

Agenda 2011

A Document by the Director General and Directors

The Agency's *Agenda 2011*, released in October 2006, presents an evolving framework of action for achieving the wide-ranging objectives of Member States and for adapting ESA to a changing environment. *Agenda 2007*, presented in mid-2003, led to significant advances in less than 3 years, including a successful Ministerial Council at the end of 2005.

The plan of actions supporting *Agenda 2011* will be detailed and formalised in the *ESA Long-Term Plan 2007–2016*, updated by the Council annually. *Agenda 2011* is defined within the framework of the European Space Policy (ESP); indeed, it is an important input to that policy. In turn, its implementation will take into account the ESP as endorsed in mid-2007.

Overall Objectives and Priorities

The ESP will provide a European Union (EU) dimension to the space path followed for 30 years by ESA Member States. Conversely, this new policy will introduce a space dimension into the political ambitions of Europe as a global actor. The overall objectives of the next 5 years will serve these new dimensions and must therefore consolidate “*ESA as a global space agency, instrumental for Europe in serving the policies of its Member States and the EU, developing a competitive economy, and indispensable to the world in contributing to global policies and to the increase of knowledge*”.

ESA is recognised as a globally-important agency in its core activities of science and exploration, human space-flight and partnership in the International Space Station (ISS), and launchers. It has already developed important operational capabilities in meteorology and climate

monitoring, acted as a catalyst for European space telecommunications and is jointly developing new applications (Galileo and Global Monitoring for Environment and Security/GMES) with the EU. The objective now is to develop beyond this, to make ESA a model for underpinning the use of space in the world today and specifically in the context of Europe's growing needs.

In order to reach this objective, three key priorities will drive ESA's actions:

Consolidation of steps taken at the 2005 Ministerial Council towards discoveries and competitiveness

The absolute priority in the coming years is to consolidate the capabilities and competitiveness of European industry. Without space manufacturers and service-providers, Europe cannot serve any of its ambitions. Significant investments in new and advanced technologies have to be made urgently.

Development and promotion of integrated applications (space & non-space) and integration of security in the ESP

New concepts, new capabilities and a new culture have to be developed in order to respond to a multitude of needs from users who are not yet familiar with space systems. The strong coordination and efficient exploitation of synergies have to be organised between national, intergovernmental and EU resources and capabilities, as well as between civil security and defence applications.

Evolution of ESA

The Agency's evolution must be accelerated in order to improve our global effectiveness, reinforce the motivations for Member States to invest in space, and prepare ESA for new

members and a new relationship with the EU. The first step should be taken within 2 years, to adapt accordingly the industrial policy rules and procedures, decision-making, funding mechanisms and coordination between ESA and national programmes, resources and industrial policy. It is expected that, following such adaptation, there will be at least 22 Member States by 2011. A longer-term goal is for ESA to evolve towards the EU by 2014.

Programmes

Core activities to be proposed to the 2008 Ministerial Council include:

Space science: opening the door to new missions by introducing flexibility; astronomy missions in deep-space orbits; exploiting the synergies of Solar System missions with exploration (see below), and of fundamental physics missions with the ISS.

Earth science: focus on global change; one mission per year; increase cooperation with international partners and technology programmes; preparation of applications programmes.

Exploration: begin development of ExoMars follow-on mission; choose scenario to make Europe an indispensable partner: Moon orbit infrastructure (telecommunications, navigation), participation in human transportation (in conjunction with the launcher programme), synergy with space science missions; stimulate international cooperation taking into account the lessons learned from the ISS partnership.

Human spaceflight: based around the ISS, optimising the benefit for Member States through efficient use of research activities and applications.

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2006		2007	2008	2009	2010	2011
			CMIN 08	EU Budget Revision		CMIN 11
Programmes and Budgets	Implementation of CMIN 05 programmes	Preparation of programme proposals for CMIN 08	Major decisions on: – Level of Resources – Exploration – Technology – GMES segment 2 – Launchers – ISS Exploitation – Preparatory Prog on integrated applications	Complementary decisions on: – GMES – GNSS	Preparation of programme proposals for CMIN 11	Major decisions on: – Level of Resources – Launchers – Telecom and Navigation
	Preparatory activities for integrated applications	Decision on GMES phase 2 of segment 1				
		European Space Policy				
Evolution of ESA	Review and assessment of ESA Evolution	Action plan for ESA evolution	Update of Convention: – Decision making – Funding mechanisms	New Member States	New Financial Management System	
	Propose new Council meetings set-up	Improved coordination with National Programmes	Review of industrial policy	Implementation of updated Convention		
ESA Internal operations	Agenda 2011	New competences for integrated applications Enhanced Corporate Control	New Human Resources Policy Reinforced "One ESA"	Adaptation of organisation		Agenda 2015
	High Level Space Advisory Committee (HISAC)					

CMIN: Ministerial Council; GNSS: Global Navigation Satellite System; other abbreviations as in text

The next step is to enable new services by exploiting several systems, space and non-space, acting in concert as a 'system of systems'. The potential is immense in many important areas, such as civil security, air traffic management and maritime surveillance. This will make space an indispensable tool for European policies. The challenge is to change from the single system (often satellite-centred) to a user-centred approach exploiting a network of capabilities.

For example, there are significant synergies

Life and physical sciences: focus on basic and applied research in life and physical sciences using the ISS, sounding rockets and other opportunities; support future exploration initiatives.

Launchers: consolidate Ariane-5 and start exploiting Soyuz and Vega; Ariane-5 and Vega to evolve with family modularity; prepare technologies for next-generation launchers; international cooperation based on mutual dependence, with guaranteed access to space.

Current applications programmes will continue with emphasis on:

Galileo: once the system is deployed, the challenge will be to make the transition to a full operational system, with a commercial operator and services, followed by preparations for a second-generation system. Operational exploitation is planned to start in 2011.

GMES: as services require data from space and other sources, GMES is the typical case for the integrated applications approach. GMES services will

gradually become operational as space assets are integrated into the coordinated data stream. The first services will be pre-operational in 2008, while full operational capacity will emerge from 2012 as dedicated GMES missions are launched.

Meteorology: the Meteosat Third Generation will be available in 2015, followed by MetOp's successor in 2019.

Telecommunications: the Small GEO and AlphaSat geostationary platforms will be developed to satisfy the small- and large-size satellite market demands, respectively, in partnership with industry and telecom operators.

Integrated Applications

The submissions for the 2008 Ministerial Council will emphasise new integrated applications programmes, based on a multi-disciplinary approach, paving the way for security-related programmes. Operational space systems such as navigation and communications are part of our daily lives. They integrate space and ground elements, but are based on mainly a single type of system.

to be exploited between civil security and defence. Disaster relief and crisis management missions include civil and military elements (transport, medical treatment, food supply, temporary accommodation), requiring close coordination and coherent information. Common communications equipment providing secure links is a clear demand.

For such applications, ESA will take the role of promoter of the space element of the overall system, which will be the responsibility of a dedicated operator. ESA is beginning pilot projects to help the proposal for an Integrated Applications Preparatory Programme in 2008, promoting space systems and demonstrating their role in a wider system. Examples include civil protection, disaster management, flight safety, human security, health, early-warning systems, maritime surveillance and education in developing countries.



The full Agenda 2011 is planned for publication in the coming months. Agenda 2007 is available as ESA BR-213 (cost 10 Euro) from ESA Publications or at <http://www.esa.int/esapub/br/br213/br213.pdf>