

Opinion of the European Economic and Social Committee on the 'Proposal for a Decision of the European Parliament and of the Council establishing a space surveillance and tracking support programme'

COM(2013) 107 final — 2013/0064 (COD)

(2013/C 327/08)

Rapporteur: **Mr IOZIA**

On 14 March 2013 the European Parliament and on 20 March 2013 the Council of the European Union decided to consult the European Economic and Social Committee, under Article 304 of the Treaty on the Functioning of the European Union, on the

Proposal for a Decision of the European Parliament and of the Council establishing a space surveillance and tracking support programme

COM(2013) 107 final — 2013/0064 (COD).

The Section for the Single Market, Production and Consumption, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 27 June 2013.

At its 491st plenary session, held on 10 and 11 July 2013 (meeting of 10 July), the European Economic and Social Committee adopted the following opinion by 165 votes to one with seven abstentions.

1. Conclusions and recommendations

1.1 The EESC recognises the importance for Europe of having an autonomous space surveillance system in order to protect its space infrastructure and launches. It welcomes the Commission's initiative, which raises this issue for the first time and puts forward options for initiating a process of collaboration and integration in this field in the European Union.

1.2 The EESC backs the Commission's idea that Member States should submit practical proposals for the Commission's approval, since it is clearly in the European interest to have the quality and quantity of information envisaged and to share knowledge, including on methodology and data analysis capacity.

1.3 The EESC is aware of the difficulty of finding options that Member States agree on and sees the Commission's proposal as a first and important step towards more ambitious goals for collaboration. The fact that there are strong military interests in this programme makes the creation of a shared infrastructure very difficult and the EESC hopes this particular initiative will enable this to be achieved as quickly as possible. It is a good thing, however, to get the foundations of this collaboration between civilians and military underway. This should be shared with the ESA, the European Defence Agency and the Crisis Management and Planning Directorate.

1.4 In the EESC's view, funding provided for SST operations in the seven years in which the service is set up must be used, as a matter of priority, to create the initial embryo of an independent European capacity into which some of the capacity currently belonging to the defence departments of the

Member States is transferred. This should be achieved by employing the optical telescopes already in use in Europe (Canary Islands) and by building at least one European radar of similar class to those that defence departments have available. This would give the sense of a long-term investment in which new capacities and competences are transferred into the civil domain to improve the quality of life of Europe's citizens.

1.5 For the seven years envisaged for implementing this programme, the EESC thinks it necessary to establish specific provisions to make clear the level of services expected by national partners in terms of quantity and type of data, frequency, quality and availability. This will mean the necessary instruments are then available for evaluating the service in a way similar to research programmes in the Seventh Framework Programme, in which these parameters are clear and agreed.

1.6 The EESC recommends keeping criteria for access to the programme open and explaining it in greater detail in Article 7(1)(a). It is crucial that participation in the programme be open not only to countries that already have an independent capacity (France, Germany and the United Kingdom, for example), but to all those that can make data processing competences available. The proposed wording should be revised.

1.7 The EESC points out that the surveillance package of operations known as Space Situational Awareness includes not just Space Surveillance and Tracking, but also Space Weather (relating to magnetic solar activity) and monitoring of Near Earth Objects (NEO).

1.8 In particular, since it is generally recognised that the danger to space infrastructure from solar activity is at least the same, if not far greater than from the effects of particularly intense events, the EESC thinks that the two aspects, as originally intended in the definition of SSA, must be pursued in parallel. For this reason, it calls on the Commission to lay down a comprehensive and integrated framework of the various facets of space infrastructure defence, especially with the ESA, which is already actively engaged in a solar radiation protection programme. The conclusion of the Conference on Space and Security held in Madrid on 10 and 11 March 2011 (referred to in the impact assessment) clearly sets out the path for strengthening cooperation in this area between all stakeholders, especially the EU, the ESA and the Member States.

1.9 The EESC endorses the Commission's proposal to improve cooperation with the USA and with other countries interested in a joint project for protecting space infrastructure and averting dangerous and sometimes catastrophic collisions, including with minute particles that can put out of use a satellite that is expensive and indispensable for human activities.

2. The Commission document

2.1 This communication proposes the creation of a new European programme for space surveillance and tracking of space objects in orbit around the Earth, known as SST (Space Surveillance and Tracking).

2.2 The programme is being created in response to the need to protect space infrastructure – especially that involved in the Galileo and Copernicus/GMES programmes, but also European launches – from the danger of collision with space debris.

2.3 The communication also sets out the programme's legal framework and its funding arrangements for the period 2014-2020.

2.4 The communication is accompanied by a report⁽¹⁾ which discusses in particular five funding and governance options for the programme, setting out their characteristics, costs and benefits.

2.5 The legislation proper is prefaced by an explanatory memorandum which sets out the background.

2.6 The indicative overall EU contribution to the implementation of the SST is EUR 70 million over the period 2014-2020.

2.7 This would cover the cost of operating the sensors already in the possession of participating Member States (usually their military) and a warning system based on data provided by these Member States and run by the European Union Satellite Centre (EUSC).

2.8 Involvement in the programme is optional and requires participating countries to have sensors (telescopes, radars) already operational and the necessary technical and staffing resources or competences needed for data processing.

2.9 According to the impact assessment summary accompanying the proposal, the minimum loss occasioned by the collision of debris with operational European satellites is EUR 140 million a year in Europe, estimated to grow to EUR 210 million in view of the predicted 50 % increase in satellite sector services over the next few years. These figures represent a very conservative estimate and do not include the loss "on the ground", meaning the economic loss due to the rupture of services that rely on satellite data.

2.10 It is important to note that almost all of these losses involve not so much the physical loss of satellites, but the reduction in their operational life as a result of manoeuvres taken to avoid collisions.

2.11 Although a number of Member States already have their own surveillance service, the Commission believes that the EU must be involved in order to gather together the investment necessary to fund the project, to specify the management aspects and a data policy and to ensure that current and future capacities are exploited in a coordinated manner.

2.12 At this time, the standard for all warning services is set by the US Space Surveillance Network (SSN), managed by the US Department of Defense. Cooperation between the EU and the USA in which US data is made available without charge is considered insufficient, since this data is not accurate enough and the EU can have no control over its management.

2.13 Setting up the services under discussion would therefore be very much in keeping with the strategy of making Europe independent in areas deemed critical, especially access to space.

2.14 It is currently estimated that 65 % of sensors for Low Earth Orbit (LEO) satellites in Europe are totally or partially managed by institutions linked to defence⁽²⁾.

2.15 The European Space Agency (ESA) is not considered the appropriate agency to implement a programme of this nature, since it is not equipped to process classified data such as that from sensors managed by the military.

⁽¹⁾ Commission Staff Working Document – Impact Assessment, SWD(2013) 55 final.

⁽²⁾ Study on Capability Gaps concerning Space Situational Awareness, ONERA, 2007.

2.16 The European body intended to manage coordination is the European Union Satellite Centre (EUSC), an EU agency established by the Council Joint Action of 20 July 2001, which provides geospatial imagery information services and products with various levels of classification to civil and military users. The EUSC could facilitate the provision of SST services and will collaborate with the participating Member States in the establishment and operation of the SST service function, which is one of the aims of the SST support programme. At present, however, the centre's statutes do not provide for any operations in the SST domain.

2.17 Management of the programme is expected to require a staff of 50 (including HR made available by participating Member States, EUSC and Commission).

3. General comments

3.1 In the EESC's view, the proposal does not provide for the creation of adequate instruments and competences at European level for the gathering and analysis of the data. As a result, Europe would find itself in the same position at the end of the programme's five-year funding period as it was in at the beginning and would therefore, presumably, have to renew this agreement to secure the continuing provision of data from the defence infrastructure of participating Member States.

3.2 There is no specification of the requirements in terms of availability, quality and currency of data to be provided by the national bodies for the proposed funding of EUR 70 million. This makes it difficult to establish criteria for evaluating the services provided, which will only be possible when the Commission has issued the implementing acts that will have to be drafted.

3.3 The Member States contend that the ESA does not provide sufficient guarantees for the processing of sensitive data, which should be handled by the EUSC. However, those countries that have their own surveillance and tracking service (such as the United Kingdom, France and Germany) run it as part of a collaboration between space and defence agencies, which suggests that this kind of collaboration between such agencies is in fact effective. It is not clear, therefore, why the ESA should be excluded from a service of this kind, not least given that it is already participating in a global warning and disaster management service, namely the International Charter on Space and Major Disasters.

3.4 The SST programme is one of three domains in the Space Situational Awareness (SSA) Preparatory Programme implemented on a pre-operational basis by the ESA since 2009, the other two being Space Weather and Near-Earth Objects.

3.5 The ESA's SSA Preparatory Programme has had funding of EUR 55 million. It is not clear what the relationship between these two programmes is. Above all, it is not clear how this SST service is to be supported by a similar service that generates and manages warnings of risks from solar activity.

3.6 It is useful to compare the severity of the damage caused by collisions with debris and that caused by geomagnetic/solar activity. According to a study carried out by the US National Oceanic and Atmospheric Administration (NOAA) ⁽³⁾, economic loss due to the influence of solar storms on satellite infrastructure is enormous. In 2003, intense solar activity destroyed ADEOS-2, a Japanese satellite that cost USD 640 million. In 1997, a magnetic storm caused the loss of the Telstar telecommunications satellite, worth USD 270 million. In 1989, another magnetic storm caused nine hours of blackout in Canada, with losses calculated at USD 6 billion.

3.7 It is thought that a solar superstorm like the one recorded in 1859 would today cause losses of USD 30 billion in damage to satellites in geostationary orbit alone, with damage to power grids raising the figure to USD 1-2 trillion. Four to ten years would be needed to restore full operation.

3.8 The risk level from solar activity is at least the same as that from debris. The two should therefore be monitored together, as was in fact envisaged at the Madrid conference in March 2011. However, the Commission does not make it clear who will implement an operational service for solar activity warnings.

3.9 The EESC believes the proposal should take into account the protection of European space infrastructure, including complementary activity to monitor Space Weather and time-scales for implementation and integration of the two systems.

4. Specific comments

4.1 Article 5(2) stipulates that no new capacities will be created: existing Member State capacities will simply be re-employed. However, section 2 of the explanatory memorandum states explicitly that existing capacities are insufficient. When it comes down to detail, then, it is by no means clear what type of system – including which of the five listed in the impact assessment – is the one chosen for implementing.

4.2 The technical characteristics of this system are not explicitly defined. While its aims are defined, a decision on what it will comprise is left to future discussions between the Member States.

⁽³⁾ Value of a Weather-ready Nation, 2011, NOAA.

4.3 Relationship between military and civil use. The system is built as a civil system. Most of the information, however, comes from military sources. There are no explicit conditions or protocols obliging the military side to provide this information to the civil side. Here, again, the proposal says the matter will be resolved in the future.

4.4 Member State/EU relationship. The proposal states that all the sensors are and must remain in the hands of individual Member States. There do not appear to be explicit conditions guaranteeing a minimum data and information flow.

4.5 Definition of the service. The proposal does not provide this explicitly. It is not possible, therefore, to gauge whether it is sufficient for the projects established for the programme.

4.6 In its resolution of 26 September 2008 entitled 'Taking forward the European space policy', the Council referred to the need to "develop a capacity to meet European user needs for comprehensive situational awareness of the space environment".

4.7 It is important to continue development of both the SST programme and current SSA programmes.

4.8 The "indicators of results and impact" in paragraph 1.4.4 are rather tautological, providing little, in operational terms, for an ex post evaluation of the effectiveness of the programme.

4.9 Beyond the definitions of governance, an operational model of the system is not well defined. Member State participation is not obligatory. What is a minimum basis on which the service can operate?

Brussels, 10 July 2013.

*The President
of the European Economic and Social Committee*
Henri MALOSSE
