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## **PROGRAMMING MANDATE ADDRESSED TO CEN, CENELEC AND ETSI TO ESTABLISH SPACE INDUSTRY STANDARDS**

### **1. SCOPE**

This mandate establishes a programme for space related standards to:

- ensure an adequate safety level for space hardware and services,
- foster European Union projects such as the Galileo satellite navigation system, the Global Monitoring for Environment and Security (GMES) and projects in the satellite telecommunications field,
- stimulate the emergence of European end-user terminals,
- mitigate space related threats such as debris and
- support the international competitiveness of the European space industry.

The mandate is an element of the European Space Programme. The European Space Programme will pave the way to integrate a variety of space systems from the EU, the European Space Agency and individual Member States into a European space infrastructure, which will support the implementation of a wide range of EU policies. The functioning of all systems within this integrative approach and the full utilization of its potential can only be guaranteed by the preparation of the necessary standards.

### **2. JUSTIFICATION**

#### **2.1 Rationale and relevant political and legal context**

The White Paper<sup>1</sup> on space policy of 2003 foresees that the European Space Policy will be implemented via a multi-annual European Space Programme which will determine priorities, set objectives, allocate roles and responsibilities and frame annual budgets. It shall embrace R&D and the development of infrastructure, services and technology; it will be reviewed and updated regularly.

The European Space policy is demand-driven, to exploit the special benefits space technologies can deliver in support of key Union policies and objectives: faster economic

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<sup>1</sup> COM(2003) 673 Space: a new European frontier for an expanding Union An action plan for implementing the European Space Policy

growth, job creation and industrial competitiveness, enlargement and cohesion, sustainable development, security and defence of the European citizen.

At a Space Council meeting held on 7<sup>th</sup> June 2005, Member States discussed a Commission Communication ‘European Space Policy – Preliminary Elements’ (COM2005)208 final) which includes initiatives on regulation and standardisation. The communication proposes secure access to spectrum and orbital resources and establishment of a suitable legal framework to encourage wider use of space services in Europe. The European Commission and the European Space Agency will co-operate on space standardisation in accordance with their Framework Agreement on collaboration<sup>2</sup>.

The European Space Programme should establish and implement a single set of European space standards for all future and existing space projects, including:

- The Galileo satellite navigation system
- The GMES programme and other satellite applications for the environment, safety & security
- Satellite telecommunications
- Soyuz launch systems at Kourou
- The ‘value chain’ of commercial space systems
- The International Space Station and other international co-operative programmes.

The European Space Programme takes account of international demands and obligations. It establishes a European position and participates in the development of standards that are required for issues for European policies and future European/global legislation: space debris, planetary protection, militarization of space, etc.

The anticipated standards shall set criteria for performance, accuracy, interoperability and compatibility, safety and user-friendliness that are essential for modern space-based infrastructures.

This mandate provides the necessary support from the European Commission and the Member States to European standards organisations and stakeholders to ensure the coordinated preparation of the necessary standards

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<sup>2</sup> Official Journal L 261 , 06/08/2004 P. 64 - 68

## 2.2 Relevant legal context

United Nations Treaties and Principles on Space Law:

- Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies;<sup>3</sup>
- Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space;<sup>4</sup>
- Convention on International Liability for Damage Caused by Space Objects;<sup>5</sup>
- Convention on Registration of Objects Launched into Outer Space, and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies.<sup>6</sup>
- Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space;<sup>7</sup>
- Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting;<sup>8</sup>
- The Principles Relating to Remote Sensing of the Earth from Outer Space;<sup>9</sup>

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<sup>3</sup> The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the "Outer Space Treaty", adopted by the General Assembly in its resolution 2222 (XXI)), opened for signature on 27 January 1967, entered into force on 10 October 1967, 98 ratifications and 27 signatures (as of 1 January 2006); [http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares\\_21\\_2222.html](http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares_21_2222.html)

<sup>4</sup> The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (the "Rescue Agreement", adopted by the General Assembly in its resolution 2345 (XXII)), opened for signature on 22 April 1968, entered into force on 3 December 1968, 88 ratifications, 25 signatures, and 1 acceptance of rights and obligations (as of 1 January 2006); [http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares\\_22\\_2345.html](http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares_22_2345.html)

<sup>5</sup> The Convention on International Liability for Damage Caused by Space Objects (the "Liability Convention", adopted by the General Assembly in its resolution 2777 (XXVI)), opened for signature on 29 March 1972, entered into force on 1 September 1972, 83 ratifications, 25 signatures, and 3 acceptances of rights and obligations (as of 1 January 2006); [http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares\\_26\\_2777.html](http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares_26_2777.html)

<sup>6</sup> The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (the "Moon Agreement", adopted by the General Assembly in its resolution 34/68), opened for signature on 18 December 1979, entered into force on 11 July 1984, 12 ratifications and 4 signatures (as of 1 January 2006): [http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares\\_29\\_3235.html](http://www.unoosa.org/oosa/en/SpaceLaw/gares/html/gares_29_3235.html)

<sup>7</sup> UN General Assembly resolution 1962 (XVIII) of 13 December 1963); <http://www.unoosa.org/oosa/en/SpaceLaw/lpos.html>

<sup>8</sup> UN General Assembly resolution 37/92 of 10 December 1982); <http://www.unoosa.org/oosa/en/SpaceLaw/dbs.html>

<sup>9</sup> UN General Assembly resolution 41/65 of 3 December 1986); <http://www.unoosa.org/oosa/en/SpaceLaw/rs.html>

- The Principles Relevant to the Use of Nuclear Power Sources in Outer Space;<sup>10</sup>
- Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries.<sup>11</sup>

EU Directive:

- The Radio Equipment and Telecommunications Terminal Equipment Directive<sup>12</sup>

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<sup>10</sup> UN General Assembly resolution 47/68 of 14 December 1992);  
<http://www.unoosa.org/oosa/en/SpaceLaw/nps.html>

<sup>11</sup> UN General Assembly resolution 51/122 of 13 December 1996;  
<http://www.unoosa.org/oosa/en/SpaceLaw/spben.html>

<sup>12</sup> DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity, O.J. 7/4 1999 page 10-28

### 3. DESCRIPTION OF THE MANDATE

The standardisation programme as an element of the European Space programme shall be carried out in two steps:

First, a feasibility study which shall identify the state of play in space standardisation, priorities amongst the various elements and sectors, as well as the particular actors to be involved for each area of work;

Second, for every identified sector, identification of standardisation needs and preparation of a comprehensive standardisation programme in the form of sectorial dossiers.

Both steps shall tackle the following areas:

1a) Standards for the Galileo navigation satellite system, including interoperability aspects. Aspects already identified are:

- Standardization of Galileo local differential elements for mass market applications. The task could be extended to include Rail and Maritime applications. This standardization of local elements should include functional/performance standards and data link standards.
- Standardization of Galileo pseudolites.
- Standardization of minimum performance standards for Galileo Open Service/Commercial Service receivers. This activity could address many different aspects depending on the planned regulations in the different domains.

Other aspects to be investigated are standardisation of Galileo Regional Integrity Service access, and the publication of Galileo reference documentations as European Standards.

These activities should be closely coordinated with the work on-going within the GSA, in charge of standardisation actions related to Galileo.

1b) Standards for the GMES Programme and other satellite applications for the environment, safety & security

1c) Standards for Satellite telecommunications

1d) Standards for Soyuz launch systems at Kourou

1e) Standards for the International Space Station and other international co-operative programmes

This list is non-exhaustive.

The standardisation programme shall:

2a) be drafted in such a way that proposed standards tackle issues of design and manufacture of equipment, environmental aspects, services, quality, safety and interoperability.

2b) help establish a European position in the development of standards required for future European/global legislation: space debris, planetary protection.

2c) propose how to provide the necessary assistance to industry and relevant agencies through coordinated training and promotion activities.

2d) take into consideration the relevant political context (see also §2.2)

2e) involve scientific/technical knowledge into the development of standards in order to support innovation.

#### **4. EXECUTION OF THE MANDATE**

4.1 The Commission hereby requests CEN, CENELEC and ETSI in coordination to carry out the work described above

4.2 CEN, CENELEC and ETSI shall provide, within 8 months of acceptance of the mandate, a feasibility study and a draft roadmap for the progress of the work.

4.3 CEN, CENELEC and ETSI shall provide, within 15 months of acceptance of the mandate, the standardisation programme.

4.4 While executing the mandate, CEN, CENELEC and ETSI shall take into account the work carried out by the European Co-operation for Space Standardisation (ECSS) and co-ordinate their activities in order to avoid any duplication.

4.5 CEN, CENELEC and ETSI shall take scientific/technical knowledge of the European Space Agency and national space agencies into account.

#### **5. BODIES TO BE ASSOCIATED**

The execution of the mandate should be undertaken in cooperation with the widest possible range of interested groups: the European Co-operation for Space Standardization and the European Space Agency in particular, international standards bodies (ISO, IEC, ITU), European space industry (EUROSPACE), national space agencies and regulatory authorities of the Member States, the European Global Navigation Satellite System (GNSS) Supervisory Authority (GSA), the European Defence Authority (EDA), representatives from both space equipment manufacturing and space related services industry, from associated industries, ANEC<sup>13</sup>, NORMAPME<sup>14</sup>, ETUI-REHS<sup>15</sup> and ECOS<sup>16</sup>, project stakeholders involved in relevant areas of the

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<sup>13</sup> European Association for the Co-ordination of Consumer Representation in Standardization

<sup>14</sup> European Office of Crafts, Trades and Small and Medium- Sized Enterprises for Standardisation

<sup>15</sup> European Trade Union Institute - Research, Education, Health and Safety

<sup>16</sup> European Environmental Citizens Organisations for Standardisation

Community programmes. The present mandate may be amended by common agreement should that prove necessary during the course of the work.