

POSITION PAPER

Creating sufficient user pull to secure the benefits of satellite services for society

A Eurisy contribution to the ongoing preparatory work by the European Commission, the EU member states and the European Space Agency regarding Space policy, Space programmes and Space budgets

URGENT ACTION IS REQUIRED TO ACCELERATE THE SUSTAINABLE IMPLEMENTATION OF SATELLITE SERVICES BY POTENTIAL END-USERSⁱ

ABSTRACT

There is currently a great opportunity for the diffusion of the use of satellite information and services. Potential users are keen to innovate and innovation is recognised as the key to economic recovery. Pioneering public and private organisations have already adopted satellite information and services. Rapid and sustainable measures are necessary to incentivise and support more end-users to follow suit. This will allow the formation of a well-developed core user pool with a critical size to trigger the emergence of a market for satellite services, and ensure Galileo and GMES services fully deliver the expected benefits to society.

Two communities of potential end-users are key in satellite service diffusion: local/regional authorities and non-space SMEsⁱⁱ. Local and regional authorities are close to the citizens and have a double role as end-users and prescribers of satellite services. Non-space SMEs constitute by far the largest group of economic actors in Europe.

Measures should include:

- Directing part of the Space budget directly to these potential end-users
- Making these and other resources available through existing calls dedicated to these end-users (e.g. within INTERREG for regions, Intelligent Energy Europe for SMEs, etc.)
- Specifying in the calls:
 - That satellite information, services and enabling equipment can be funded,
 - The applications that can be employed (e.g. evaluation of renewable energy potential, monitoring and control of industrial processes, broadband coverage, urban planning including important environmental aspects etc.)

Such measures would ensure potential end-users become more aware of these high added-value services, and autonomous in adoptingⁱⁱⁱ and using them.

THE FOLLOWING ORGANISATIONS ENDORSE THIS POSITION PAPER:

The Association of European Border Regions (AEBR)

The Assembly of European Regions (AER)*

CEA-PME – The European Confederation of Associations of Small and Medium-sized Enterprises

CEMR – the Council of European Municipalities and Regions*

EARSC – The European Association of Remote Sensing Companies

The European Economic and Social Committee (EESC)

ESOA – The European Satellite Operators Association

EuroTeleServ

NEREUS – The Network of European Regions Using Space Technologies

UEAPME – The European Association of Craft, Small and Medium-sized Enterprises*

Consultations are ongoing with other associations and interest groups

* These organisations indicated their support of the Position Paper and are currently formalising their endorsement through internal procedures.



BACKGROUND

According to the classic definition of innovation by Joseph Schumpeter, an invention becomes an innovation only when being commercialised or successfully used. Only then will there be an added-value for the company, for the economy and for society.

Space, and especially services based on satellite navigation, satellite telecommunications and Earth Observation, is a highly valuable tool to implement EU policies (e.g. transport, agriculture, environment, emergency & maritime communications, broadband connectivity, etc.). This has been recognised with the large public investments in Galileo and GMES (Global Monitoring for Environment and Security), the two European programmes for development and deployment of satellite applications, alongside private investments made by satellite operators and European Industry. In addition, the contribution of operational satcoms will be essential in achieving the objectives of other initiatives, such as the Digital Agenda (broadband for all by 2013)^{iv} and effective emergency communication. The benefits of operational satellite service tools should therefore be better recognised and reflected in support mechanisms for their implementation.

However, to ensure that European investments in satellite infrastructure deliver the intended benefits to the European citizens, awareness must be generated among regional and local professional potential end-users and demand for the variety of different services available, including Galileo and GMES applications, should be stimulated by providing direct support, information and incentives to communities of potential end users.

Since the establishment of the European Space Policy in 2007 much effort has been made by European decision-makers to anchor space to society. Prominent examples are the 6th Space Council of 29 May 2009^v, the GIO (GMES Initial Operations) regulation proposal adopted by the European Council on 20 September 2010^{vi} and the GNSS Applications Action Plan adopted by the European Commission on 14 June 2010^{vii}. The first one emphasised the usefulness of space-based applications and services for the innovation and competitiveness potential of the European economy and for its recovery. Eurisy welcomes the integration of measures strengthening the demand side of satellite services in the GIO regulation proposal, such as “measures to support take-up of services by users”.

These first steps in the right direction are not yet sufficient. Support measure for the uptake of satellite services have to be extended to potential end-users.

It is therefore necessary to fully take into account local/regional public administrations and private businesses as potential final users of satellite services in the European Space Policy, Space Budgets and Space Programme. This will enable them to access satellite services, creating a strong pull from society and a sustainable market that ensures Europe’s continued leadership in this strategic sector.

Satellite Success Stories : Public Sector

The City of Antibes (FR) implements electric car-on-demand service

Challenge: city traffic congestion, CO₂ emissions.

Solution: CitéVU, a short-distance electric car rental service. A satellite vehicle-tracking platform allows users to be informed, at any time, of the nearest electric car available for rent.

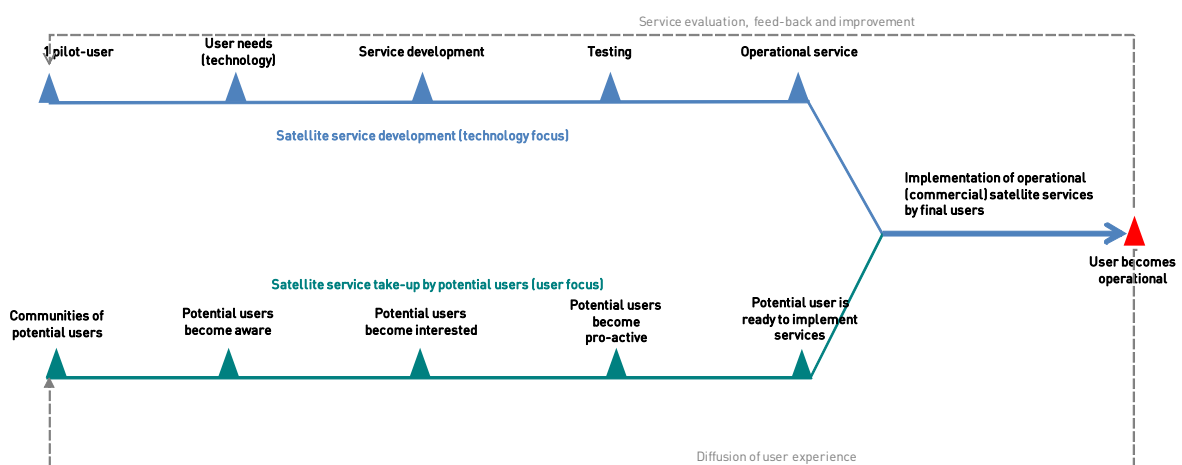
Result: the service encourages multi-modal city transport and helps reduce fuel consumption, CO₂ emissions, thus making city air healthier.

PROPOSALS TO OPTIMISE THE TAKE-UP AND USE OF SATELLITE SERVICES BY POTENTIAL END-USERS

Pioneering local or regional authorities, as well as SMEs, already use satellite information and services as innovative, high value-added tools for their work. However, the process of adoption of innovation can be accelerated with specific measures and incentives for end-users. Such measures should take into account some of the aspects inherent to the diffusion of innovation, as follows:

- **The market mechanism can be improved.** The demand for satellite information and services is underdeveloped. Sufficient demand must be created in order to generate economies of scale and further lower the entry barriers for bringing satellite services onto the market. This will ensure easier access to the services for the end users.
- **Support to the supply and demand side should be symmetric.** Today much emphasis is put on supporting the production (R&D) of new satellite applications. As a result, many resources dedicated to research are lost as many functional services never make it to the market. Supply/technology push is important but not efficient without demand/user pull. Both aspects of satellite service market development have to be developed symmetrically (cf. chart 1).
- **Incentives are needed for end-users to engage in the service implementation process.** Satellite services, in particular those based on Earth Observation, are knowledge-intensive tools that require an interdisciplinary and innovative implementation process. In order for potential end-users to engage in this process more easily, the focus should be placed on the existing cost-benefit advantages of deploying and using available services, rather than on the technology. Current funding schemes (FP funds, for instance) favour the latter. End-user dedicated funding schemes would allow them to explore the advantages of the technology in a relevant way for them and their professional context, knowing that technology in itself is a small criterion in the evaluation of innovation by the end users.
- **Covering the initial costs associated with change is an incentive for the potential end-users.** Adopting knowledge-intensive services implies not only financial investments to cover cost of use, but also the costs of organisational change, such as integration with existing tools, organisational reshuffle, human resource training or the need to complement existing jobs with higher-skilled ones. Targeted funding could help remove some of these non-technological challenges for the end-users.

Chart 1: Support to supply and demand leading to market development should be symmetrical



(c) Eurisy 2010

- **More potential end-users should be informed of the benefits of satellite solutions.** Although investments in space programmes such as Galileo and GMES are significant, a lot of the intended beneficiaries – policy- and decision-makers and practitioners – are yet unaware of the satellite solutions available to them and of the fact that satellite infrastructure is already in place ready to deliver services without an obligation to invest in new satellites. In addition, persisting misconceptions about satellite services as expensive, inadequate or as ‘disproportionate solutions for local issues’ etc., prevent end-users from exploring their benefits.

SUFFICIENT POTENTIAL END-USERS MUST BE PUT IN THE DRIVING SEAT, TO TRIGGER USER PULL FOR OPERATIONAL SERVICES AND ENSURE THE CREATION OF A SUSTAINABLE MARKET

- **The EC, as the maître d’ouvrage of Galileo and GMES, has a responsibility to take measures to strengthen demand on a European scale and ensure they become sustainable and deliver benefits to society.**

Large public investments are being made in Galileo and GMES, the infrastructure and in the development of downstream services via European funds (FP7, CIP etc.) and other mechanisms (e.g. European Satellite Navigation Competition). To ensure the success and sustainability of Galileo and GMES, strengthening demand for GNSS, EO and integrated applications using satellite communications are necessary. On the basis of Article 189 TFEU, such measures should be taken to avoid fragmented or uncoordinated actions by Member States and to create synergies with European innovation policy.

- **It is recommended that the EC, ESA and Member States provide direct support and incentives to the potential end-users (in particular local and regional authorities and SMEs) so they can appropriate satellite information and services more easily.**

The GIO regulation proposed measures to support take-up of the services are mainly directed at supporting the offer (service production) side of the market through the “development of downstream sector”, or the “implementation of technical interfaces adapted to the specific user environment”. This approach does not take sufficiently into account the demand side of the satellite service market.

Satellite Success Stories: Private Sector

Maveric (IE) adds precision and efficiency to construction business

Challenge: during the boom in the civil construction sector, Maveric needed to gain a competitive edge without cutting prices in this traditional, yet highly competitive sector

Solution: global positioning systems (GPS) provide millimetre-accurate coordinates of working sites in 3D digital maps. This information is linked directly to the earth-moving equipment which is computer-controlled for better precision and to avoid damage to infrastructure.

Result: Maveric delivers more efficiently and to higher standards. The company has received several recognised safety and quality certifications, which positively influences customer trust.

European associations of potential end users (local/regional authorities, SMEs) recommend, to the EC, ESA and Member States, the following actions to strengthen their capacity to benefit from satellite services:

- **Support and incentives should be directly aimed at potential end users to encourage public administrations, private businesses, associations, NGOs etc to become proactive in taking up and using satellite services.**

To trigger user pull, potential end-users must be empowered to become proactive in implementing and using satellite services. Overcoming initial implementation challenges and costs for the potential end-user should be made possible through funding by public authorities and in particular by the European Union. Potential end users' needs should be better taken into account when setting up concrete measures aimed at ensuring the sustainability of Galileo, GMES and of satcom services. Support mechanisms should be in particular targeted at potential final users through their support structure at regional level, (e.g. regional innovation agencies and regional development agencies).

- **Part of the future space budget should be consecrated directly to potential end-users for the deployment and use of satellite services to deliver on key policy areas identified under the EU 2020 Strategy via existing thematic EC calls specifically designed for end-users (e.g. Intelligent Energy Europe (IEE), Structural funds (INTERREG), etc.)**

End user funding schemes, supporting the take-up of operational services independently of technological development, should complement existing R&D funding schemes. Embedding space budget resources in existing user funding schemes such as IEE, INTERREG etc. will ensure that this support is sufficiently accessible and integrated in the potential end-users' professional context. Such funding processes enable a co-decision about budget distributions by the beneficiaries of the proposed satellite services and, thus, provide a means to really place users in the driving seat.

The possibility of financing satellite services via these calls should be explicitly mentioned to the potential end-users, as well as the areas where operational satellite services provide viable solutions.

Funding should be designed in a way that particularly encourages SMEs and their natural partners on regional and local level to engage in the use of satellite services. Furthermore, measures should be taken to ensure that other specific calls aimed to encourage the uptake of satellite services, such as the innovation vouchers for GNSS technology in products and services planned for 2011, focus exclusively on the take-up of fully operational services and does not drift to R&D.

Satellite Success Stories: Private Sector

Re-inventing business: Hyotypaperi, Finland

Challenge: as its paper-production business began to stall in the 90s, Finnish SME Hyotypaperi had to re-profile and entered the wood recycling business.

Solution: : the new business uses satellite navigation and information systems to monitor wood residue storages, and to manage machinery and logistic contractors from the forest to the recycling factory

Result: increased MWh content per truck load of wood residue; streamlined work process; easy reporting of compliance with environmental regulations, based on the electronic logging of all operations.

- **Extensive information about operational, market-ready services should be made available for the potential end-users. Financial means for this should be provided from the space budget.**

Because of the current emphasis on technology, today the value, benefits and ease of implementation of satellite services is insufficiently visible and clear to potential end-users. Notably, potential users understand and evaluate satellite services with respect to the solutions they provide, the expected results and benefits, for instance gains of time, money, efficiency, quality, and not the technology itself. The business case for using operational satellite services has not been sufficiently demonstrated by the actors of the downstream sector. More efforts should be made towards ensuring satellite services meet end-user evaluation criteria. Today, most potential end-users such as regions, cities and SMEs do not know which operational services are available and they are often not familiar with applications in their professional context. Transparency of information about available operational services should be ensured, information should be pooled. The EU has to take a more active coordinating role in this respect.

- **The EC should set up a specific success stories transfer mechanism to ensure satellite service diffusion on a European scale.**

The peer-to-peer dialogue established through the sharing of end-user good practices is the most effective tool for communicating on the value of satellite services with potential users, as demonstrated during Eurisy's User Programme, among other initiatives. To date this programme has been primarily supported by European space agencies but going forward, given the new Space Mandate of the EU, it should also be promoted by EU institutions. Good practice dissemination is effective as it occurs among professionals who share a working language and culture and evaluate satellite services on similar criteria. Furthermore, the role of community leaders in setting the example and stimulating their peers to follow suit is well-recognised. A transfer mechanism for the diffusion of success stories could be implemented via a specific call for interdisciplinary projects initiated by groups of potential end-users (regions, cities, SMEs) to implement satellite tools through events, websites, etc.

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ⁱ A potential end-user is a professional, a decision-maker or an organisation (public or private) that can benefit from using satellite services in carrying out their responsibilities. In contrast to an end-user, a potential end-user is not yet using satellite services.

ⁱⁱ SMEs which are not involved in developing or providing space-enabled products and services such as satellite services

ⁱⁱⁱ Adoption and implementation of a satellite service refers to procuring the satellite service and carrying out the required organisational and working process changes to operationally use the service in the end-user organisation

^{iv} Memo 10/199, 19 May 2010, European Commission

^v 10306/09

^{vi} COM (2009) 223; 2009/0070 (COD)

^{vii} COM(2010)308 final