States are currently expanding their systems. The aim should be that the national surveillance systems cover *all* or – based on a risk analysis – *selected* parts of the EU external borders.

For reasons of cost-efficiency, *one single* national border surveillance system should be used by all national authorities to collect surveillance data, whereas the analysis of the data - e.g. for military purposes on the one hand and for border control purposes on the other hand - could be carried out separately and than used in the daily cooperation.

4.2.3.    *Step 2: Communication network between the national coordination centres including FRONTEX*

Another issue is the fact that the surveillance systems of the Member States are not interoperable and therefore cannot exchange information between each other. Therefore information collected by the different national surveillance systems should

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[35]    Norway, Finland, Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary, Romania, Bulgaria.
[36]    Full situational awareness is only needed at local level in order to take real-time operational decisions. At national level, in order to avoid a data overload only a subset of the data is needed to take the more strategic decisions.

be exchanged between national coordination centres via a secured computerised communication network. The communication network should enable electronic data exchange in order to send, receive and process information 24 hours a day in real-time.

Rules defining the daily cooperation and the workflow between the national coordination centres could be agreed in the form of a memorandum of understanding. Whenever necessary, Member States would, in accordance with EU and national legislation, take the necessary measures to ensure the confidentiality of information sent to them.[37] In the case of exchange of personal data, national rules for data protection would apply.

FRONTEX should receive information from the national coordination centres to the extent relevant for the coordination of joint operations and for risk analysis. FRONTEX could also be involved by serving as a European Situation Centre gathering and disseminating close-to-real-time information with regard to incidents occurred along the EU external borders.

4.2.4.   *Step 3*: *Support of neighbouring third countries in setting up infrastructure*

Cooperation with neighbouring third countries is a fundamental part of the four tier border control model and a prerequisite for efficient border surveillance.

As the existing cooperation mechanisms in the Baltic Sea and in the Black Sea have shown, it is the particular interest of the EU and its neighbouring countries to achieve situational awareness of conditions and activities for the maritime domain.

Within the general framework of the Global Approach to Migration, the long-term goal should be to establish a functional and regular cooperation between EU Member States and neighbouring third countries to coordinate as equal partners the detection and interception of migrants planning to cross the EU external borders illegally. The formula to be developed could therefore cover all relevant aspects, i.e. prevention of departures, joint patrolling, rescuing, reception, identification, registering and return.

While Community financial assistance is already provided to most neighbouring third countries, a number of third countries, especially in the Mediterranean Sea and around the Canary Islands, would need increased financial and logistical support from the EU to enhance their capacity to manage their own borders, to fight cross-border crime and to fulfil their responsibilities as regards search and rescue.

Support should not be limited to infrastructure and equipment, but include also training activities to be implemented with flexibility and due respect to local conditions.

However, improving the border surveillance in neighbouring, in particular North-African countries might lead to the situation that new embarkation points for the boats used by illegal immigrants will be located even further away. Therefore support could also be given to other third countries, as deemed necessary.

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[37]   Compare Directive 2002/59/EC of 27 June 2002 establishing a Community vessel traffic and monitoring and information systems (OJ L 10, 5.8.2002, p. 10).

Such activities would be in line with the recent Council conclusions on further reinforcing the EU's southern maritime borders,[38] in which the Council calls on the Commission and the Member States to follow-up on the contacts recently initiated with third countries with a view to launching and/or reinforcing concrete cooperation on border control, search and rescue and return.

4.2.5.    *Actions to be taken*

**Action 1:** Member States located at the southern maritime and eastern land borders of the EU should set up

- *one single national co-ordination centre*, which co-ordinates 24/7 the activities of all national authorities carrying out external border control tasks (detection, identification, tracking and intervention[39]) and which is able to exchange information with the national co-ordination centres in other Member States;

- *one single national border surveillance system*, which covers all or – based on risk analysis - selected parts of the external border and enables the dissemination of information 24/7 between all authorities involved in external border control.[40]

- Member States should be encouraged to make full use of the financial support available under the European Borders Fund for the above two actions.[41]

**Action 2:** FRONTEX should, before the end of 2008, present

- a *risk assessment* determining those parts of the EU external border which should be covered by a surveillance system and comparing this assessment with the plans presented by the Member States, and

- a *report* on the existing and needed surveillance infrastructure in selected neighbouring third countries located in the Mediterranean Sea and in the vicinity of the Canary Islands.

**Action 3:** The Commission will set up a *group of experts* from Member States and FRONTEX, in order to elaborate guidelines for the tasks of and for the cooperation between the national coordination centres as well as on the role of FRONTEX.

Action **4:** The Commission will launch a technical study under the External Borders Fund and coordinated with other ongoing preparatory works to design the system architecture and to estimate the approximate financial costs, for land and maritime

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[38]    See conclusions of JHA Council meeting of 18 September 2007, document 12604/07 (Presse 194), p. 9.
[39]    Intervention measures cover both interception of illegal activities and search and rescue measures.
[40]    Member States can use the External Borders Fund to co-finance up to 75% the costs of the establishment or upgrading of the national coordination centres and national border surveillance system. See specific priorities 1 and 2 of priority 2 of the strategic guidelines as laid down in Commission Decision C(2007)3925 of 27 August 2007 implementing Decision No 574/2007/EC of the European Parliament and of the Council as regards the adoption of strategic guidelines for 2007 to 2013 for the External Borders Fund.
[41]    Member States can use the External Borders Fund to co-finance up to 75% of the costs. See priority 2 of the strategic guidelines for 2007 to 2013 for the External Borders Fund as laid down in Commission Decision C(2007) 3925 (OJ L 233, 5.9.2007, p. 3).

borders and including technical specifications for a secured communication network between the national coordination centres and FRONTEX, making use of existing networks where feasible. The system architecture should be flexible and adaptable to accommodate the application and use of all existing as well as future border surveillance tools. The study will also include an analysis of how to link up EUROCONTROL with EUROSUR for the purpose of covering all relevant threats related to border surveillance in the long-term.

On this basis, the Commission will, in spring 2009,

- report to the Council on the progress made on the guidelines for the national coordination centres, and will assess the need for a legislative initiative in this regard;

- present an estimate on the approximate financial costs for the continued development of national coordination centres and national border surveillance systems;

- present a proposal for the system architecture for the communication network and an estimate of the approximate financial costs for setting it up;

- make an assessment of the border surveillance infrastructure in selected neighbouring third countries based on the evaluation carried by FRONTEX, while using as appropriate this assessment in the programming of relevant financial programmes in the external relations domain.

**4.3. Policy Option 3 - Development and implementation of common tools and applications for border surveillance at EU level**

*4.3.1. Introduction*

Due to technical (current performance of radar/optical sensors, limited availability/resolution of satellites) and financial limitations, Member States with external borders face the problem that the areas covered by surveillance are currently restricted to certain flat or coastal areas and/or those areas of the land border or open sea in which operations are carried out.

For the maritime domain, such "blind spots" do occur not only in the open sea, but also in and around EU coastal waters due to the volume of activity. In both areas, the main challenge is to identify and track non-cooperative sea craft that is not responding to calls from national authorities and/or are not complying with reporting requirements. Technical and practical solutions have in particular to be found for the current inability to detect and track small vessels, which are currently used for smuggling people and drugs into the EU.

Therefore the following steps should be taken:

*4.3.2. Step 4: Research and development to improve surveillance tools*

In particular two emerging tools are of interest for border surveillance purposes – satellites and UAVs (unmanned aerial vehicles). Whereas earth observation (EO)

satellites offer the possibility of coverage for much of the earth, including the open sea and third country coasts and territories, UAVs have the advantage over satellites that they can produce more detailed information, can carry out persistent surveillance and can be placed over the target area on demand, more often, and more cheaply than piloted aircraft.

4.3.2.1. Satellites

EO satellites are using digital imaging systems which can either be *passive* using typically *hyper-spectral/optical imaging* sensors or *active* by using radar based technology called *Synthetic Aperture Radar* (SAR).[42]

For border surveillance, EO satellites can be used for monitoring and intelligence gathering in pre-defined areas, but not for tracking for the following reasons:

- The satellite makes an image as it passes over the area; the next image can only be made when this or another satellite passes over the area again. So satellites give snapshot information over a wide area but do not monitor continuously.[43]

- A trade-off has to be made between resolution and coverage (swath). In wide area searches small targets cannot be found (e.g. a 150km wide swath does not guarantee detection of 10 metre vessels in SAR imagery) and high resolution imagery has a narrow swath so it is only a practical tool when the position of the target is approximately known, e.g. on the basis of intelligence given.

- Since EO satellites are polar platforms orbiting at an altitude between 400km and 900km, their operations are restricted by

- the orbit which limits the frequency with which they can potentially acquire an image of a given point (revisit time);

- the control system which governs the time to remotely programme an acquisition (tasking) and

- the ground segment which limits the time after acquisition when the image is delivered to the end-user.

The revisit time depends on the swath width and the latitude of the area to be observed, but is presently usually between one to two days. The programming time for current SAR satellites is generally a minimum of 30 hours and the delivery time after acquisition can be less than 15 minutes. Therefore near-real time tasking of imaging is not possible. However, near-real time acquisition of information is possible for certain situations, in which 15-30 minutes delay is still acceptable (open

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[42]    Hyperspectral/optical imaging sensors (e.g. SPOT5) offer a wide range of resolutions including VHR with sub-metre accuracy (IKONOS, WorldView). SAR allows acquiring high-resolution images day and night and offers the advantage over its optical counterparts of not being affected by meteorological conditions such as clouds, fog, etc. However, satellite SAR is better at detecting targets then at recognising them. Commercial SAR satellites (TerraSAR-X, Cosmo-Skymed) will provide resolutions in the order of the metre. Military SAR satellites (SAR-Lupe) can provide sub-metre resolutions.

[43]    Geostationary satellites can keep watching the same area but at their 36,000 km altitude their resolution is much too low for target detection.

sea, desert), but might be to slow for scenarios where targets disappear quickly (coastal areas, land borders).

- Satellites instruments, operating with limited power resources and with a number of operational constraints, are shared by many users with different requirements (area to cover, resolution). Customers are served on a first arrived first served basis and can only pre-empt another user on the basis of an international agreement (e.g. International Charter on "Space and Major Disaster"[44]). Image acquisition of a given area, even if theoretically possible, is therefore never guaranteed.

The time between two passes over the exact same point on earth for imaging can be significantly reduced by using different acquisition modes of the on-board instruments of one satellite and by making use of several satellites (multi-missions approach). However, the number of available EO satellites is limited:

- EO satellites with SAR functions owned/operated from the EU are ENVISAT (built by the European Space Agency and launched in 2002), TerraSAR-X (developed by the German Aerospace Centre, and operational since June 2007), Cosmo-Skymed (developed by the Italian Space Agency and in orbit since June 2007). These missions can also be complemented with non-EU satellites such as RADARSAT-1 and RADARSAT-2 (the latter scheduled for launch in December 2007 by the Canadian Space Agency).[45] Future missions include the Sentinels 1 and 3 constellations (ESA) and the RADARSAT-C upcoming constellation (Canadian Space Agency).

- More imagery would be available by using <u>military missions</u> (e.g. in Europe SAR-Lupe, HELIOS), but access to those data is generally restricted to military purposes.[46]

- In Europe, satellites are typically funded by government whereas operations for customers are offered by service providers on a commercial basis.[47]

- Given the characteristics of satellite imaging, within the available set of surveillance tools it is most suited for surveying far-away areas, collect regular situational updates, and for directing airborne or vessel patrols, making their use more cost-effective.

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[44] Charter On Cooperation To Achieve The Coordinated Use Of Space Facilities In The Event Of Natural Or Technological DisastersRev.3 (25/4/2000).2; http://www.disasterscharter.org/charter_e.html

[45] Other radar satellites either face difficulties in performing (e.g. ERS-2 from ESA) or do not allow programming (e.g. the Japanese ALOS mission).

[46] In 2001, the "Turin Agreement" was signed between France and Italy to share the optical and radar capacities for civilian and defence purposes. In 2002 a cooperation treaty between Germany and France was signed, under which the SAR-Lupe satellites and the Helios optical reconnaissance satellite will operate jointly to form a common EU reconnaissance system.

[47] For instance, the partly private-owned SPOT 5 satellite offers a resolution of 2.5 to 5 meters in panchromatic mode and 10 meters in multi-spectral mode. The PLEIADES program is intended to replace the SPOT satellites, using smaller and more agile satellites with 0,7 m resolution, of which the first one will be launched by the end of 2008. Other high-resolution private imaging satellites include IKONOS, Orbview and QuickBird.

Satellites provide also other valuable applications for border surveillance such as telecommunication and global positioning.

- Space telecommunication provides ubiquitous, secured and reliable communication links that can be used for instance on the ground for communication with border patrols operating at the external land borders or for reporting a vessel position in conjunction with a global positioning system. One example is the Vessel Monitoring System (VMS) used by fishing vessels, other examples are the future Long Range Identification and Tracking System (LRIT) or possibly the collection of AIS signals from space. UAVs can also make use of space telecommunication for communicating with the ground station.

- Current and future improvements of existing systems for global positioning (e.g. GPS, GLONASS[48], or SBAS[49] systems, like EGNOS[50]) and the future European system Galileo will provide better accuracy, availability and reliability of data.

4.3.2.2. Unmanned aerial vehicles (UAVs)

Unlike satellites, UAVs can perform persistent surveillance and typically track a vessel in European and international waters. However, they have the disadvantage that they have a limited operational range and that they can be regarded as hostile objects when flying e.g. over third country coasts and territories. There are also a number of legal and technological problems hindering the regular use of UAVs:

- The main problem is that UAVs are currently not allowed to fly in civil airspace. In order to ensure the integration of UAVs into the European controlled airspace, further research and development is needed with regard to autonomy technology, e.g. by implementing traffic collision avoidance systems on board of UAVs.

- Taking into account the power consumption and the limited weight which can be carried by UAVs, another key technical need is the development of light-weight efficient sensors suitable for detecting small craft vessels and vehicles.

While taking into account the results of previous and ongoing projects carried out under the 6th Framework Programme for research development[51] and under the 2004-

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[48] GLONASS (Russian for Global Navigation Satellite System) is a radio-based satellite navigation system operated for the Russian government by the Russian Space Forces. Its US counterpart is the Global Positioning System (GPS).

[49] A Satellite Based Augmentation System (SBAS) is a system that supports wide-area or regional augmentation through the use of additional satellite-broadcast messages.

[50] The European Geostationary Navigation Overlay Service (EGNOS) is a SBAS system under development by ESA, the Commission and EUROCONTROL. It is intended to supplement the GPS, GLONASS and Galileo (when it becomes operational) systems by reporting on the reliability and accuracy of the signals. The system started its initial operations in July 2005 and is intended to be certified for use in safety of life applications in 2008.

[51] Under the 6th Framework Programme, telecommunication needs in support of maritime surveillance are addressed through the TANGO project. Other relevant projects are MarNIS (Maritime Navigation and Information Services) and LIMES (Land and Sea Integrated Monitoring for Environment and Security). A summary of the LIMES project can be found in Annex 10.

2006 Preparatory Actions for Security Research (PASR)[52], the 7th Framework Programme for research and development (2007-2013; Theme 9 – Space: M€ 1.430; Theme 10 – Security: M€ 1.400) should be used to improve the performance of recording or real-time sensing devices placed on different kind of platforms such as satellites, UAVs, planes, buoys etc *(remote sensing)* to

- increase the coverage (e.g. mountainous area inaccessible in winter time, open sea, third country coasts) and the number of suspicious activities detected,

- improve confidence in identification of potentially suspicious targets so as to optimize the subsequent interventions and to reduce the number of false alarms.

*4.3.3.* <u>*Step 5*</u>*: Common application of surveillance tools*

The common application of new surveillance tools (e.g. satellites, UAVs, planes) could provide Member States' authorities with surveillance information on their external borders and the pre-frontier area on a more frequent, reliable and cost-efficient basis. Satellites and UAVs can collect data also from geographic areas going beyond Member States' boundaries. For this kind of data, a common way of collection shared between Member States is obviously the most efficient one.

FRONTEX could act as a facilitator e.g. to liaise with service providers in order to receive satellite imagery or to co-ordinate the use of UAVs along the maritime borders or eastern land borders of the EU.[53] Whereas this would be a cost-effective solution for all actors involved, special emphasis would have to be given to interoperability so that collected target data could be seamlessly fused into the "operational pictures" in the different national co-ordination centres.

*4.3.4.* <u>*Step 6*</u>*: Common pre-frontier intelligence picture*

The deployment of new tools opens the possibility for strategic information to be gathered by FRONTEX from various sources as well as from Member States' authorities and from third countries in order to recognise patterns and analyse trends, supporting the detection of migration routes and the prediction of risks. In practice that could serve to establish a common pre-frontier intelligence picture as a complement to the risk analyses currently developed by FRONTEX.

Such a common tool could also take on a more operational character and enable a targeted intelligence reaction, coordinated via the situation centre to be set up by FRONTEX. For example on the basis of intelligence received from third countries authorities, a target (e.g. lorry, vessel) utilised for a criminal activity could be identified abroad and tracked by using satellites or ship reporting systems until interception by Member States' authorities on EU territory.

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[52] E.g. SOBCAH (Surveillance of Border Coastlines and Harbours), BS UAV (Border Surveillance UAV), SECONDD (Secure Container Data Device Standardisation), STABORSEC (Standards for Border Security Enhancement).

[53] Such an approach is along the lines of what has been recently started by EMSA, which collects satellite images for maritime pollution control centrally for all the EU Member States (CleanSeaNet project).

**Action 5**: The 7<sup>th</sup> Framework Programme for research and development (security and space themes) should be used to improve the performance of surveillance tools to increase the area covered and the number of suspicious activities detected as well as to improve identification of potentially suspicious targets. Research on architectures for secured operational data sharing with different confidentiality levels for different users and data could be funded by the FP7 information theme. Research and development in automatic processing of sensor data and fusion of data from sensors (coasts, ships, aircraft, and satellite), secure communication and dissemination of data, data mining (e.g. open source information, for intelligence gathering) would therefore also be topics for FP7 projects.

**Action 6**: The 7<sup>th</sup> Framework Programme should also be used to optimise the use of available satellites for border surveillance purposes and to improve the access to high resolution observation satellite data. Therefore, in spring 2009, the Commission should present to the Council a concept allowing Member States to receive information derived from satellites and other common surveillance tools with regard to their external borders and the pre-frontier area on a more frequent and reliable basis in the context of GMES (Global Monitoring for Environment and Security). This concept should also include an estimate of the approximate financial costs.

**Action 7**: In spring 2009, FRONTEX should present, in close cooperation with the GMES Bureau of the Commission, a gap analysis of the current and potential future use of civil and military satellites for border surveillance purposes by Member States in order to further define the objectives to be pursued for the common application of such tools at European level.

**Action 8**: The Commission will launch a study under the External Borders Fund analysing the concept and approximate financial costs of a "common pre-frontier intelligence picture" and report back to the Council in spring 2009.

**4.4. Policy Option 4 - Creation of a <u>common monitoring and information sharing environment</u> for the EU maritime domain**

*4.4.1. Introduction*

Whereas policy option 2 provides the necessary infrastructure and policy option 3 the necessary tools, policy option 4 proposes to use all these elements to create a common information sharing environment by setting up an integrated network of maritime monitoring and surveillance systems. Data provided by reporting and information systems set up in other areas, in particular in the maritime domain, should also be taken into account. However, this implies that the development and setting up of such a "system of systems" would not only be highly complex, but could also be cost-intensive.[54] Therefore only the first of the following proposed three possible steps should lead to further action at this stage.

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[54] However, if interoperability standards would be developed and taken into account from an early stage, the costs for interlinking the relevant systems in a system of systems would be much lower.

4.4.2.  *Step 7: Integrated network of reporting and surveillance systems for the Mediterranean Sea, the Canary Islands and the Black Sea*

Whereas the six previous steps were dealing with the surveillance of all types of external borders, step 7 could focus on the maritime domain only.

As already mentioned, a multitude of authorities are involved in maritime surveillance, of which several are involved in setting up reporting systems like the *Automatic Identification System* (AIS), the *Long Range Identification and Tracking System* (LRIT) and the fishing *Vessel Monitoring System* (VMS), which can all be used for identification and tracking of vessels.[55] The European Maritime Safety Agency (EMSA) is in the process of setting up a European platform for maritime data exchange between Member States' maritime authorities (SafeSeaNet)[56], which shall interlink some of these systems until 2010 and which could also be used for border surveillance purposes.

In its Communication on an Integrated Maritime Policy for the European Union, the Commission stated that it will "*take steps towards a more interoperable surveillance system to bring together existing monitoring and tracking systems used for maritime safety and security, protection of the marine environment, fisheries control, control of external borders and other law enforcement activities.*"[57]

As stated in the action plan accompanying the Communication[58], the Commission will announce in the 2nd half of 2008 in the form of a Communication a detailed work plan for further steps towards the integration of all European maritime surveillance systems, thus covering all maritime areas and also non-border related aspects, such as maritime safety, protection of the marine environment, and fisheries.

Due to the complexity of developing such a "system of systems", and taking into account current migratory pressure, in a first step the integrated network should initially be limited to the Mediterranean Sea, the Canary Islands and the Black Sea and focus in substance on internal security purposes, linking border control authorities, and other European and national authorities with interests and responsibilities in the maritime domain, linking them together through a "**common operational picture**":

- "**Common**" because the same information could be shared across computer networks and be available for display in all command centres and mobile assets of the participating authorities, which could use this information to facilitate command and control and decision making in near-real-time.

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[55]  A summary of the ship reporting systems can be found in Annex 10.

[56]  A key element in improving maritime safety and security in European waters is the development and implementation of the SafeSeaNet electronic data exchange network. The European Community Directive 2002/59/EC was adopted on June 27 2002 with the aim of establishing a Community vessel traffic monitoring and information system with a view to enhance the safety and efficiency of maritime traffic, improve the response of authorities to incidents, accidents or potentially dangerous situations at sea, including search and rescue operations, and contribute to a better detection and prevention of pollution at sea by ships. Under the 6th Framework Programme, the project MarNIS supports the developments of SafeSeaNet.

[57]  COM(2007) 575, 10.10.2007, p. 6.

[58]  SEC(2007) 1278, 10.10.2007, p. 8.

- "**Operational**" because the information displayed would be relevant to operations.

- "**Picture**" because the information would be presented through a graphical interface.

In order to reach full awareness of the conditions and activity across the maritime domain, the information could be collected about

- **vessels** (size, type, purpose, registry, location, destination, dynamic track data as well as static data on history, ownership, characteristics etc.),

- **people** (operators, passengers, crew, dock workers, agents, etc.),

- **activities** (type, location, time of year, cargo, etc.).

Therefore the aim of this step could thus be to create progressively until 2013 an integrated network of surveillance systems covering the Mediterranean Sea, the Canary Islands and the Black Sea, in which information from national surveillance systems (e.g. SIVE, SPATIONAV, VTS, VTMS etc.), common surveillance tools (e.g. radar satellites, UAVs), European and international reporting systems (VMS, AIS, LRIT, SafeSeaNet, etc.) and intelligence sources (national intelligence services, etc.) could be collected, fused, analysed and disseminated in a structured manner.

The four functions collection, fusion, analysis and dissemination of information could be carried out as follows:

- **Collection:** Information is gathered from various sources. Numerous maritime stakeholders collect unique as well as common information sets that are beneficial to the whole maritime community. Duplicative collection of information, e.g. by military and civil authorities, can be avoided by using the same tools (satellite, sensors).

- **Fusion:** Data and information shall be combined in a meaningful manner to determine what significant knowledge is present in all available data, including all available information about vessels, persons and activities (with due respect to regulations on sensitive data protection). Fusion of data can fill information gaps and reduce the uncertainty in information received from various sources.

- **Analysis:** The integration, evaluation, interpretation and refinement of information is achieved by using e.g. automated capabilities to recognise patterns, analyse trends and detect anomalies and thereby predict risks. Security sensitive analysis could be carried out separately, e.g. in the national coordination centres and by FRONTEX with regard to a corresponding common intelligence picture.

- **Dissemination:** The right information is moved to the right decision maker at the right time. The aim could be to deliver information to users with a freshness of 15 minutes. Ship data could be supplied with suitable information, sensor and quality parameters to facilitate effective storage, use and exchange. Access to information requires appropriate permissions.

The development of such a network should build upon the experiences made in developing regional initiatives with a similar purpose, i.e. in the Baltic Sea and the Black Sea. This common environment could sustain not only surveillance of maritime activity, but also activities such as the screening of vessels, people and cargo as a result of gathering and distributing intelligence, it should provide also cooperation tools and communication capabilities, possibly to be completed by a corresponding common intelligence picture. Special attention has to be given to the security of these systems and tools, ensuring appropriate confidentiality, integrity and availability.

With regard to a possible information and data exchange between different authorities (including military authorities), it has to be further examined how the integrity of classified information, confidential business data, information related to criminal investigations and the protection of personal data can be guaranteed.

4.4.3. *Step 8: Integrated network of reporting and surveillance systems for the whole EU maritime domain by extending it to the Atlantic Ocean, North Sea and Baltic Sea*

In the long-term and building upon the experiences gathered in step 7, the feasibility of extending the integrated network of surveillance systems to the Atlantic Ocean, the North Sea and the Baltic Sea and covering all aspects of maritime security and safety, including the protection of marine environment and fisheries should be analysed.

4.4.4. *Action to be taken*

**Action 9**: By 2009, the Commission should present to the Council an outline for the system architecture for an integrated network of reporting and surveillance systems for the Mediterranean Sea, the southern Atlantic Ocean (Canary Islands) and the Black Sea, which would allow border control authorities to take advantage of the integrated use of various maritime reporting and surveillance systems. This outline should take into account the results of a study to be launched under the External Borders Fund, studies carried out under the 7th Framework Programme for Research and Development, as well as other relevant preparatory work done.

In the framework of the EU Maritime Policy, the Commission will also present a Communication setting out a detailed work plan for further steps towards the integration of all European maritime reporting and surveillance systems covering all maritime activities in the Mediterranean Sea, the southern Atlantic Ocean (Canary Islands) and the Black Sea regions with a view to be extended later to the whole EU maritime domain.

5.	ASSESSMENT OF THE IMPACTS OF POLICY OPTIONS

Each action in the policy options is screened according to the following criteria:

**1. General policy objective 1:** Reduction of the death toll of illegal immigrants by rescuing more lives at sea.

**2. General policy objective 2:** Reduction of the number of illegal immigrants who manage to cross EU external borders undetected outside border crossing points.

**3. General policy objective 3:** Increase internal security of the EU as a whole by contributing to the prevention of trafficking in human beings, drug smuggling, terrorism etc.

**4. Effectiveness:** The extent to which the proposal can be expected to achieve the three general policy objectives (reduction of persons who manage to cross external border undetected, reduction of the death toll of illegal immigrants by rescuing more lives at sea; increase of internal security of EU as a whole).

**5. Consistency:** The extent to which options are consistent with other EU policies and activities including their impact on the economic, social and environmental domain.

**6. Costs:** The extent to which the general policy objectives can be achieved for a given level of resources/at least cost (cost-effectiveness) as well as the extent to which costs could be covered by Community financial programmes and by Member States.

**7. Impact on fundamental rights**, in particular on the protection of personal data.

**8.** Possible **economic, social and environmental impacts** as well as **impacts on third countries.**

The views expressed by Member States and other Commission services and agencies have also been taken into account.

For each action, the anticipated impact has been assessed on an 'intuitive' scale of positive impact from one to five (five being the best score) with respect to the three policy objectives.

The policy options are a combination of actions. Most of the actions are complementary rather than alternative means to achieve the same ends. In these circumstances it is necessary to consider each action individually.

### 5.1. Policy Option 1 – Status quo

Since Member States are responsible for external border control, each Member State is free to entrust the surveillance at external borders to the authorities of its choice, according to its own national structures. These missions are entrusted in certain Member States to a single body and in other Member States to several bodies reporting to different government departments, leading to the situation that in the Mediterranean Sea alone about 50 Member States' authorities from up to 30 different institutions and Ministries are involved in border surveillance, sometimes with parallel competencies and overlapping systems, with the risk of delays and lack of coordination between these various national services in a crisis situation.

Furthermore, the nature of the missions entrusted by the Member States to the various national authorities present at external borders entails a wide range of activities. Each national service of a Member State does not always have an exact counterpart in another Member State engaging in the same tasks and exercising the same powers of detection, identification and interception. Although a number of measures, in particular under the European Patrols Network, have already been undertaken to improve the cooperation between Member States, this situation might lead to delays and lack of coordination between Member States due to the absence of a common communication and information sharing network.

There would be an absence of synergies and economies of scale due to the lack of links between national border surveillance systems as well as with reporting systems currently being set up in other areas, while also taking into account the latest technological developments, e.g. in satellite technology. However, the central issue is enable information sharing between different authorities and systems within the limits of the current legal framework. Thus the status quo provides for ad hoc and incoherent information sharing between Member States. Overlaps in the collection of information are likely to occur between Member States as well as between different systems for collecting surveillance information and for ship reporting.

Finding vessels involved in illegal activities at sea, including illegal immigration, and finding small boats in distress can in practice only be done by combining the information concerning on-going ship traffic received from the ship reporting systems (VTS, AIS, VMS, LRIT) with detections of non-cooperative ships from patrol assets, UAVs or satellites. Most ship traffic is legal and the reporting systems indicate that part, therefore enabling the patrol assets to aim actual close-in inspection on the remaining small number of unknown or suspicious targets. Surveillance becomes ever more efficient and cost-effective as more information sources on ship traffic are combined. Policy option 1 would not lead to those benefits.

Research projects would be conducted without a clear vision linking research activities with the policy goals of enhancing border control at European level, serving mainly to reinforce individual Member States and without exploiting the potential benefits for all Member States concerned. No follow-up at European level to ensure the use of the results for the end-users would be ensured.

**Table - Policy option 1**

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs59 | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| **Non-legislative actions** | | | | | | | | |
| **STATUS QUO** | | | | | | | | |
| **STATUS QUO** | *(no positive impact)*<br><br>In response to Member States' actions, embarkation points are located even further away, possibly resulting into a further increase of loss of life at sea. | Areas covered by surveillance are only punctual, whereas possibilities for undetected crossings remain. | *(no positive impact)*<br><br>Non-coherent approach allows organised crime to focus on the least prepared Member States / third countries and on weak points, e.g. seaports. | *(no positive impact)*<br><br>Status quo does not contribute to achievement of policy objectives. Non-sharing of information hinders prevention of organised crime. | *(no positive impact)*<br><br>No advantage is taken of harmonisation processes in other fields (e.g. EU maritime policy) and of EU and international systems currently being set up (e.g. LRIT). | *(no positive impact)*<br><br>No use of synergies and economies of scale due to the lack of links between existing and future systems. | No impact. | No impact. |

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59      * stands for very low and ***** for very high costs.

## 5.2. Policy Option 2 - Interlinking and streamlining existing surveillance systems and mechanisms <u>at Member States level</u>

Policy option 2 focuses on upgrading streamlining existing surveillance systems and mechanisms at Member States level (Action 1). Community action is necessary to ensure a coherent implementation in the Member States concerned (Action 2, part 1) and to enable an efficient cooperation between Member States (Action 3). The technical framework for the cooperation between Member States including FRONTEX will be defined in Action 4. Finally, the extent to which neighbouring third countries would need logistic and financial support from the EU would have to be determined (Action 2, part 2).

**Table - Policy option 2**

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs60 | 7. Fundamental rights (data protection) | 8. Economic, social, environmetal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| **Non-legislative actions** | | | | | | | | |
| **INTERLINKING AND STREAMLINING EXISTING SURVEILLANCE SYSTEMS AND MECHANISMS AT MEMBER STATES LEVEL** | | | | | | | | |
| **STEP 1**: Providing essential border surveillance infrastructure at national level | | | | | | | | |
| **ACTION 1 Recommen-dation to set up (1) national coordination centres and (2) national** coordination systems | ** Search and rescue measures are improved mainly in territorial waters, and to some extent on the high sea. | **** Coherent use of detection tools, human resources and information sharing at national level reduces possibilities for undetected border crossings. | *** Coherent use of detection tools, human resources and information sharing at national level reduces possibilities for organised crime. | **** Action contributes to achievement of all three policy objectives by upgrading / expanding infrastructures and streamlining mechanisms for border surveillance. | *** Action extends geographical scope of the EPN and follows strategic guidelines of External Borders Fund (EBF). Action is in line with EU Maritime Policy. | *** Member States can use EBF to co-finance up to 75% of the costs. Available Community funding might not be sufficient to finance costs for all Member States concerned. | No impact, since national data protection rules within the limits of EU legislation apply. | Environmental impact limited, since modern technology (radar, satellites etc.) shall be used. Limited impact on third countries, since installations should be done on territories of EU Member States. |

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60     * stands for very low and ***** for very high costs.

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs60 | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| (investments) | | | | | | | | |
| *Stakeholder's attitude*: When consulted on strategic guidelines for EBF, Member States agreed to make this action a specific priority. In the 2nd consultation meeting, Member States informed that they will set up such centres. | | | | | | | | |
| **ACTION 2** **Part 1** **FRONTEX risk assessment on EU borders to be covered by surveillance system** *(study)* | See 4. | See 4. | See 4. | Study itself has no direct impact. However, an indirect impact could be achieved if Member States would take into account results of the study in their planning. | *** Such a risk assessment is part of the mandate of FRONTEX and contributes to an efficient use of the financial resources provided under the EBF. | *** Risk assessment forms part of daily work of FRONTEX and is covered by FRONTEX budget. | Study itself has no direct impact. | Study itself has no direct impact. |
| *Stakeholder's attitude: Whereas a majority of Member States might regard this action as a neutral assessment, some could see it as an indirect interference into their border management.* | | | | | | | | |
| **ACTION 3** **Elaboration of guidelines for cooperation between** national coordination centres and on the role of FRONTEX *(expert* | *** Close coordination and extension of patrolling activities at national level increases number and area for search and rescue activities, in particular in territorial waters. | **** Improved cooperation at national level allows swift reaction to changes in migration routes. | **** Improved cooperation at national level allows swift reaction to criminal activities. | **** Very important action for achieving all three policy objectives by defining cooperation mechanisms. However, impact is still unclear in view of need for legislation. | *** Action is consistent with works done under the European Patrols Network. | *** Costs for meetings will be borne by the Commission. | EU data protection rules have to be taken into account. | No impact. |

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs60 | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| *group)* | | | | | | | | |
| *Stakeholder's attitude*: In the 2nd consultation meeting, a number of Member States referred to the need to define a legal framework for the cooperation. | | | | | | | | |
| **STEP 2: Communication network between national coordination centres incl. FRONTEX** | | | | | | | | |
| <u>**ACTION 4**</u><br><br>**Elaboration of technical specifications for communicati on network**<br><br>*(study)* | -<br><br>See 4. | -<br><br>See 4. | -<br><br>See 4. | -<br><br>Specifications themselves have no impact. Communication network contributes to achievement of policy objectives. | \*\*\*<br><br>Action is consistent with works done under the European Patrols Network. | \*\*\*<br><br>Costs for study will be borne by EBF (Community actions).<br><br>Study will provide estimate of costs for setting up network. | Data protection issues will be part of study. | No impact. |
| *Stakeholder's attitude:* During the 2<sup>nd</sup> consultation meeting, Member States welcomed this action. | | | | | | | | |
| **STEP 3: Support to third countries to set up border surveillance infrastructure** | | | | | | | | |
| <u>**ACTION 2**</u> -<br><br><u>**Part 2**</u><br><br>**Report on surveillance infrastructur e in selected third countries** | -<br><br>See 4. | -<br><br>See 4. | -<br><br>See 4. | -<br><br>Report itself has no direct impact, but will provide basis for decision on financial and logistical support to be given to neighbouring third | \*\*\*<br><br>Action is in line with the Global Approach to Migration and conclusions of the JHA Council of September on reinforcing the EU's southern | \*\*<br><br>Costs for report would be covered by FRONTEX budget.<br><br>Financial needs for third countries would be estimated in this | Report itself has no impact. | Report should have impact on programming of relevant financial programmes in the external relations domain. |

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs60 | 7. Fundamental rights (data protection) | 8. Economic, social, environmetal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| *(study)* | | | | countries. | maritime borders. | report. | | |
| *Stakeholder's attitude:* Whereas Member States would regard this action as useful, the concerned third countries could see it as an indirect interference into their border management. | | | | | | | | |

This policy option foresees mainly non-legislative actions. Legislative actions could be envisaged for the tasks of the national coordination centres and the cooperation between them. However, it is still too early to assess the need for such legislative actions. It is necessary to identify the precise needs for the exchange of information and to what extent legislation would contribute to the consistency of these tasks.

This policy option provides a coherent strategy for the use of financial resources to be borne by the EU (External Borders Fund, FRONTEX budget) and the Member States.

## 5.3. Policy Option 3 - Development and implementation of common tools and applications for border surveillance at EU level

Policy option 3 comprises all actions listed in policy option 2. It contains a series of measures which - for practical, technical and reasons of cost-efficiency - should be developed and implemented at EU level. Some measures will entail medium to high costs. This "package" of actions includes several non-legislative actions to increase cooperation and burden-sharing between Member States and to ensure a more effective protection of the external borders. Action 5 is within the scope of existing programming for the 7th Framework Programme for research and development and reference can therefore be made to the relevant ex-ante evaluations carried out in this regard. The action is subject to the approval - through the relevant procedures – of the 7th Framework Programme. Each action in the Policy Option is considered in turn:

**Table Policy option 3**

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs[61] | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| **Non-legislative actions** | | | | | | | | |
| **DEVELOPMENT AND IMPLEMENTATION OF COMMON TOOLS AND APPLICATIONS FOR BORDER SURVEILLANCE AT EU LEVEL** | | | | | | | | |
| **STEP 4: Research and development to improve the performance of surveillance tools** | | | | | | | | |
| **ACTION 5** **Use of FP7 to improve the performance of surveillance tools to increase the area covered and the** | ***** Improved technology to detect small boats allows more targeted search and rescue and interception measures, resulting possibly in a reduced use of | **** Improved technology increases areas covered and number of activities detected. | **** Better identification and tracking of targets improves combatting criminal activities. | **** Action contributes to achievement of all three policy objectives by improving the technical ability to detect and identify illegal immigrants, persons in distress and threats to | ** Action will clear policy vision for future programming of FP7 Themes 9 (Space) and 10 (Security) while ensuring that end-users will take fully into account | ** Costs for further development of surveillance tools are considerable and should therefore be covered at EU level (FP7). However, for satellite | No impact. | Certain third countries can participate in FP7 projects. |

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[61] * stands for very low and ***** for very high costs.

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs[61] | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| **number of suspicious activities detected as well as to improve identification of potentially suspicious targets** *(research projects)* | such boats. | | | internal security. | the results of currently ongoing projects. | technology funds available will not be sufficient to meet all user requests. | | |

*Stakeholder's attitude*: In preparation for this assessment, a series of consultations and meetings took place with ENTR, GMES, JRC, ESA and EUSC which agreed to cooperate.
During the two consultation meetings, Member States welcomed this action.

<div align="center">

**STEP 5: Common application of surveillance tools**

</div>

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs | 7. Fundamental rights (data protection) | 8. Economic, social impacts |
|---|---|---|---|---|---|---|---|---|
| **ACTION 6 Elaboration of concept allowing Member States to receive information derived from satellites and other common surveillance tools** *(concept)* | ***** Increased coverage of areas beyond territorial waters allows for more targeted search and rescue measures. | **** Common application of tools further increases areas covered and number of activities detected. | *** Earlier identification and tracking gives more time for interception of criminal activities. | *** Action contributes to achievement of all three policy objectives by improving the <u>practical</u> ability to detect and identify illegal immigrants, persons in distress and threats to internal security. | *** Concept is consistent with services envisaged by GMES. | ** In comparison to action 5, costs should be relatively small and would be covered by FP 7 (space). | EU data protection rules will have to be followed. | Extending operation of UAVs to coastal areas of third countriesrequires appropriate agreements with these countries. |

***Stakeholder's attitude*: In preparation for this assessment, the elaboration of this concept has been agreed with GMES, which is currently working on it.**

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs[61] | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| **ACTION 7** **FRONTEX should make a gap analysis of the current use of satellites for border surveillance purposes by Member States.** | - See 4. | - See 4. | - See 4. | - Gaps analysis itself has no direct impact, but will provide basis for measures to improve common use of surveillance technology. | *** Gaps analysis is consistent with mandate of FRONTEX. | ** Costs for report would be covered by FRONTEX budget. | Report itself has no impact. | No impact. |
| *Stakeholder's attitude*: Not discussed yet with Member States. | | | | | | | | |
| **STEP 6**: Common pre-frontier intelligence picture | | | | | | | | |
| **ACTION 8** **Elaboration of a concept for a "common pre-frontier intelligence picture" which enables a targeted intelligence reaction** *(concept)* | ** Monitoring of migration routes in third countries allows for more targeted reactions. | **** Action allows for monitoring of migration routes and identification of targets at early stage. | **** Identification of criminal activities at early stage allows for timely reaction. | *** Action contributes to achievement of two of the three policy objectives by providing the intelligence to detect and identify illegal immigrants and threats to internal security. | *** Action takes fully into account different initiatives like the setting up of an immigration liaison officers' network. | ** Study leading to the concept can be financed by the EBF (Community actions). | No direct impact. | Limited environmental impact due to use of modern technology. Scope of cooperation with third countries will have to be clarified. |

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs[61] | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|--------|------------------------------|---------------------------------------------|----------------------------------|------------------|----------------|--------------|------------------------------------------|--------------------------------------------------------------------------|
| *Stakeholder's attitude*: During the two consultation meetings, Member States welcomed this action. Degree of cooperation of third countries cannot be predicted. | | | | | | | | |

Policy option 3 complements the surveillance infrastructure at Member States level (policy option 2) with new elements which should be carried out at EU level for technical, practical and reasons of cost-efficiency. Whereas Action 5 focuses on the further technical development of surveillance tools, in Action 6 the common application of these tools by Member States should further increase the mutual benefit while reducing the costs for the individual Member State. Finally, information collected from surveillance tools (e.g. satellites) should be combined with information provided by Member States, but also third countries, to develop a common pre-frontier intelligence picture which would allow Member States authorities to intercept unlawful activities when entering EU territory.

## 5.4. Policy Option 4 - Creation of a common information sharing environment

This policy option comprises all the actions listed in the policy options 2 and 3 and includes also step 7. However, due to their complexity, financial impact and the fact that they would contribute to the achievement of only one of the three general policy objectives, steps 8 and 9 should only be considered at a later stage.

**Table Policy option 4**

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs[62] | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| Non-legislative actions | | | | | | | | |
| CREATION OF A COMMON INFORMATION SHARING ENVIRONMENT | | | | | | | | |
| STEP 7: Integrated network of surveillance systems for the Mediterranean Sea, the Canary Islands and the Black Sea | | | | | | | | |
| ACTION 9 Elaboration of the system architecture for an integrated network of surveillance systems for Mediterranean Sea, Canary Islands and Black Sea *(research projects and studies)* | **** Increased coverage of maritime domain allows for more targeted search and rescue measures. | **** Action further increases areas covered and number of activities detected. | **** Earlier identification and tracking gives more time for interception of criminal activities. | **** Action contributes to the achievement of all three policy objectives by sharing the relevant information to detect and identify illegal immigrants, persons in distress and threats to internal security. | **** Action is in line with EU Maritime Policy. | ** Studies leading to the concept could be financed by FP7 and EBF (Community actions). A careful assessment of the costs should be a central part of the proposal. | Secure data exchange and data protection will be one of the key parts to be taken into account in the studies and projects. | Limited environmental impact due to use of modern technology. Scope of cooperation with third countries will have to be clarified. |

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62    * stands for very low and ***** for very high costs.

| Action | 1. Reduction of loss of life | 2. Reduction of undetected border crossings | 3. Increase of internal security | 4. Effectiveness | 5. Consistency | 6. Costs[62] | 7. Fundamental rights (data protection) | 8. Economic, social, environ-metal impacts and impacts on 3rd countries |
|---|---|---|---|---|---|---|---|---|
| *Stakeholder's attitude*: During the two consultation meetings, Member States welcomed this action. | | | | | | | | |
| **STEP 8**: Integrated network of surveillance systems for the whole maritime domain of the EU | | | | | | | | |
| *Action to be defined on the basis of Action 8 under Step 7.* | -<br><br>See 2. | *<br><br>Currently no considerable risk for illegal immigration in this area. | ***<br><br>Step 8 contributes to the achievement of only one of the three policy objectives by sharing the relevant information to detect and identify threats to internal security. | *<br><br>See 3. However, once steps 1 to 7 have been implemented, changes in modi operandi for illegal immigration by sea might require step 8. | ***<br><br>Step 8 would be in line with EU Maritime Policy.<br><br>Thus the concept to be developed under step 7 should be applicable also to the whole maritime domain of the EU. | *<br><br>No sufficient funding (e.g. under EBF) available to set up such a network. | See Step 7. | See Step 7. |
| *Stakeholder's attitude*: During the two consultation meetings, Member States agreed that priority should be given to the Mediterranean Sea, Canary Islands and the Black Sea. | | | | | | | | |

Policy option 4 builds upon the surveillance infrastructure at Member States level (policy option 2) and the common application of surveillance tools (policy option 3) while extending the information sharing to the whole maritime domain. Taking into account the financial resources needed for setting up such a network on the one hand, and the current lack of risks for illegal immigration in this area on the other hand, priority should be given to Step 7.

However, this does not pre-determine the importance and usefulness of setting up an integrated network of surveillance systems for the whole maritime domain of the EU and which could be developed within the context of the Integrated Maritime Policy for the European Union.

6. **COMPARISON OF THE POLICY OPTIONS AND ELABORATION OF THE PREFERRED OPTION**

The process of defining policy options involved grouping the proposals for actions into four policy options. Assessment of the policy options has involved systematically considering each of the individual steps and actions described within the policy option and other steps that have not been retained. Many of the actions are complementary, but in a small number of cases the actions could themselves be alternative means of achieving the objectives. The pursuit of some actions could increase the need for other steps and actions.

The preferred policy option is outlined below. It is elaborated around the four main policy objectives. The elaborations indicate the main problems addressed and the rationale for EU intervention and the actions that contribute most effectively to the achievement of the objectives.

6.1. **The preferred policy actions to achieve the main policy objectives**

The impact for policy options 2 to 4 is clearly higher than for policy option 1. Therefore option 1 has been discarded.

The options 2, 3 and 4 could also be carried out independently and separate from each other, because - in comparison to the status quo - each single option has a fundamental impact on reaching all policy objectives, but in different ways. However, the implementation of policy option 4 would highly benefit from the two previous options. Furthermore, the common implementation of options 2 to 4 would ensure a much higher degree of achievement. Therefore they should be combined in a phased approach to gradually contribute to the achievement of all objectives.

The preferred policy actions are steps 1 to 7 as proposed under policy options 2, 3 and 4. However, these steps can as this stage not be defined as concrete actions, but rather as forming a roadmap providing the main parameters for the development of a European Border Surveillance System. Therefore further studies have to be carried out for a number of the steps identified before concrete actions can be taken.

Step 8 as presented in policy option 4 should not form part of the roadmap at this stage, since it contributes to only one of the three general policy objectives (increase of internal security), and since its feasibility and added value can only be assessed based on experiences in implementing steps 1 to 7.

The development of a integrated network of surveillance systems for the maritime domain which is limited in step 7 geographically to the Mediterranean Sea, the Canary Islands and the Black Sea and in substance to internal security matters could serve as a precursor for a integrated network of surveillance systems for the whole maritime domain of the EU covering all aspects of maritime security and safety (compare step 8).

A summary table and a visual presentation of the different steps 1 to 8 can be found on the following two pages.

| Phases / Steps | Responsible | EU funding | Timetable | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| **I. National infrastructures** **1. Setting up of national coordination centres and national surveillance systems** | Member States | External Borders Fund (EBF) | Programming. Risk assessment by FRONTEX | Procurement. Report on guidelines | Implementation | | | Reserve year |
| **2. Communication network between national centres including FRONTEX** | Member States; FRONTEX | EBF for Member States' parts; FRONTEX budget | Study on network architecture | Presentation of study and discussion | Implementation | | | Reserve year |
| **3. Support for neighbouring countries in setting up infrastructure** | Council, FRONTEX, Commission | FRONTEX budget for study | Study on surveillance infrastructure | Presentation of study and discussion | To extent possible, support to selected third countries | | | |
| **II. Common tools** **4. Research and development to improve surveillance tools** | Commission | 7th Framework Programme for research and development (FP7) | Programming and execution of R&D projects to improve performance of surveillance tools | | | | | |
| **5. Common application of surveillance tools** | Commission, FRONTEX | FP7 | Study on common application of surveillance tools | Presentation of study and discussion | Implementation | | | |
| **6. Common pre-frontier intelligence picture** | Commission, FRONTEX | EBF for study. FRONTEX for implementation | Development of concept | Presentation of concept | Implementation | | | |
| **III. Network** **7. Integrated network for Mediterranean Sea, Canary Islands and Black Sea.** | Member States, Commission | EBF and FP7 for studies | Studies on architecture and preparatory action (Maritime Policy of EU) | Presentation of system architecture for EUROSUR part | Implementation of EUROSUR relevant part | | | |
| **8. Extension to Atlantic Ocean, North and Baltic Seas.** | Council, Commission | To be decided | To be determined following 2008 Communication | | | | | |

Atlantic Ocean, North Sea, Baltic Sea

STEP 8

MS F
NCC

Third countries

MS E
NCC

EU / Schengen Area

FRONTEX

STEP 2

MS D
NCC

MS A
NCC

MS B
NCC

MS C
NCC

STEP 1

Radar station

Patrol

Canary Islands,
Mediterranean Sea
Black Sea

STEP 7

STEP 5

STEP 4

STEP 3

ILO network

STEP 6

Third countries

**EN**

**EN**
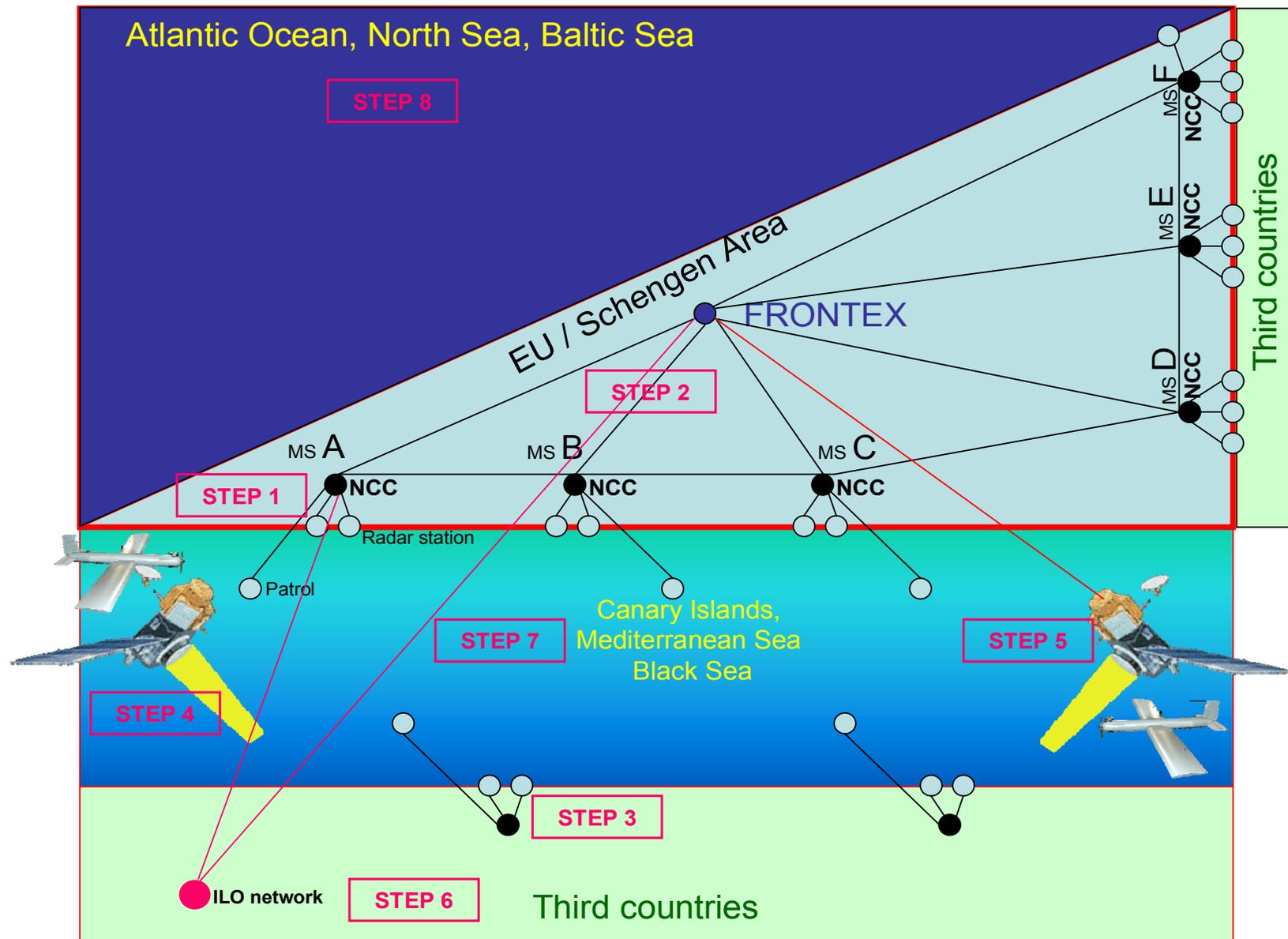
As requested by the European Council in December 2006, the Communication on EUROSUR will "examine" how a European Border Surveillance System could be "created". Therefore neither this impact assessment nor the Communication do represent already a detailed concept, but just a first outline how EUROSUR could be set. A number of further studies identified in the Communication will therefore be needed before the financial impacts of the steps 1 to 7 can be determined:

| | Phases / Steps | EU funding |
|---|---|---|
| **I. National infrastructures** | **1. Setting up of national coordination centres and national surveillance systems** | Member States located at the EU eastern borders are using 2004-2006 Schengen Facility (M€ 961, 4) and 2007-2009 Cash-Flow and Schengen Facility (M€ 799, 3) to improve their border surveillance capabilities, including the setting up of national coordination centres (e.g. Slovakia, Bulgaria).<br>Under the External Borders Fund (EBF) 2007-2013 (M€ 1.820), the setting up of national coordination centres and national surveillance systems have been made specific priorities, which mean that Community funding has been increased from 50% to 75%. Member States will submit their proposals for their multi-annual programmes in December 2007.<br>The Commission will carry out a study (to be financed from the External Borders Fund) to determine the financial impact. |
| | **2. Communication network between national centres including FRONTEX** | See Step 1. |
| | **3. Support for neighbouring countries in setting up infrastructure** | FRONTEX will be requested to present a report on the existing and needed surveillance infrastructure in selected neighbouring third countries.<br>The Commission will make an assessment of the border surveillance infrastructure in selected neighbouring third countries based on the evaluation carried by FRONTEX, while using as appropriate this assessment in the programming of relevant financial programmes in the external relations domain. |
| **II. Common tools** | **4. Research and development to improve surveillance tools** | 7th Framework Programme (FP7) for research and development (Theme 9 – Space: M€ 1.430; Theme 10 – Security: M€ 1.400). Border security is one out of four priorities. |
| | **5. Common application of surveillance tools** | See Step 4. |
| | **6. Common pre-frontier intelligence picture** | The Commission will carry out a study (to be financed from the External Borders Fund) to determine the financial impact. |
| **III. EU Network** | **7. Information sharing environment for Mediterranean Sea, Canary Islands and Black Sea.** | Under the FP7, a study will be carried out in 2008/2009 to determine the financial impact (contract negotiations currently going on). |
| | **8. Extension to Atlantic Ocean, North and Baltic Seas.** | To be decided. |

## 6.2. European value added, proportionality and subsidiarity

When preparing this impact assessment, the principle of subsidiarity has been one of the main principles to be followed. Instead of aiming at setting up a new, centralised border control system at EU level replacing national systems and structures, the policy options 2, 3 and 4 explore different solutions on how to use existing national systems in combination with recently developed systems (e.g. AIS, LRIT) and technical developments (e.g. UAVs, satellites) to achieve the policy objectives in the most cost-efficient way.

The proposals made under policy options 2, 3 and 4 fully take into account the basic principle that the Member States are responsible for internal security and for controlling the external borders. EUROSUR should therefore neither affect the division of competences nor administrative competences between the EU and Member States respectively inside the Member States, nor the respective areas of jurisdiction of Member States nor replace any existing systems. EUROSUR should interlink different systems and mechanisms through a series of actions which have a true added value, while paying attention to geographical circumstances and differences between types of borders, in particular between land and maritime borders.

The EUROSUR system builds on the infrastructure proposed in policy option 2, the development of tools as proposed under policy option 3 and the combination of these and other elements built up in parallel (e.g. LRIT, SafeSeaNet) in a common information sharing environment by setting up an integrated network of surveillance systems as presented in policy option 4. Other developments and policies (e.g. in the framework of the EU maritime policy) shall not only be taken into account, but integrated to the extent possible.

Policy options 2 and 3 cover the maritime and land external borders, having regard to the risk for displacement effects. Policy option 4 should focus only on the maritime domain, as it concerns putting together the multitude of information sources that are monitoring activities on the open seas; the equivalent challenge of monitoring such a vast space does not arise in relation to land borders. It should be noted that as far as air borders are concerned, illegal immigration by air is a matter of efficient checks at the border crossing points at airports. EUROCONTROL is working on securing the European airspace and air traffic management.[63]

EUROSUR should lead to a clear simplification of administrative procedures. One example is that for the maritime domain the relevant information will not have to be collected from different authorities, but will be presented in one "common operational picture" accessible near-real time to all relevant authorities (policy option 4). Another example is that at national level the coordination of authorities involved in border control shall be done via the national coordination centre (policy option 1).

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[63] Air Traffic Management (ATM) security is concerned with securing the ATM assets and services, to prevent threats and limit their effects on the overall aviation network. Airspace security seeks to safeguard the airspace from unauthorised use, intrusion, illegal activities or any other violation. Cf http://www.eurocontrol.int/index1.html.

As far as the mandate of FRONTEX is concerned, some of the actions proposed (e.g. Step 5 concerning the common application of surveillance tools such as UAVs) are covered by the mandate of FRONTEX, whereas for some other actions (e.g. common pre-frontier intelligence picture) might require an amendment of Council Regulation (EC) No 2004/2007.The economies of scale shall be taken into account by creating a system of systems, in which information gathered in already existing or future systems will be gathered, combined and exchanged in a meaningful manner for the common benefit of all end-users. However, whenever considerable costs can be expected with regard to the implementation of the steps proposed, a further study shall be carried out, determining an appropriate, proportionate and cost-efficient architecture.

In reaction to the current migration pressure in the Mediterranean Sea and the Canary Islands, the European Council of 14/15 December 2006 stated that "*priority will be given to examining the creation of a European Surveillance System for the southern maritime borders*".

As far as the added value of EUROSUR in the fight against illegal immigration is concerned, better information sharing will help to identify suspicious targets such as boats used by illegal immigrants more accurately and therefore allow a more targeted and cost-efficient use of available equipment, such as helicopters and patrol ships, for interception (e.g. reduction of false alarms).

Taking into account that displacement effects and other challenges to internal security such as drug trafficking, trafficking in human beings, terrorism might occur, it is proposed to include also the eastern land borders and internal security activities beyond the prevention of illegal immigration into EUROSUR. The preferred option (steps 1 to 7) would therefore increase the reaction capacity of the EU as a whole in case of changes in the current challenges faced at the EU external borders. The preferred option would not limit the scope for the introduction of other improvements.

Finally, the latest technological developments shall be taken into account by using the 7th Framework Programme for research and development in a pro-active manner.

The need for intervention at the European level is clear. In practice the preferred option would apply to the Schengen area which currently includes 22 of the 27 EU Member States (except UK, Ireland, Cyprus, Romania, Bulgaria) and two other European countries (Norway and Iceland). Schengen countries are committed to the maintenance of common EU borders and common standards of border controls. Cyprus, Switzerland, Liechtenstein, Bulgaria and Romania are expected to become full Schengen members during the time span foreseen for the development and setting up of the above described steps 1 to 7.

The EUROSUR system requires to be implemented at EU level, because it has important implications for and dependencies on border policy which is an EU policy with implications for burden sharing and the border guard resources of all Schengen countries.

The still to be defined legal framework for EUROSUR would similarly need to be introduced at the EU level. This is because the implications of 'failures' of a

component of EUROSUR operating in one country could impact on other Schengen and EU countries. It would represent a major step forward in terms of facilitation of cooperation if existing and future reporting and surveillance systems would be interoperable within the EU. Common criteria and a legal framework are likely to greatly enhance such interoperability.

## 6.3. Legislative implications

In the studies and activities proposed, the legislative implications would have to be assessed for policy option 2 with regard to action 3 (guidelines for tasks of and cooperation between national coordination centres).

For policy option 3, there is no need for legislation except if such a need is identified for the use of UAVs for border surveillance.

For policy option 4, it is still too early to assess which legal initiatives would be needed with regard to an integrated network of reporting and surveillance systems in the maritime domain, since the concrete actions need first to be defined more in detail in the studies to be carried out.

## 6.4. Measures to ensure the protection of personal data

The different activities referred to in the previous sections may involve the processing of personal data. Therefore the principles of personal data protection law applicable in the European Union are to be observed[64], meaning that personal data must be processed fairly and lawfully, collected for specified, explicit and legitimate purposes and not further processed in a way incompatible with those purposes.

Furthermore the processing of personal data must be adequate, relevant and not excessive in relation to purposes for which they are collected and processed.

Therefore it is important that the preferred option complies with personal data protection principles and the requirements of necessity, proportionality, purpose limitation, quality of data; and that safeguards and mechanisms are in place for the effective protection of the fundamental rights of persons and in particular the protection of their private life and their personal data. In particular the integrated network of surveillance systems envisaged in policy option 4 may pose data protection challenges.

Although some of the information generated would, in theory, already be available, the policy option could involve the systematic collecting, fusing, recording and disseminating of information not only on vessels (size, type, purpose, registry,

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[64]     Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data (OJ L 281, 23.11.1995, p. 31) and national provisions implementing it; Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data (OJ L 8, 12.1.2001, p. 1); Council of Europe Convention for the Protection of Individuals with regard to the Automatic Processing of Personal Data of 28 January 1981 (ETS 108). The Convention is supplemented by Additional Protocol to the Convention regarding supervisory authorities and trans-border data flows (ETS 181, 8 November 2001) and the Council of Europe Recommendation No. R(87) 15 of 17 September 1987 regulating the use of personal data in the police sector.

location, destination, dynamic track data as well as static data on history, ownership, characteristics etc.) and activities (type, location, time of year, cargo, etc.), but probably also on people (operators, passengers, crew, dock workers, agents, etc.).

The data processed within the framework of EUROSUR should only be used by responsible border control authorities except in exceptional circumstances where duly authorised law enforcement authorities seek with good cause, evidence on the travel histories of named individuals. Individuals should have the right to access to information held on them and to challenge and correct it, if errors have occurred. The provisions would allow for appeals in cases where errors were made in recording.

The use and exchange of personal data amongst different systems may not take place until appropriate mechanisms are in place to ensure full compliance with the EU data protection legal framework for the effective protection of the fundamental rights of persons and in particular the protection of their private life and their personal data.

7.      MONITORING AND EVALUATION

The Commission shall ensure that methods are in place to monitor the functioning of the EUROSUR system against the main policy objectives. Two years after EUROSUR is fully operational, the Commission should submit to the European Parliament and the Council a report on the technical functioning of the systems.

Moreover four years after the EUROSUR system started all its operations the Commission should produce an overall evaluation of the system including examining results achieved against objectives and assessing the continuing validity of the underlying rationale and any implications of future options. The Commission should submit the reports on the evaluation to the European Parliament and the Council.

For all steps envisaged, a number of studies which will be identified in the Communication will have to be carried out before the different indicators can be determined. With regard to Step 1, the indicators could in principle be as determined in the strategic guidelines of the External Borders Fund. In the report to be presented from the Commission to the Council by spring 2009, the indicators for the effectiveness of national coordination centres and for the cooperation between them (Step 2) shall be defined.

The indicators for Steps 5 and 6 shall be an increase of the coverage and of the number of suspicious activities detected within an area surveyed as well as an improvement in the identification of potentially suspicious targets so as to optimize the subsequent interventions. The indicators for Steps 7 and 8 will have to be defined in the studies to be carried under these steps.

**8.**      LIST OF ANNEXES

**ANNEX 1   Glossary**
**ANNEX 2   MIGRAPOL 186**
**ANNEX 3   Agenda of meeting with Member States on 17 July 2007**
**ANNEX 4   Agenda of meeting with Member States on 12 October 2007**

**ANNEX 5   Background  paper  for  discussion  with  Member  States  on 12 October 2007**

**ANNEX 6   Information on the length of the external borders of the Member States and on third country nationals apprehended**

**ANNEX 7   Summary of BORTEC study**
**ANNEX 8   Summary of MEDSEA study**
**ANNEX 9   Summary of EPN**
**ANNEX 10  Summary of LIMES project**
**ANNEX 11  Summary of ship reporting systems**
**ANNEX 12  Summary of other relevant projects**

**Glossary**

The following terms have been used in this report.

| | |
|---|---|
| **AIS** | Automatic Identification System |
| **Border Control** | Border Control means the activity carried out at a border, in accordance with and for the purposes of the Schengen Borders Code, in response exclusively to an intention to cross or the act of crossing that border, regardless of any other consideration, consisting of border checks and border surveillance. |
| **C4I** | Command, Control, Communications, Computers and Intelligence |
| **EMSA** | European Maritime Safety Agency |
| **ESA** | European Space Agency |
| **EUROSUR** | European Border Surveillance System |
| **FRONTEX** | European External Borders Agency |
| **JRC** | Joint Research Centre |
| **LRIT** | Long Range Identification and Tracking System |
| **SAR** | Synthetic Aperture Radar |
| **Schengen Area** | It includes the current members of the European Union, except United Kingdom and Ireland, plus Norway, Iceland and Switzerland. The new EU Member States and Switzerland are in the process of fully implementing the Schengen Acquis. |
| **UAV** | Unmanned Aerial Vehicle |
| **VMS** | Vessel Monitoring System |
| **VTMIS** | Vessel Traffic Management and Information System |
| **VTS** | Vessel Traffic System |

EUROPEAN COMMISSION
DIRECTORATE-GENERAL JUSTICE, FREEDOM AND SECURITY

Directorate B
**Unit B/1 Borders and Visas**
Section for Borders

| **25th IMMIGRATION AND ASYLUM COMMITTEE** **15 June 2007** | MIGRAPOL 186 |
|---|---|

**Subject**:     **European Border Surveillance System**

**Summary:**

Presentation of a first outline for a future European Border Surveillance System.

**Action to take:**

Member States are invited to present their first opinions on the enclosed document.

With a view to preparing a Communication on this issue, the Commission will invite experts from interested Member States for an informal meeting in mid-July to seek their input on the ideas presented.

**Towards the creation of a European Border Surveillance System – 1st outline**

1.      <u>**Introduction**</u>

In the Communication COM(2006)733final of 30 November 2006 on Reinforcing the Management of the EU's Southern Maritime Borders, the Commission proposed to establish a permanent *Coastal Patrol Network* for the southern maritime external borders and to create a *European Surveillance System for Borders*. The European Council of 14/15 December 2006 stated that "*priority will also be given to examining the creation of a European Surveillance System for the southern maritime borders*".

On 12 January 2007, FRONTEX presented its BORTEC feasibility study, which focused in particular on the European Patrol Network.

The Commission intends to present a Communication which will identify the appropriate follow-up to be given to this study by outlining how a European Border Surveillance System could be set up in 3 phases between 2008 and 2013, for which the following considerations should be taken into account:

- The *southern maritime borders* in the Mediterranean Sea and in the Black Sea as well as the *eastern land borders* of the European Union have been given a new shape as a consequence of the 2004 enlargement and Romania and Bulgaria joining this year.

- As of 2007, long-*term* investments in the protection and surveillance of the external borders could be financed from significantly increased Community funding, in particular from the External Borders Fund (2007-2013; M€ 1.820), the Schengen part of the Cash-Flow and Schengen Facility (Romania, Bulgaria; 2007-2009; M€ 400) and the 7th Framework Programme for research and technological development (2007-2013; Theme 9 – Space: M€ 1.430; Theme 10 – Security: M€ 1.400).

- The latest technological *developments*, e.g. in satellite technology, can also contribute to improve border surveillance and thus the internal security of the EU as a whole.

Therefore the Commission is planning to present a Communication at the end of this year proposing to set up a *European Border Surveillance System* not only at the southern maritime borders, but also at the eastern land borders of the EU in 3 phases:

1) Interlinking and streamlining existing reporting and surveillance systems and mechanisms <u>at Member States level</u> (2008-2009)

2) Development and implementation of common tools and applications for border surveillance <u>at EU level</u> (2008-2013)

3) Creation of a <u>common information sharing environment</u> for the maritime domain, covering the Mediterranean Sea and the Black Sea (2012-2013)

The development and setting up the *European Border Surveillance System* as envisaged by the Commission shall neither affect the division of tasks and competences between Member States nor replace any existing systems. By upgrading and connecting existing national surveillance systems, it shall rather be seen as a "*system of systems*" which enhances the

sharing of information and thereby the co-operation between Member States in securing the Schengen external borders.

**2.      PHASE 1: Interlinking and streamlining existing reporting and surveillance systems and mechanisms at Member States level (2008-2009)**

Phase 1 would consist of the following two elements:

1)      Establishing or upgrading a single **national co-ordination centre**, which co-ordinates 24/7 the activities of all national authorities carrying out external border control tasks (detection, identification, intervention) and which is able to exchange information with the national co-ordination centres in other Member States;

2)      Establishing or upgrading a single **national surveillance system**, which covers all or selected parts of the external border and enables the dissemination of information 24/7 between all authorities involved in external border control;

The national co-ordination centre, which would form the central part of the national surveillance system, should provide an **"operational picture"** of conditions and activities along the external borders of the Member State concerned. By using surveillance, reporting and intelligence data, the centre should support real-time local, regional and national decision-making among all involved national services.

The sharing of information with national co-ordination centres in other Member States, in particular in neighbouring ones, could be done via a secured communication network on a one-to-one basis or by using FRONTEX as a hub/platform. FRONTEX should receive surveillance information to the extent relevant for the coordination of joint operations and for risk analysis. FRONTEX could also be involved by serving as a European Situation Centre gathering and disseminating close-to-real-time information with regard to incidents occurred along the EU external borders.

PHASE 1 follows the proposals made by FRONTEX in the MEDSEA[65] and BORTEC studies to establish/upgrade such centres in the eight Member States forming the EU southern maritime borders.[66] The Commission envisages establishing / upgrading such centres also in the Member States situated at the eastern land borders of the EU[67].

It has been proposed to increase funding under the External Borders Fund from 50% to 75% for these "specific actions", thereby contributing to the further gradual establishment of the common integrated border management system for external borders and the strengthening of controls of the external borders of the Member States.

**3.      PHASE 2: Development and implementation of common tools and applications for border surveillance at EU level (2008-2013)**

Due to technical limitations (current reach of radar sensors, limited availability/resolution of satellites), Member States with external borders face the problem that the areas covered by surveillance are currently restricted to certain flat or coastal areas and/or those areas of the land border or open sea in which operations are carried out.

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[65]     MEDSEA Feasibility study of 14 July 2006 on Mediterranean Coastal Patrols Network.
[66]     Portugal, Spain, France, Malta, Italy, Slovenia, Greece, Cyprus.
[67]     Finland, Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary, Romania, Bulgaria.

For instance, such "blind spots" occur not only in the open sea, but also in and around EU coastal waters due to the volume of activity. In both areas, the main challenge is to identify and track non-cooperative vessels that are not emitting and/or are not complying with reporting requirements. Technical solutions have in particular to be found for the current inability to detect and track small vessels, which are used for smuggling people, drugs etc. into the Schengen area.

Therefore the *7th Framework Programme for research and technological development (Theme 10 - Security)* should be used to further develop at EU level technical tools for surveillance (e.g. development of different kinds of platforms equipped with effective sensor packages like long-endurance unmanned aerial vehicles/UAVs; development of anomaly detection software etc.), which could then be used by the border control authorities of the Member States when carrying out their duties.

The *7th Framework Programme (Theme 9 – Space)* should also be used to design various satellite processors to complement each other to optimise performance for surveillance purposes (e.g. ship-detection, surveillance of smuggling routes at the land/sea borders) as well as to increase the availability of surveillance satellites as such. This would allow Member States to receive surveillance information with regard to their external borders on a more frequent and reliable basis.

The envisaged development of these common tools could benefit from co-ordination at EU level. Two concrete examples could be that at the request of Member States FRONTEX could act as a facilitator e.g. to liaise with service providers in order to receive satellite images whenever needed/available and/or e.g. in renting planes/UAVs for surveillance of the open sea and coastal areas in third countries. Whereas this would be a cost-effective solution for all actors involved, special emphasis would have to be given to interoperability so that collected target data could be seamlessly fused into the "operational pictures" in the different national co-ordination centres.

## 4. PHASE 3: Creation of a <u>common information sharing environment</u> for the <u>maritime domain</u> covering the Mediterranean and Black Sea (2012-2013)

Whereas Phases 1 and 2 would cover the surveillance of both land and sea borders, Phase 3 should focus on the maritime domain only, in which many different stakeholders are collecting and disseminating information from diverse sources. And whereas land border control can focus on the border line, the maritime borders are a vast space, requiring that surveillance covers the <u>whole maritime domain</u>.

Within the general framework of a future EU maritime policy, the long-term aim could thus be to create an **information sharing environment** for the *Mediterranean Sea* and the *Black Sea*, which links not only the border control authorities, but all authorities involved in maritime affairs together through a "**common operational picture**".

In this information sharing environment, information could be gathered from various sources and combined in a meaningful manner to determine what significant knowledge is present in all available data. The analysis of data could be achieved by using e.g. automated capabilities to recognise patterns, analyse trends and detect anomalies and thereby predict risks. The same information, presented on an interactive digital map, could be shared across computer networks and be available for display in all command centres and mobile assets of the participating authorities, which could use this information to facilitate command and control and decision making in near-real-time. This environment could also provide cooperation tools and communication capabilities, and possibly be completed by a corresponding common intelligence picture. Such a network-based, but flexible and adjustable virtual information

environment could be shared, at appropriate security levels, between all European and national authorities with interests and responsibilities in the maritime domain.

This 3-phased approach for the creation of a European border surveillance system should noticeably <u>increase internal security</u> in the Schengen area by preventing illegal immigration, trafficking of human beings, terrorism etc., but also reduce considerably the tragic death toll of illegal immigrants by rescuing more lives at sea.

EUROPEAN COMMISSION
DIRECTORATE-GENERAL JUSTICE, FREEDOM AND SECURITY

Directorate B : Immigration, Asylum and Borders
Unit B1 : Border and Visas

# TECHNICAL MEETING WITH MEMBER STATES' EXPERTS ON THE DEVELOPMENT OF A FUTURE

# EUROPEAN BORDER SURVEILLANCE SYSTEM

# AGENDA

# Brussels, 17 July 2007

# AGENDA

## Tuesday, 17 July 2007 – morning session

| Time | Subject | Speakers |
|---|---|---|
| 10h – 10.30h | • Welcoming address and adoption of agenda.<br><br>• Presentation of document **MIGRAPOL 186.** | European Commission |
| 10.30h – 11.30h | **PHASE 1 -Interlinking systems at Member States level**<br><br>• Presentation of a national system covering <u>detection, identification and intervention</u> at maritime borders<br><br>• Presentation of a national system <u>integrating all national authorities</u> involved in the control of maritime borders<br><br>• Presentation of a national system and co-ordination centre for <u>land</u> border control | Presentations given by Member States |
| 11.30h – 12.15h | <u>Discussion</u> on the implementation of PHASE 1, e.g.:<br><br>▪ To what extent are Member States implementing / planning to implement the national co-ordination centres as recommended in the FRONTEX studies?<br><br>▪ Which tasks will be given to the co-ordination centres?<br><br>▪ What could be the role of such co-ordination centres from a European perspective? | All participants |
| 12.15h-12.35h | **PHASE 2 - Development of common tools at EU level**<br><br><u>PART 1</u>: Presentation of projects related to border control carried out under the Preparatory Actions on "The enhancement of the European industrial potential in the field of Security Research" (PASR) and planned under the 7th Framework Programme for research and technological development. | European Commission |
| 12.35h – 13h | <u>Discussion</u> on the implementation of part 1 of PHASE 2, e.g.:<br><br>▪ Which common tools could be used at EU level (e.g. satellites, UAVs, surveillance planes, ships for co-ordination operations in the open sea)?<br><br>▪ To which research fields should priority be given (e.g. UAVs, anomaly detection software, over-the-horizon-radar, etc.)? | All participants |

# Tuesday, 17 July 2007 – afternoon session

| Time | Subject | Speakers |
|------|---------|----------|
| 14.30h – 15h | **PHASE 2 - Development of common tools at EU level** <br><br> PART 2: Presentation on how Global Monitoring for Environment and Security (GMES) could contribute to external border surveillance. | European Commission |
| 15h – 15.30h | Discussion on the implementation of part 2 of PHASE 2, e.g.: <br> ▪ Which common tools could be used at EU level (e.g. satellites, UAVs, surveillance planes, ships for co-ordination of operations in the open sea)? <br> ▪ To which extent tools / information from other services (e.g. navy) are available to Member States? | All participants |
| 15.30h – 16.15h | **PHASE 3 – Creation of a common information sharing environment for Mediterranean Sea and the Black Sea** <br><br> Presentation of the general framework of the EU maritime policy with special emphasis on how vessels' surveillance, monitoring and tracking systems currently used for different purposes (fisheries, maritime safety and security, law enforcement) could be converged and interfaced so as to produce a common operational picture to all users concerned. | European Commission |
| 16.15h – 16.45h | Discussion on the implementation of PHASE 3, e.g.: <br> ▪ Which data sources should be included, e.g. AIS, LRIT, SafeSeaNet, CleanSeaNet, Vessel Monitoring System of Fisheries/VMS, other public (regional, national, military) and private sources? <br> ▪ Which research studies / pilot projects shall be undertaken to make progress on the integration of different data sources relating to the surveillance of activities on the sea? | All participants |
| 16.45h – 17h | Concluding remarks and information on the next steps. | European Commission |

EUROPEAN COMMISSION
DIRECTORATE-GENERAL JUSTICE, FREEDOM AND SECURITY

Directorate B : Immigration, Asylum and Borders
**Unit B1 : Border and Visas**

# 2nd TECHNICAL MEETING WITH MEMBER STATES' EXPERTS ON THE DEVELOPMENT OF A FUTURE

# EUROPEAN BORDER SURVEILLANCE SYSTEM

# AGENDA

# Brussels, 12 October 2007

# AGENDA

## FRIDAY, 12 OCTOBER 2007

| Time | Subject | Speakers |
|---|---|---|
| 10h – 10.15h | • Welcoming address and adoption of agenda. | European Commission, DG JLS |
| 10.15h – 11h | **Presentation of examples for international cooperation in the border control field**<br><br>• Presentation of the Black Sea Border Coordination and Information Centre (BSBCIC)<br><br>• Presentation of the Baltic Sea Regional Border Control Cooperation (BSRBCC)<br><br>• Presentation of the "SEAHORSE" project (concerning cooperation between Spain and African countries) | Presentations given by Member States |
| 11h – 13h | **EUROSUR: PHASE 1: Interlinking and streamlining existing reporting and surveillance systems and mechanisms at Member States level (2008-2010)**<br><br>• "Tour de table" with regard **questions 1 to 7** concerning **steps 1 to 3** (see enclosed background paper). | |
| 14.30h – 15.30h | **PHASE 2: Development and implementation of common tools and applications for border surveillance at EU level (2008-2013)**<br><br>• "Tour de table" with regard **questions 8 to 10** concerning **steps 4 to 6** (see enclosed background paper). | |
| 15.45h – 16.45h | **PHASE 3: Creation of a common information sharing environment for the maritime domain covering the Mediterranean and Black Sea (2012-2013)**<br><br>"Tour de table" with regard **questions 11 to 14** concerning **steps 7 to 8** (see enclosed background paper). | |
| 16.45h – 17h | Concluding remarks. | European Commission, DG JLS |

**Background paper for 2<sup>nd</sup> technical meeting with Member States on EUROSUR**

I.      **Description of general concept**

As outlined in document MIGRAPOL 186, EUROSUR could be seen as a "*system of systems*" which supports national authorities in controlling the external **southern maritime** and **eastern land** borders of the EU to

- detect,
- identify,
- track and intercept

persons trying to enter the EU illegally outside border crossing points by

- collecting,
- fusing,
- analysing and disseminating

information in a structured manner from

- national surveillance systems (e.g. VTS, SIVE, SPATIONAV, etc.),
- common surveillance tools (e.g. radar satellites, UAVs),
- European and international reporting systems (VMS, AIS, LRIT, SafeSeaNet, CleanSeaNet etc.) and
- intelligence sources (national services, optic satellites, ILO network, etc.).

The development and setting up of EUROSUR shall neither affect the division of tasks and competences between Member States nor replace any existing systems, but provide a coherent framework for Member States' authorities to facilitate

- acting at local level,
- commanding at national level,
- coordination at European level and
- cooperation with third countries.

This goal could be achieved in 8 steps:

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1. **Provide** essential **infrastructure at national level** through streamlining of command and coordination mechanisms by setting up a **national coordination centre** and a **national surveillance system** to cover all (or selected) parts of the external border;

2. **Interlink** the national infrastructures in a **communication network** for regular information exchange and coordination of activities between Member States' authorities as well as with FRONTEX;

3. **Support neighbouring third countries** in setting up a comparable infrastructure (surveillance system; coordination centre; assets for interception) and provide for a cooperation mechanism to exchange information and to coordinate activities between Member States' and third country authorities on a case by case basis;

4. **Research and development to improve surveillance tools** (e.g. UAVs, buoys, etc.);

5. **Common application of surveillance tools** (e.g. satellites, UAVs, planes);

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**6. Common pre-frontier intelligence picture** (e.g. interactive map of region with data received from transit countries, ILO network, satellites and intelligence sources);

**7. Common information sharing environment** for **Mediterranean** and **Black Sea**;

8. At a later stage, extension of common information sharing environment to the **Atlantic Ocean, North** and **Baltic Sea**.

The following matrix shows how the above mentioned actions could be interrelated:

| Action / Location | Detection | Identification and tracking | Interception |
|---|---|---|---|
| **Member State: local level** | National surveillance system (e.g. radar stations in coastal area) and tools (e.g. UAVs, planes). | National surveillance system and patrols (cameras / vehicles / helicopters / vessels etc. on spot / coast). | Patrols using of vehicles / helicopters / vessels etc. |
| **Member State: national level** | National coordination centre: e.g. comparing radar with AIS, use of satellite imagery. | National coordination centre, combining surveillance, reporting and intelligence data. | Coordination of patrols with neighbouring Member States. |
| **EU level (FRONTEX)** | Common pre-frontier intelligence picture. Common application of surveillance tools (e.g. satellites, UAVs, planes). | Common information sharing environment, combining surveillance, reporting and intelligence data. | Joint operations. |
| **Third country: Local and national level** | National surveillance system (e.g. radar stations in coastal area) and tools (e.g. UAVs, planes). National coordination centre: e.g. comparing radar with AIS, use of satellite imagery. | National surveillance system and patrols (cameras / vehicles / helicopters / vessels etc. on spot / coast). National coordination centre: combining surveillance, reporting and intelligence data. | Patrols using of vehicles / helicopters / vessels etc. Coordination of patrols with EU joint operations. |

As outlined in MIGRAPOL 186, EUROSUR could be set up in **3 phases**:

1) Interlinking and streamlining existing reporting and surveillance systems and mechanisms at Member States level (2008-2010):

Steps 1, 2 and 3.

2) **Development and** implementation **of common tools and applications for border surveillance** at EU level **(2008-2013):**

Steps 4, 5 and 6.

3) **Creation of a common information sharing environment for the maritime domain,**

> **covering the Mediterranean Sea and the Black Sea (2012-2013):**
>
> Step 7, to be followed by step 8 in a 4th phase at a later stage.

In addition to reducing the number of illegal immigrants who manage to enter the EU undetected (but not necessarily the number apprehended), EUROSUR should have two more very important effects:

1)     It should reduce considerably the tragic death toll of illegal immigrants by <u>rescuing more lives at sea</u>.

2)     It should noticeably <u>increase internal security</u> of the EU as a whole by contributing also to the prevention of trafficking in human beings, drug smuggling, terrorism etc.

## II.     Questions to Member States

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**PHASE 1**: **Interlinking and streamlining existing reporting and surveillance systems and mechanisms at Member States level (2008-2010)**

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With regard to $\boxed{\textbf{Step 1}}$ (**setting up infrastructure at Member States level**), in the strategic guidelines for the External Borders Fund 2007-2013 adopted by the Commission on 27 August 2007[68] specific priority (75% Community funding) is given to the following two activities:

1)      Establishing or upgrading a single **national co-ordination centre**, which co-ordinates 24/7 the activities of all national authorities carrying out external border control tasks (detection, identification, intervention) and which is able to exchange information with the national co-ordination centres in other Member States;

2)      Establishing or upgrading a single **national surveillance system**, which covers all or selected parts of the external border and enables the dissemination of information 24/7 between all authorities involved in external border control;

**QUESTION 1**: When submitting your *multi-annual programme for the External Borders Fund 2007-2013* on 1 December 2007, are you planning to include the establishing / upgrading of a national coordination centre and / or of a national surveillance system? If not, does your centre / system already comply with the criteria mentioned above?

**QUESTION 2**: Should the national coordination centre have "Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance" *(C4ISR) capabilities*?

**QUESTION 3**: What is the experience so far of the Member States involved in the European Patrol Network (EPN) in setting up national coordination centres?

**QUESTION 4**: Which *ship reporting data* should be collected by the national coordination centre (AIS, LRIT, VMS etc.)? Should it be connected to SafeSeaNet?

**QUESTION 5**: Will your national surveillance system cover *all or selected parts* of the external borders?

With regard to $\boxed{\textbf{Step 2}}$, the sharing of information with national co-ordination centres in other Member States could be done via a secured communication network on a one-to-one basis with centres in neighbouring Member States, whereas FRONTEX could serve as a hub/platform for the communication with centres in other Member States. FRONTEX could receive selected information relevant for the coordination of joint operations and for risk analysis. FRONTEX could also be involved by serving as a European Situation Centre gathering and disseminating close-to-real-time information with regard to incidents occurred along the EU external borders.

**QUESTION 6**: Which of the above mentioned roles should be given to FRONTEX?

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[68]     Priority 2 of the strategic guidelines as laid down in Commission Decision C(2007) 3925 of 27 August 2007 implementing Decision No 574/2007/EC of the European Parliament and of the Council as regards the adoption of strategic guidelines for 2007 to 2013.

In **Step 3**, support could be given to **neighbouring third countries** in setting up a comparable infrastructure, leading to cooperation on a case-by-case basis.

**QUESTION 7**: Do you see the need for cooperation with neighbouring third countries? If yes, could it be done like indicated above?

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**PHASE 2: Development and implementation of common tools and applications for border surveillance at EU level (2008-2013)**

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**Step 4: Research and development to improve surveillance tools** (e.g. UAVs, buoys, etc.)

**QUESTION 8**: Within the 7th Framework Programme for research and technological development (Theme 10 – Security), to the *development of which surveillance tools* should be given priority?

**Step 5: Common application of surveillance tools** (e.g. satellites, UAVs, planes)

**QUESTION 9**: Could you imagine a *common use of satellites, UAVs and / or planes* for surveillance? For which common functions could they be used (e.g. surveillance of open seas?

**Step 6: Common pre-frontier intelligence picture** (e.g. interactive map of region with data received from transit countries, ILO network, satellites and intelligence sources).

**QUESTION 10**: Do you think a "pre-frontier intelligence picture" would be useful? Should it consist of the above mentioned components? Should FRONTEX be involved?

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**PHASE 3: Creation of a common information sharing environment for the maritime domain covering the Mediterranean and Black Sea (2012-2013)**

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**Step 7: Common information sharing environment** for the **Mediterranean Sea** and the **Black Sea**

**Step 8:** At a later stage, the common information sharing environment could be extended to the **Atlantic Ocean,** the **North Sea** and the **Baltic Sea**.

**QUESTION 11:** Do you think that the envisaged information sharing environment for the maritime domain should focus first on the Mediterranean Sea and the Black Sea or also on the Atlantic Ocean, North Sea and Baltic Sea right away?

**QUESTION 12:** Do you think that neighbouring third countries should – at least to a still to be clearly defined extent – contribute to or even participate in an information sharing environment for the maritime domain?

**QUESTION 13:** Do you think there is a need for a civil-military cooperation in maritime surveillance in general and for the common information sharing environment in particular?

**QUESTION 14:** Which information should be collected, fused, analysed and disseminated in the common information sharing environment for the maritime domain? Should it be limited to ship reporting and surveillance data with the analysis done in a separate intelligence picture?

**Information on length of external borders of Member States and on third country nationals apprehended**

Within the framework of the External Borders Fund, the following data has been provided by Member States:

**External land borders 2006**

| Member State | External land border with | Length in km | Number of third country nationals apprehended after having crossed the external land border illegally in | |
|---|---|---|---|---|
| | | | **2005** | **2006** |
| **Cyprus** | "Green line"[69] | 180 | 4734 | 3762 |
| **Bulgaria** | Turkey | 240 | 606[70] | No data available. |
| | FYROM | 148 | | |
| | Serbia | 318 | | |
| **Estonia** | Russia | 294 | 23 | 25 |
| **Finland** | Russia | 1340 | 15 | 30 |
| **Greece** | Albania | 246 | 4135 | 6865 |
| | FYROM | 256 | | |
| | Turkey | 215 | | |
| **Hungary** | Croatia | 344 | 2903 | 2724 |
| | Serbia | 174 | | |
| | Ukraine | 136 | | |
| **Latvia** | Belarus | 167 | 43 | 48 |
| | Russia | 282 | | |
| **Lithuania** | Belarus | 679 | No data available. | No data available. |
| | Russia | 272 | | |
| **Norway** | Russia | 196 | 0[71] | 0[72] |
| **Poland** | Russia | 210 | 1140 | 1282 |
| | Belarus | 418 | | |
| | Ukraine | 535 | | |
| **Romania** | Moldova | 450 | | No data available. |
| | Serbia | 476 | | |
| | Ukraine | 531 | | |
| **Slovakia** | Ukraine | 97 | 271 | 501 |
| **Slovenia** | Croatia | 670 | 4088 | 2979 |
| **Spain** | Morocco[73] | 16 | 16938 | 19970 |
| **Total** | | **7433** | **34896** | **38186** |

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[69]  Length of the line as defined in Article 1(1)(a) of Council Regulation No (EC) 866/2004.
[70]  Including land and maritime borders and overstayers.
[71]  See external maritime borders below.
[72]  See external maritime borders below.
[73]  Ceuta and Melilla.

**External maritime borders 2006**

| Member State | External maritime border in | Length in km | Number of third country nationals apprehended after having crossed the external maritime border illegally, incl. number of persons apprehended at sea in | |
|---|---|---|---|---|
| | | | **2005** | **2006** |
| **Belgium** | North Sea | 109 | 0 | 0 |
| **Bulgaria** | Black Sea | 354[74] | 0[75] | No data available. |
| **Cyprus** | Mediterranean Sea | 673[76] | 2670 | 1751 |
| **Denmark** | North and Baltic Sea | 1902 | 0 | 0 |
| **Estonia** | Baltic Sea | 769 | 0 | 0 |
| **Finland** | Baltic Sea | 1250 | 22 | 7 |
| **France** | Atlantic Ocean and Mediterranean Sea | 4720 | 10334 | 10817 |
| **Germany** | North and Baltic Sea | 700 | 141 | 295 |
| **Greece** | Mediterranean Sea | 8670 | 20974 | 8940 |
| **Iceland** | Atlantic Ocean | 1725 | 0 | 0 |
| **Ireland** | Atlantic Ocean | 1448[77] | No data available. | No data available. |
| **Italy** | Mediterranean Sea | 5225 | 23172 | 22266 |
| **Latvia** | Baltic Sea | 498 | 17 | 21 |
| **Lithuania** | Baltic Sea | 120 | 0 | 0 |
| **Malta** | Mediterranean Sea | 246 | 1822 | 1780 |
| **Netherlands** | North Sea | 523 | 10803[78] | 11634[79] |
| **Norway** | Atlantic Ocean | 2646 | 902[80] | 972[81] |
| **Poland** | Baltic Sea | 440 | 45 | 19 |
| **Portugal** | Atlantic | 2555 | 17223[82] | 23564[83] |
| **Romania** | Black Sea | 225[3] | No data available. | No data available. |
| **Slovenia** | Adriatic | 47 | 0 | 0 |
| **Spain** | Atlantic Ocean and Mediterranean Sea | 7785 | 15979 | 13931 |
| **Sweden** | Baltic Sea | 2746 | 0 | 0 |
| **United Kingdom** | Atlantic Ocean & North Sea | 12429[84] | No data available. | No data available. |
| **Total** | | **57805** | **104104** | **95997** |

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[74]    Coastline.
[75]    See external land borders above.
[76]    As defined in Article 14(6)(a) and (b) of Decision No 574/2007/EC.
[77]    Coastline.
[78]    Including air borders.
[79]    Including air borders.
[80]    Including land and air borders and overstayers.
[81]    Including land and air borders and overstayers.
[82]    Including air borders.
[83]    Including air borders.
[84]    Coastline.

**SUMMARY OF THE BORTEC STUDY**[85]

**Introduction**

On 15-16 December 2005, the European Council adopted the "Global approach to migration: Priority actions focussing on Africa and the Mediterranean". with a request to explore the technical feasibility of establishing a surveillance system covering the whole southern maritime border of the EU and the Mediterranean Sea by the end of 2006, using modern technology with the aim of saving lives at sea and tackling illegal immigration.

This feasibility study called "BORTEC" was carried out by FRONTEX with a Core Team composed of experts from the Member States from the region and lead by Frontex, with expert input of DG Joint Research Centre (JRC). The core team was assisted by a Support Group of 14 Member States, the European Commission, European Defence Agency, European Maritime Safety Agency, European Space Agency and European Union Satellite Centre. It was completed in December 2006.

The study presents the structure of a surveillance system covering the whole southern maritime borders of the EU, the Mediterranean Sea and part of the Atlantic Ocean, as well as the open sea with the aim of saving lives at sea and tackling illegal immigration.

The proposed system is based on existing surveillance activities and their updating to form the basis for the European Surveillance System.

The feasibility study has been structured as follows:

- Firstly, there are presented the EU approach towards the establishment of an Integrated Border Management System as the basis for the creation of a European Surveillance System.

- Following this presentation, the mandate, the objectives, the methodology and the challenges as well as the definition of border surveillance are described.

- Thirdly, the European Surveillance System, the maritime areas which have to be covered, the targets and threats to be detected and the systems, technologies and tools for surveillance, the operational centres and the performance of surveillance are defined.

- Immediately after, the existing situation at EU level, Frontex and the examples of surveillance/monitoring systems from some Member States.

- To finalize with conclusions, recommendations, priorities and further needs for development.

**Objectives**

The objectives of the feasibility study were the following:

- To make an overview of existing monitoring and surveillance systems in use in the Member States on the southern maritime border of EU and the Mediterranean Sea, their

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[85] Study on technical feasibility of establishing a surveillance system (European Surveillance System), Warsaw, presented by FRONTEX on 12 January 2007.

different areas of coverage, their technical capabilities and the needs and wishes for further development.

- To make an overview of the technical management system for different systems and their possible interoperability.

- To identify areas which are inadequately covered today, and to clarify which systems are covering neighbouring areas.

- To propose a surveillance system covering the southern maritime borders of EU and the Mediterranean Sea and discuss its technical feasibility.

**<u>Challenges</u>**

In order to find the most appropriate surveillance concept, it was necessary to explore the experiences in the concerned Member States, taking also into account the technical possibilities. This analysis and contributions showed four types of challenges:

- To have coverage ensuring the detection of all targets

- To be able to handle the bulk of information

- To have a coordinative approach

- To have sufficient flexibility

**<u>The European Surveillance System</u>**

In order to define a maritime surveillance system, the BORTEC study described three essential elements:

- The maritime areas which have to be covered.

- The targets and threats to be detected.

- The systems, technologies and tools to carry out the surveillance.

**The maritime areas which have to be covered**

In relation with the maritime areas, at present Member States' priority concerning maritime surveillance is given to the coastal waters; next to this come the departing areas in third countries and then the open sea between.

To have surveillance coverage of the maritime areas defined, two zones, Coastal waters and Open Sea, have been described; the definitions of them are not based on any legal definition of sea areas.

Coastal Waters

Coastal Waters are maritime areas of mainland and islands which can have adequate surveillance by land based infrastructure. The extent of the Coastal Waters from the coast is not a distance fixed in nautical miles, but depends on the surveillance system capabilities to detect targets.

The <u>surveillance of the maritime areas close to the coastline</u> should be performed 24/7 and give the information in real time for the following reasons:

- National security

- Need to detect, identify and intercept all targets

- Limited time to react

- Heavy maritime traffic

<u>Open Sea</u>

Open Sea are maritime areas beyond the Coastal Waters, up to the coastal waters of any third country. Open Sea is the sea out of range of adequate coverage by land based sensors.

There is no sovereignty of countries in the Open Sea therefore the actions are guided by the provisions foreseen in the international legal framework.

The <u>surveillance of the maritime areas in the Open Sea</u> should be performed by burden sharing at EU level to enable the following:

• Early warning

• Identification of new trends and threats

• Detection, identification and if needed interception of targets

• Saving of lives.

**The targets and threats to be detected**

The threats are defined via threat assessments and risk analyses. The obvious targets are vessels at sea having the capability of carrying people, while their size and material can vary significantly. Any vessel that can carry people should be detected.

In this way and even though the threats towards the EU may change, the undertaken measures to ensure the detection, identification and interception will remain.

The requirements for detection would comprise the following:

• Detect vessels of any size and material capable of carrying people

• Estimate speed and track

• Under all weather conditions/Sea state

• During day and night

• In real time

**Systems, technologies and tools for surveillance**

The aim of the surveillance system is to detect the defined targets and threats in order to ensure the identification and the interception when needed, in order to be able to carry out this task, the surveillance systems can make use of different tools and technologies, which are operated for specific purposes.

The unique and flexible European Surveillance System is created based on the description of what is required concerning the detection, identification and interoperability. This means that as long as Member States' systems comply to the requirement, a variety of technical solutions can be used.

<u>Surveillance technology and tools</u>

The following surveillance technology and tools are described in the BORTEC study.

• <u>Sites and platforms</u>

A site is a fixed location comprising land based sensors close to the coast.

A platform is a mobile asset including airplanes, helicopters, vessels, vehicles, buoys, UAVs, aerostats, USVs/AUVs, satellites equipped with sensors.

- Sensors

A sensor is an instrument for observation. The sensors are the central part of any surveillance system. The ones applicable to the maritime areas such as the coastal radars, radars on aerial and naval means, visual observation and cameras, infrared cameras, satellite sensors, radio direction finders (RDF), sonar, high frequency (HF) radars,

- Reporting systems

Reporting systems include transponders and broadcasting systems, all these are systems in which information is transmitted from a target to the coastal authorities or other vessels. Radio, Automatic Identification System (AIS), Vessel Monitoring System (VMS), Long Range Identification and Tracking system (LRIT), Global Maritime Distress and Safety System (GMDSS), SafeSeaNet are described in the study as cooperative systems in which targets cooperate in their identification.

**Surveillance systems**

The following surveillance systems are described in the Bortec study.

- Vessel Traffic Service (VTS).

- Vessel Traffic Management and Information System (VTMIS).

- Advanced Coastal Radars for Surveillance (ACRS).

- External Integrated Surveillance System (SIVE).

- Naval Surveillance System of Maritime Spaces and National Jurisdiction Areas (SPATIONAV).

**Operational centres**

In order to achieve the reaction capability, the European Surveillance System needs the operating centres where the information from all sources is available to fulfil the continuity between detection, identification and interception.

The operational centres are divided into two levels:

- One National Coordination Centre (NCC) in each Member States for the operational coordination between national authorities of surveillance activities and the coordinative EU approach.

- One or more Operational Centres for the handling of the daily surveillance activities of defined areas of the Coastal Waters in each Member States under coordination by National Coordination Centres.

Communication between different actors in the surveillance system, intelligence comprises assessed information from all sources and the uses of best practices together with the elements mentioned are needed to build up the European Surveillance System.

**Conclusions**

General summary of the existing situation

- In general, surveillance of the maritime areas is currently carried out by aerial, land and naval means performing patrolling activities, giving priority to Coastal Waters.

- Member States have land based surveillance/monitoring systems providing partial or full coverage of the coastal zones; however the detection of small targets is limited to specific areas.

- Member States' authorities have developed surveillance/monitoring systems for their own purposes.

- Member States' authorities use filtering methods to handle the bulk of maritime information collected for their own purposes. In this way they are not able to collect information which can be needed or useful for other authorities.

- While developing surveillance/monitoring systems Member States have given priority to the critical areas close to third countries or subjected to intense illegal immigration flows.

- All Member States are developing their maritime surveillance systems to cover more areas and longer range for specific purposes.

- Surveillance of the Open Sea is not frequent and is based on the activities of each Member State. Authorities make obvious their presence in the Open Sea for law enforcement purposes, especially in terms of illegal immigration or when it is related to saving lives in danger at sea, but are more present there in order to survey for defence purposes.

- In general the existing technology does not allow the full data fusion and integration into a common maritime picture.

- Member States have experienced the EU approach via participation in joint operations.

## Recommendations

The following recommendations are made to improve the surveillance capabilities in the short and medium term:

- According to the European Council Conclusions of 14/15 December 2006 to establish the permanent European (Coastal) Patrols Network at the southern maritime borders.

- To implement the European Surveillance System for Coastal Waters and Open Sea, coordinated by Frontex.

- To improve data exchange, cooperation and operational coordination between national authorities and between authorities of different Member States coordinated by Frontex.

- To make more use of data fusion and integration.

- To make more use of automatic data processing.

- To perform research and development into technical improvements of surveillance.

## Priorities

The main **priorities** founded in the BORTEC study are the followings:

- To meet the requirements to tackle illegal activities, the existing coverage needs to be geographically extended covering all Coastal Waters and the Open Sea, at first to those areas that are the most exposed to illegal activities.

- Collaboration and coordination between civil and military authorities deserves special attention.

- Based on their organizational framework, Member States' authorities use filtering methods to handle the bulk of the collected maritime information for their own purposes. In this way they do not focus or even ignore the information which can be useful for other authorities. More focus should be given to ensuring that relevant information is available to all authorities.

- A large amount of data is continuously coming in. This has to be analysed for (potential) threats. This task is too large to be performed purely by human interpreters and analysts. The more this task can be automated, the more feasible it becomes to actually establish a surveillance system according to the requirements, and also the more cost effective the system becomes.

- There are a number of emerging technologies that can provide great benefits in the effectiveness and efficiency of maritime surveillance. Some of them are already in use in other domains than border control and some are being introduced. They include unmanned sensor-carrying platforms, imaging satellites, automatic data fusion and image interpretation, high volume data communication, sonar, and more.

**Further needs for development**

- Sensors, satellites and UAVs

Serious consideration should be given to further development of sensors, airborne and space borne unmanned means to fulfil the requirement for the European Surveillance for the Coastal Waters and the Open Sea.

## SUMMARY OF MEDSEA STUDY[86]

### Introduction

According to the European Council Conclusions of 15/16 December 2005; the European Council, endorsed the Council and Member States to work closely with the Commission to implement these actions during the course of 2006, by calling on FRONTEX to:

- Launch a feasibility study on reinforcing monitoring and surveillance of the southern maritime border of the EU, namely in the Mediterranean Sea, and on a Mediterranean Coastal Patrols Network involving EU Member States and North African countries.

With reference to European Council Conclusion of 15/16 December 2005, FRONTEX by its Executive Director decided on 22 December 2005 to carry out a feasibility study "MEDSEA" on a "Mediterranean Coastal Patrols Network" involving the EU Member States in the Mediterranean Sea area with the objective to ensure coordination of the daily border surveillance measures between Member States' responsible authorities, and form a reliable platform for FRONTEX-managed operational cooperation between Mediterranean Member States, and when appropriate with third countries.

The Support Group requested FRONTEX to include not only the Mediterranean Sea but the entire EU southern maritime borders.

The following Member States have been included in the study: Cyprus, France, Greece, Italy, Malta, Portugal, Slovenia and Spain.

### Objectives

General objective

- To facilitate unified and cost effective operational cooperation and coordination between the Member States, and when appropriate between Member States and third countries.

Specific objectives

- To create a network for cooperation and coordination between authorities which are involved in the sea border control, surveillance and monitoring.

- To find a solution for communication of intelligence.

- To find an effective access to maritime monitoring information (scale economy).

Operational objectives

- To achieve knowledge about the experiences from existing cooperation and coordination activities.

- To create awareness and readiness for establishing a sea border contact network, between the Member States in the Mediterranean Sea area.

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[86] MEDSEA Feasibility study of 14 July 2006 on Mediterranean Coastal Patrols Network; prepared by FRONTEX.

- To make a trustworthy operational community platform with common standards for the setting up of a coordinative network at sea borders.

- To initiate the working concept of coordination network on national and community level.

- To initiate the creation of a sea border contact network.

- To reach the commitment with detailed plans for setting up of a system for cost effective cooperation and coordination at national and community level.

## The current system

The current system is based on networks of assets which will be increasingly used by both military and civilian users. Some Member States are moving towards an integrated system that combines information from different in-situ systems for a particular stretch of their coastline. The technological ways to move forward in a number of sectors are becoming relatively clear, such as the Integrated Management of the EU maritime borders.

It is possible that a better sharing of information and a wider coverage can function with fully distributed compatible systems. Action that could be considered is to develop interfaces and synergies between EU information systems determining how existing systems could be modified to handle classified or security/critical information.

The description of the existing situation gives a wide range of information about tasks and responsibilities of different authorities in the concerned Member States. There are more than 50 authorities under more than 30 Ministries.

## The model

In order to find the most appropriate organizational form, it was necessary to explore the previous experiences, namely the existing situation in the concerned Member States. The analysis of the experiences and contributions showed two types of fundamental needs. The first one is the operational coordination between authorities and the second one is the coordinative EU approach.

The solution was found in the establishment of a centralized entity – the National Coordination Centre – in each Member State linked to FRONTEX at the EU level.

Concerning the possession of the generic and specific requisites of functionality, the essential conditions for the recognition and legitimization of the centres to entertain relationships, the following aspects would be specified:

The generic requisites are to develop planning, verification and implementation at EU level of the measures aimed at improving the security of external sea borders.

- The appropriateness of the physical structures; the systems of communication and the qualification of the personnel, especially to operate in the search of creative solutions in the context of international collaboration.

The specific requisites are the availability of appropriate equipment and of know-how in order to allow the centres to carry out the following activities:

- Planning; strategic plans, working programs and operational plans

- Coordination and assistance to daily operational activities

- Evaluation of operational activities

- Elaboration of recommendations and best practices

The establishment of the EU approach launching the Mediterranean Coastal Patrols Network allows also the Member States and EU to focus on providing a legal framework for the patrolling network. Member States have so far different national legislative bases for their activities. Different application of the international law of seas as well as needs for common EU legislation concerning the activities under the patrolling network needs to be monitored further.

**The Structure**

The EU initiative to secure the EU southern maritime borders by surveillance measures between Member States, namely the Mediterranean Coastal Patrols Network, calls for some important tools to be in place. When responsibility for the control and surveillance of the external borders lies with the Member States it is their responsibility to ensure the national coordination. To have the structure for the EU coordination via FRONTEX it is important to have one national coordination centre in each Member State. These national coordination centres have their tasks to on the one hand coordinate the national operational activities and on the other hand to ensure that national activities are coordinated with other Member States, and when appropriate with third countries. Therefore the establishment of a secure communication network by creating an intranet is essential.

The Member States pay much attention on working together with other Member States increasingly with the actions undertaken by the EU approach with joint operations including joint patrolling and exchange of personnel.

Additionally Member States are working together with third countries, agreements have been signed and joint actions are taking place including joint patrols and exchange of officers. However it has to be mentioned that the picture differs between Member States and the concerned third countries.

The establishment of National Coordination Centres (NCCs) connected in a network with FRONTEX, will provide the EU with an important tool to fight against seaborne illegal immigration thus promoting the enforcement of the EU policy on integrated border management.

The operational working concept of the Mediterranean Coastal Patrols Network would depend to a great extend on the Operational Entities (OEs) and the cooperation between them, both at national level and between Member States. Together, these entities in the Member States would form the patrolling network to ensure the coordinative coverage of the entire EU southern maritime borders.

For the purpose of the study, Operational Entities at national level would include units of authorities dealing with maritime operational activities, although each one's involvement varies according to the fields of responsibility. They are deployed at central, regional and local level, having their own tasks, organizational structure, premises, staff, infrastructure and equipment

When appropriate, it would be of high importance to include third countries in the network and the working concept.

FRONTEX

The Mediterranean Coastal Patrols Network is in its initial phase a pilot project and would form an ongoing joint operation at the EU southern maritime borders.

FRONTEX is prepared to follow up the establishment of the Mediterranean Coastal Patrols Network both administratively and operationally, particularly aiming at the:

- Creation of a communication system, the intranet

- Creation of common standards and requirements for compatible equipment

- Creation of common evaluating and reporting systems of the activities

- Initiation of/support to specific pilot projects and joint operations enhancing the establishment of the network

- Creation of a register of operational means, their capabilities, maintenance and costs

- Arrange periodical meetings/workshops and working groups to enhance the function of the network.

Member States

Responsibility for the control and surveillance of external borders lies with the Member States and they have to ensure the national coordination. The creation of a patrolling network enlarges their responsibility to ensure the coordination of common activities with neighbouring Member States and, when appropriate, with third countries.

National Coordination Centres (NCCs)

The NCCs would be coordination centres which have to cover not only the ongoing daily operational activities but also the elaboration of working programs together with other partners on national and EU levels. The internal organization has to ensure that all actions would be covered, which would ensure the ongoing activities of the Mediterranean Coastal Patrols Network in the entire EU southern maritime borders in terms of national and trans – border coverage.

Working Concept

NCCs would ensure that the EU measures for the management of maritime operational activities which are facilitated and reinforced by FRONTEX are applied at national level by the Operational Entities connected to the NCCs under their coordination.

Additionally, the coordination of operational activities at national level would facilitate the coverage of the entire EU southern maritime borders, resulting in concrete and flexible future EU measures concerning the integrated management of the operational activities.

Requirements for the establishment

The NCCs would be powerful bodies, in close relation to the decision – making level. The NCCs would:

- Ensure a 24/7 function to achieve the situation awareness and coordination of ongoing maritime actions running all days and nights around the year.

- Allow competent authorities dealing with maritime operational activities to be present in the NCCs, to ensure the communication with authorities and have the connection to all the information systems in use.

- Have staff with experience of sea operational activities and ability of good communication in foreign languages, at least English.

- Have appropriate training programmes comprising basic educational courses (for the new staff) or refreshing courses (for the experienced staff), so that all of them are able to fulfil their tasks more effectively.

- Have a designated person to represent the NCCs at EU and national levels.

- Have designated persons for each working shift to supervise, perform, assist and support the coordination of the maritime operational activities planned, or performed as a reaction to incidents/emergency situations

- Have rules of procedure.

- Have common standards (procedural system) for evaluating the maritime operational activities.

- Have common standardized forms for reporting the outcomes of operational activities and of incident – based operational activities.

- Have infrastructure and compatible standard equipment (electronic devices, computers, monitors, communication systems, etc) for their appropriate function. Compatible equipment (electronic devices, computers, monitors, communication systems, etc) for their appropriate function, especially with direct connection to systems in use for maritime surveillance and control would be obtained.

- Additionally allow the staff of different authorities to have direct access to their authorities' data systems.

Technical and Communication Requirements

To ensure the operational functioning of the communication an intranet divided in two levels has to be created, one level for the communication between NCCs and FRONTEX and one level for national communication between NCCs and Operational Entities. The idea behind this solution is that it should be possible via the same system to connect an entity in one Member State to an entity in another Member State for operational coordination.

The technical requirement shall therefore not only be a mailing system but also a data-base where all the information from partners will be loaded and be available.

**European Patrols Network (EPN)**

*Source: FRONTEX, Commission (JLS)*

## 1.      Description

The EPN is a permanent regional border security concept that enables the synchronization of national measures of the Member States and their integration to joint European activities. The EPN brings together the already existing maritime patrolling activities of Member States. A regular exchange of information should lead to more efficient control of the maritime borders and reduce the related costs according to the principle of burden sharing. It is based on Member States´ existing activities and on strengthening of cooperation and coordination at national and EU levels. This is the first attempt to apply a systemic solution for the surveillance of southern maritime borders of the EU.

The implementation of the EPN will be carried out in two phases.

In the **first phase**, the EPN is based on Member States' patrolling activities covering defined coastal areas of the Mediterranean Sea and the Atlantic Ocean. These activities are planned, coordinated and implemented through a system of a national contact point in each Member State, together with Frontex. From the operational point of view it allows avoiding overlapping of those patrols and effective sharing of the operational information. Besides, the network provides a cost effective solution as the Member States will save some money spent these days for patrols in the same areas as the neighbouring countries.

As a result of the first phase, FRONTEX and the Member States concerned (Portugal, Spain, France, Italy, Slovenia, Malta, Greece and Cyprus) carry out joint and/or co-ordinated patrols in border regions – initially in their respective territorial waters – between each pair of Member States (Portugal/Spain, Spain/France, etc.). FRONTEX assists in drawing up the operational plans, in defining the areas to be covered and the intensity and use of resources.

The first phase of the European Patrols Network's operational activities started on 24 May 2007 and lasted until the end of July 2007. A monitoring/evaluation of the first weeks of action was held in June 2007 followed by further planning of the activities in stages of three months, adapted to the local/regional circumstances, starting from 1 August 2007 with an ultimate goal of the establishment of a permanent operational cooperation.

In the **second phase**, the EPN is further developed by the establishment of an appropriate organizational structure and National Coordination Centres (NCCs), and the strengthening of the cooperation and coordination among Member States involved in the network. This will ensure the permanent activities of the EPN covering also the open sea far away from the coast, planned and implemented by Frontex and Member States together. Besides, this organizational structure will also be used while conducting joint operations at the southern external maritime borders.

From July 2007 the focus of the EPN development has been, besides the planning and performance of ongoing patrolling activities in the defined areas, on the establishment of the NCCs in the involved Member States. A roadmap for such establishment is going to be set up for each Member State including organizational structure and schedule for the

implementation. Some of the involved Member States are establishing NCCs in the first half of 2008 while others are pending.

In September 2007 Frontex initiated to include Bulgaria and Romania into the EPN and their quick response confirming their willingness enables them to join into the EPN from 1 February 2008. Both Bulgaria and Romania are well prepared based on the Black Sea cooperation.

In 2008 the EPN would be, besides the above mentioned activities, focused on incorporating the joint operations carried out in the high risk areas of the Mediterranean Sea. As for joint operations coordinated by Frontex, EPN activities rely on contributions deployed by the Member States, co-financed by Frontex.

The integration of EPN into the European Surveillance System is foreseen as the next step.

On 28 June 2007, the Commission and the German EU Presidency sent a joint letter to concerned third countries informing them on the launch of the EPN as such as well as offering them to participate, e.g. through observers / liaison officers. In the medium term, a more extensive cooperation between third countries and the EPN should be aimed at.

## 2. Background

The Presidency Conclusions from the European Council of 15/16 December 2005 called on Frontex to launch a feasibility study on reinforcing monitoring and surveillance of the southern maritime border of the EU, namely in the Mediterranean Sea, and on a Mediterranean Coastal Patrols Network involving EU Member States and North African countries.

This task has been fulfilled by the **MEDSEA study**. This study, which Frontex delivered in July 2006, gives the organizational structure and the way to exchange information ensuring the coordination of such operational activity in an EU approach.

Two fundamental needs to achieve the coverage of the entire EU southern maritime borders have been defined, the first one is the operational cooperation and coordination between authorities and the second one is the coordinative EU approach. These fundamental needs constitute also the challenges, national sovereignty and framework on one hand and the shared responsibility to protect the common area of freedom, security and justice on the other hand.

The same Council Conclusions contain the task to explore the technical feasibility of establishing a surveillance system covering the whole southern maritime border of the EU and the Mediterranean Sea.

As a response to this, the **BORTEC study** was carried out by Frontex. The study presents the structure of a surveillance mechanism covering the southern maritime borders as well as the open sea. The mechanism would be fully based on existing surveillance activities which should be integrated into a European Surveillance System, not creating any new bodies or adding bureaucracy and playing an essential role in saving lives at sea and tackling illegal immigration.

**GMES[87] related Project "Land and Sea Integrated Monitoring for European Security"
(LIMES)**

Under the 6th FP for research and technological development (aerospace priority) the project LIMES develops pre-operational GMES services in support of several activities including surveillance of EU land borders and sea borders[88].

In support of land border surveillance, LIMES developments will be to:

- Improve existing fusion techniques of multispectral, hyperspectral and SAR data.

- Detect, classify, and analyse temporal and spatial changes (through data mining, feature extraction and change detection).

- Develop integration and fusion of space-borne and other sources of data (e.g. real-time sensor output with archived geospatial data).

The main expected benefits are:

- Improved level of harmonisation of cross-border cartographic data for the interest of border surveillance and intervention activities as well as for cross-border economic development and cross-border aid in case of emergencies;

- Automatic warning of possible changes occurring in the border area.

- Better tools to support dispatching of in-situ sensors and surveillance teams.

In support of sea border surveillance, LIMES developments will be to[89]:

- Improve space-borne Vessel Detection System (VDS), ie better vessel detection accuracy and even vessel classification, through development and incorporation of better vessel detection methods and exploitation of new data sources (e.g. CosmoSkymed, RSAT-2, TerraSAR-X, TopSat, etc.). Spatial and temporal coverage will also be improved thanks to multi-mission approaches;

- Develop integration and fusion of space-borne and other sources of maritime surveillance data and information in order to provide an improved understanding of the maritime picture to relevant end users, such fusion should make it easier to identify unknown vessels of interest;

The main expected benefits are:

- Improved region-independent vessel tracking based on the use of in-situ and space-borne sources of information;

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[87]     Global Monitoring for Environment and Security.
[88]     The project LIMES (contract SIP5-CT-2006-031046) started on 1 December 2006 and will last for 42 months. The overall budget is around 20 million euros with a European Community contribution of 12 million euros. The consortium gathers 49 partners (http://www.fp6-limes.eu/LIMES/jsp/index.jsp).
[89]     LIMES developments will take stock of results obtained by MARISS, a GMES related project funded by ESA.

- Improved capabilities of relevant European authorities to have direct and timely access to maritime surveillance information (including potential threats);

- Facilitated data sharing within the European context to provide improved national collaboration and pan-European views.

**Overview on international and European ship reporting systems and platforms**

| Name | Automatic Identification System (AIS) | Long range identification and tracking (LRIT) | SafeSeaNet (European Platform for Maritime Data Exchange between Member States' maritime authorities) | Vessel Monitoring System (VMS) |
|---|---|---|---|---|
| Involved services | **IMO** (International Maritime Organisation) | **IMO** (International Maritime Organisation) | **TREN** **EMSA** (as of 10/2004) | **FISH** |
| Involved bodies | All MS (EU Directive 2002/59). | All MS | All MS + Norway / Iceland | All MS (Commission Regulation 2244/2003) |
| Time schedule | MS must have AIS operational before end 2008 | LRIT shall be operational with respect to the transmission of LRIT information by ships as from 31 December 2008. | The system uses new IT technologies, but is flexible enough to cope with possible future technological developments as well as new categories of users. | As of 1 January 2005, fishing vessels of 15m and longer must carry VMS. |
| Concept | In 2000, IMO adopted a new requirement for all ships to carry automatic identification systems (AISs) capable of providing information about the ship to other ships and to coastal authorities automatically. AIS is to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and all passenger ships irrespective of size. The requirement became effective for all ships by 31 December 2004. | The LRIT information ships will be required to transmit the ship's identity, location and date and time of the position. | Network/Internet solution based on the concept of a distributed database. The main objective is to aid the collection, dissemination and harmonised exchange of maritime data. The network assists communication between authorities at local/regional level and central authorities thus contributing to prevent accidents at sea and, by extension, marine pollution, and that the implementation of EU maritime safety legislation will be made more efficient. | VMS provides reports of the location of a vessel at regular intervals. VMS tracks the vessel movements and may provide information on its speed and course. The monitoring authorities can check a range of factors including whether the vessel - operates in an area where fishing activities are not allowed; - operates in the Exclusive Economic Zone of another Member States or third countries or waters under responsibility of a Regional Fisheries Management Organisation; - holds the necessary licences and quotas to fish in the relevant area. |

| **Services provided / envisaged** | Ships fitted with AIS shall maintain AIS in operation at all times except where international agreements, rules or standards provide for the protection of navigational information.<br><br>The regulation requires that AIS shall:<br>- provide information - including the ship's identity, type, position, course, speed, navigational status and other safety-related information - automatically to appropriately equipped shore stations, other ships and aircraft;<br>- receive automatically such information from similarly fitted ships;<br>- monitor and track ships;<br>- exchange data with shore-based facilities. | LRIT will be introduced as a mandatory requirement for the following ships on international voyages: passenger ships, including high-speed craft; cargo ships, including high-speed craft, of 300 gross tonnage and upwards; and mobile offshore drilling units.<br><u>There will be no interface between LRIT and AIS.</u> Whereas AIS is a broadcast system, data derived through LRIT will be available only to the recipients who are entitled to receive such information. SOLAS Contracting Governments will be entitled to receive information about ships navigating within a distance not exceeding 1000 nautical miles off their coast. | The SAFESEANET network involves many maritime authorities across Europe, each with their own IT infrastructure and objectives. This invariably leads to varying data formats distributed across different systems throughout Europe.<br><br>Consequently SAFESEANET has implemented a Central Index System that stores only references to the data locations and not the actual data itself. It functions as a central hub for all communication between data requesters and data providers - somewhat like a telephone switchboard. The Central Index needs to know what information each data provided holds. Data providers connected within the SAFESEANET network send information by means of a notification mechanism. The data provider, upon receiving queries from the data requester routed through the Central Index, retrieves the data from their local database. In this way the Central Index acts as the sole point of contact.<br><br>SAFESEANET has developed a Community vessel traffic monitoring and information system according to Directive 2002/59/EC. In addition, it incorporates data exchange requirements from other EU Directives such as those relating to:<br>• Port reception facilities for ship waste<br>• Port state control inspections in ports of the European Union. | Electronic devices (transceivers) or 'blue boxes', are installed on board vessels. These devices automatically send data to a satellite system which transmits them to a land base station which, in turn, sends them to the appropriate Fisheries Monitoring Centre (FMC). The information received is monitored by cross-checking it with other data.<br><br>Since 1 January 2006 all Community vessels shall ensure automatic transmission not only of data on vessel identification, geographical position and date and time, but also on course and speed. The data are transmitted once every hour or every 2 hours depending on the technical capabilities of the system or operational needs of the FMC. However, if the FMC does not have the capability to poll the actual position of the fishing vessels, the data transmission should be carried out every hour.<br><br>On specific request, the Commission can have access to these data files to ensure that the Member States are fulfilling their monitoring obligations.<br><br>Since 1 January 2005 all Community vessels exceeding 15 metres overall length are subject to VMS, excluding those which are used exclusively for aquaculture and operating exclusively inside the baselines of Member States. Third country vessels subject to VMS are obliged to have an operational satellite tracking device installed on board when they are in Community waters.<br><br>As a general rule, Member States may receive Community funding up to 50% of the eligible expenditure on fisheries control projects. |
| **Links** | www.imo.org | | http://ec.europa.eu<br>/idabc/en/document<br>/2282/16#what | http://ec.europa.eu/fisheries/cfp/control_enforcement/vms_en.htm<br>http://europa.eu/scadplus/leg/en/lvb/l24261.htm |

# ANNEX 12

## Overview other relevant projects

| Name | GMES [90]-related Project **"European Maritime Security Services" (MARISS)** | GMES Project **" Land and Sea Integrated Monitoring for European Security" (LIMES)** | Research Project **"Maritime Navigation and Information Services" (MarNIS)** |
|---|---|---|---|
| **Financing source** | **ESA** | **Commission (FP6)** | **Commission (FP6)** |
| **Involved services** | **ENTR** | **ENTR** | **TREN** |
| | | | |
| **Involved bodies** | Telespazio, EADS, Thales (19 partners), ESA | Telespazio (49 partners) | 47 partners and 12 sub partners |
| **Time schedule** | 2006-2007 (20 months) | 1/12/2006 – 1/6/2010 | |
| **Concept** | MARISS is an earth observation (EO) or satellite remote-sensing project, focused on maritime security on European waters. It promotes the utilization of satellites for public good and in support of public policy in the area of maritime security.<br>MARISS prime objective is to deliver services to stakeholder groups who are interested in issues related to maritime security in Europe. These groups include policy makers, government | LIMES goal is to define and develop prototype information services to support security management at EU and global level in the following areas of interest:<br>- Organization and distribution of humanitarian aid & reconstruction.<br>- Surveillance of the EU borders (land and sea).<br>- Surveillance and protection of maritime transport for sensitive cargo.<br>- Protection against emerging security threats (e.g. terrorism, illegal trafficking, and proliferation of WMD). | **MarNIS** is an Integrated Research to develop Maritime Navigation and Information Services on a pan – European basis. The main goals of MarNIS is to accommodate main elements in the European Transport Policy 2010 – "Time to Decide", and specified objectives further developed in the Sustainable Surface Transport Work Programme 2002 – 2006. The development of a mandatory systematic use of modern localisation and communication systems will be |

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[90]     GMES (Global Monitoring for Environment and Security – www.gmes.info) will be based on observation data received from Earth Observation satellites and ground based information. These data will be coordinated, analysed and prepared for end-users. GMES follows user's driven approach rather than a technology-push approach. The security component of GMES is currently being developed in the research framework, i.a. through the projects MARISS and LIMES. It is expected that GMES services will gradually exit the research stage and become operational, starting in 2008. The security component is developed in close cooperation with the Council and other bodies involved in security-related issues.

| | | | |
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| | departments and public agencies. | | key elements in this process. |
| **Services provided / envisaged** | Currently MARISS services include:<br><br>Vessel detection in open sea areas<br><br>This group of services has been defined to contribute to the awareness of European stakeholders supporting the detection of suspect and friend vessels in open sea, through the combination of satellite SAR observations (images) and cooperative ship identification systems.<br><br>Vessel tracking at sea borders<br><br>The Mediterranean Sea has been gaining strategic importance for the European Union in terms of illegal immigration control and national borders monitoring. The need for global coverage, immediate notice threat assessment and early warning capabilities has led Maritime authorities to adopt high technological solutions for coastal and territorial waters protection in the area. This group of services intends to unify these high technological on land solutions with Earth Observation data to detect and identify vessels at sea borders.<br><br>Anomalies detection in specific critical areas<br><br>Critical maritime areas, such as straits or coastlines, represent a major threat in maritime security as they concentrate all kind of risks. Narrowed distances between countries in those critical areas make them a favourite place for organised criminal groups to smuggle illegal goods or clandestine migrants. In response to this specific gap, this group of services provides the Coastal Authorities with near real-time and off-line information on illegal migration, smuggling and illegal traffic through the exploitation of EO | Services will be clustered in three groups:<br><br>- Maritime Surveillance: monitoring of both vessel and cargo movements for reasons of maritime safety, policing and border security both over coastal and open ocean areas. The services include Open, Coastal Water and Sensitive Cargo surveillance. The services are based on satellite Synthetic Aperture Radar and include the integration of other monitoring systems, such as VMS, AIS, vessels and aircraft, and will be developed and tested in the Mediterranean, North Sea, Atlantic and over areas outside EU. The main users are Coast Guards, Customs, Police Departments and EU Agencies.<br>- Land and Infrastructure Surveillance: includes Land Border Monitoring, Critical Infrastructure Surveillance, support to Event Planning and to Non Proliferation Treaty (NPT) monitoring. The services are based on the capacity of Very High Resolution satellites, used in conjunction with medium to high resolution data and aerial imagery, to enable critical 4D spatial analysis of updated reference data with the aim to assess risks, improve security and enhance preparedness. Test areas are Eastern EU land borders, Spain and UK for Infrastructure Surveillance, a G8 Summit for Event Planning and a NPT Monitoring Area. Among the main users are Land Border Police, Civil protection, EU (e.g. FRONTEX) and International Agencies.<br>- Humanitarian Relief and Reconstruction | The main objectives of MarNIS are:<br><br>*Improvement of safety and the protection of the environment;*<br>The development of a safety structure in European waters through the use of Vessel Traffic Management (VTM) in the littoral seas. The safety structure includes continuous monitoring of high risk vessels along the European coasts using AIS and Long Range (LR) AIS, the possibility to intervention of the coastal states to protect their coasts, the provision of safe havens, the provision of Emergency Towing Vessels (ETVs), the provision of sufficient salvage capabilities and the integration of VTM and Search and Rescue functions into a safety preventive and remedial network along the European coasts.<br><br>*Improvement of security;*<br>The development of practical solutions as to how VTM can contribute to monitoring of vessels and tracking of cargoes.<br><br>*Improvement of efficiency and reliability;*<br>Efficiency falls under two broad headings:<br>*Efficiency of traffic flows in ports and territorial waters* will be improved by developing appropriate software for advance planning of port and terminal activities.<br><br>*Efficiency of traffic flows in international waters* will be improved by developing a co-ordinated and harmonised system for the collection and presentation of dangerous goods related information to all relevant stakeholders in a port environment. *Efficiency of transport chains* in relation to intermodal transport and mandatory reporting to administration agencies |

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| | monitoring capabilities in combination with route information and a-priori knowledge provided by intelligence or communications.<br><br>European Level Integration Service<br><br>In an increasingly complex maritime situation, information support has become ever more important, leading to a change in the Maritime Authorities requirements and moving towards complete system solutions in response to new asymmetric threats. Information to fight criminal activities needs to be delivered in a short time. Every minute lost in image acquisition and processing or in information delivery decreases the probability to correctly locate and intercept a suspect boat. This is dramatically true as high speed boats are increasingly used by smugglers. This context drives the need to improve the end-to-end information production and delivery process. In response to this specific gap, this service offers all-weather Intelligence, Surveillance, Target Acquisition and Identification capabilities based on combination of multi-mission EO ship detection outputs with ancillary data. | | will be enhanced by developing a coherent traffic and cargo reporting system.<br><br>**Improvement of the economic aspects of sea transport** by enhancing traffic management using new technologies and demonstration of Pan-European navigation and information services including the interfaces with "GALILEO" and other future navigation systems.<br><br>**Improvement of the legal and organizational aspects** by improving the legal concept of European regional solutions in relation to international law and introduction of potential legal and organisational requirements as basis for an integrated European information system. |
| **Links** | http://www.gmes-mariss.com/ | www.gmes.info/180.0.html | www.marnis.org |