

EURISY USER PROGRAMME: A GRASSROOTS APPROACH TO ANCHORING  
SPACE IN SOCIETY

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ABSTRACT

Eurisy is a non-profit association of national and international organisations which agree on the strategic importance, for the European space community and beyond, of anchoring the use of satellite-based information and services in society. Eurisy acts as a facilitator in shaping new relationships between the space community and emergent final-user communities within society, with significant benefits for both. On the one hand, society will benefit from implementing the innovative solutions space has to offer for dealing with the challenges of today and tomorrow, and for ensuring its sustainable development. On the other hand, developing a wide user pool will reinforce the support of society to the whole space chain, from service providers to research sectors.

Eurisy programmes provide grassroots support to user communities in their appropriation of satellite information and services. In order to achieve this, Eurisy shapes its programme to meet the agenda and needs of the user communities, helping them reach their objectives with adequate solutions. This allows Eurisy to embed its action in the user communities' own programmes. Eurisy facilitates the spread of good practice on the use of satellite information and services among the user communities, supports the emergence of models for the implementation of those services, and provides bottom-up feedback to national and international stakeholders in space programmes.

Among its user programmes, Eurisy's specific programme for Local and Regional Authorities (LRAs) is a perfect example of its unique contribution to anchoring the use of satellite based information and services in society. Since the beginning of the programme in November 2006, Eurisy has developed partnerships with the most relevant representative organisations of cities and regions in Europe, which are now working with Eurisy to learn more about the solutions that satellites have to offer, and how to operationally implement these solutions in a sustainable manner. The Eurisy programme for local and regional authorities has raised awareness and expectations from the user community. It has opened the door for constructive dialogue.

## 1 RATIONALE FOR A USER PROGRAMME

Satellite information and services provide unprecedented solutions to the enduring challenges of tomorrow, in terms of protecting our planet, using its resources sustainably and ensuring better quality of life for mankind in the short- and long-term.

However, satellite information and services are a lesser-known aspect of space activities in comparison with the more eye-catching space exploration. In particular, satellite applications are seldom used by professionals and decision-makers, who could most benefit from them. Low awareness levels, misconceptions, perceived complexity of the tools, implementation difficulties are some of the factors preventing these potential users from fully exploiting the benefits of such innovative tools.

Eurisy's programmes for user communities seek to support them in making the most of satellite-based tools, notably by raising awareness of their benefits and supporting users' exchanges with the space community.

Not all user communities need Eurisy's support in benefiting from the available services. The meteorology community, for instance, is an excellent example of a well-structured, solid community of users operating their own satellites. Scientists and the military are other examples of user communities well acquainted with the use of satellites. We shall therefore further define the community of users Eurisy concentrates on working with and on the benefits these users obtain from SIS, as well as the nature of the support the services provide to them.

### 1.1 The final-users supported by Eurisy

A recent OECD report [1] defines the space economy as:

“all public and private actors involved in developing and providing space-enabled products and services. It comprises of a long value-added chain, starting with research and development actors and manufacturers of space hardware (e.g. launch vehicles, satellites, ground stations) and ending with the providers of space-enabled products (e.g. navigation equipment, satellite phones) and services (e.g. satellite-based meteorological

services or direct-to-home video services) to *final users*<sup>1</sup>.”

According to this definition, it is reasonable to state that the concept of “final-user” includes the general public, the scientific community, private and public sector organisations and their professionals as well as policy-makers.

The generalised use of GPS, satellite television, Google Earth are examples of the successful penetration of satellite applications into the consumer market, for use by the general public. The consolidation of this user community follows market rules. It depends on the ability of the industry to develop and market easy to use, low-cost applications and services. In addition, the satellite services used for personal purposes, although having a large impact on society due to the extent of their use, have rather low added-value in comparison to those used by professionals serving the interests of whole communities. High value-added services are not designed for use by the general public. For these reasons, Eurisy's support programmes are not aimed at the general public.

The scientific community has been the primary beneficiary of the development of satellites for the exploration of the universe or of our planet. The mandatory character of the European Space Agency's scientific programmes underlines the intimate links between the space community and scientists. The well-established exchange mechanisms between them pre-empt Eurisy's support to the scientific community. The same applies to the military sector which very early on benefited from surveillance and telecommunication systems, and has as such been the main pull for the development of the space sector, notably during the cold war.

Professionals and decision-makers from the private and public sectors also use general public applications. For example, the public authority London Borough of Barking and Dagenham use Google Earth for spatial planning. However, there are very few examples of users of high added-value satellite information and services. They are often little or not at all aware of the satellite information and services intended for their use, or perceive them as technically complex, difficult to use, costly, or even inefficient.

Eurisy concentrates on working with the latter two types of users (professionals and decision-makers) and defines them as follows:

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<sup>1</sup> Italics by Eurisy

Final user: a decision-maker, a manager or a professional who uses information or services provided by a satellite service provider to make decisions and/or to manage operational activities within his/her organisation. The final user is the beneficiary of the product or service delivered by the service chain.

Indeed, satellite information and services have significant added-value for professionals and policy-makers, as they can thoroughly change and enhance the way in which they traditionally perform their jobs, enabling them to take better informed, more reliable decisions, to improve their efficiency and results. By virtue of a scale effect, the impact of the use of satellite services by these users on society is considerable.

Eurisy's aim in working with such final-users is threefold:

- to inform, raise awareness, change misperceptions of satellite information and services and encourage the emergence of demand
- to support the appropriation and implementation of satellite information and services
- to provide bottom-up feedback to decision-makers who can take measures to facilitate service access for the users.

In doing so, Eurisy aims at removing the obstacles that prevent these users from making the most of satellite information and services, with considerable benefits to society as a whole.

## 1.2 The benefits of high value-added satellite information and services

Eurisy defines satellite information and services as:

Satellite information and services: a value-added service resulting from the transformation of satellite data by the service chain (from satellite operators to service providers) into ready-to-use information by a final user.

The effective use of satellite information and services is instrumental in the implementation and support of a number of public policies. Satellite services provide breakthrough solutions to societal challenges such as protecting the environment, managing natural resources, managing transport, mitigating natural disasters, and building the knowledge society. Satellite services are of primary importance in both shaping and reaching the objectives of public policies. A key example is the Kyoto protocol: satellite applications made climate change visible and therefore a reality. Today, they help measure both its impact and the enforcement of the Protocol.

A few but evocative examples (many of which have been given during the Eurisy user programme<sup>2</sup>) prove that the benefits of satellite information and services are significant in terms of cost savings, improved efficiency, reduced time required to perform certain tasks, improved mobility of workers and investments, as well as stimulating the provision of new services to society. A case in point: satellite services help UK bus operator Stagecoach and Cumbria County Council increase public transport attractiveness by reducing delays, providing accurate and reliable timetable information, thus "getting people out of their cars and onto the public transport because it's better for congestion, better for health and better for the environment"[2].

The European Union, through the European Commission and European Space Agency, specifically acknowledged the importance of these benefits for society in its European Space Policy as "essential and urgent [...] in the implementation of a wide range of policies,"[3] notably "towards the Lisbon strategy for growth and employment, by providing enabling technologies and services for the emerging European knowledge society and contributing to European cohesion."[4]

Programmes such as GMES and Galileo, two pillars of the European Space Programme, aim to provide effective solutions to final users, notably "operational and autonomous capability for GMES before the end of 2008" [4]. Though important headway has been made, the final users have yet to gain full

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<sup>2</sup> Such examples, subject of presentations given by the users during Eurisy conferences and workshops, can be downloaded from Eurisy website at [www.eurisy.org](http://www.eurisy.org)

access to these solutions, and Eurisy aims to support the appropriation process.

### 1.3 Bridging the gaps

Eurisy has identified two main causes at the origin of final users' lack of awareness or reluctance to use the innovative satellite tools:

- the compartmentalisation of the space community with regards to society, and
- the difficulties in transforming the results of innovation into sustainable, operational tools

Below we shall further develop on these identified gaps in the way of the users' full access to satellite information and services, and on how Eurisy intends to help bridge these gaps through its user programme.

#### 1.3.1 Anchoring space into society

The space sector, as many other innovative sectors, has often taken it for granted that demonstrations of scientific and technical excellence are sufficient to convince the final-users to adopt the services it developed through innovation. But factors which the space sector does not fully take into account, such as misconceptions about what the use of satellite services implies, concern and uncertainty about costs, economic profitability and return on investment, resistance to change, and lack of priority, may make the users reluctant to adopt the new services.

As mentioned, space is generally associated with exploration. This means a large majority of the professional final-user communities is unaware of or unconvinced that space has something to offer. Potential users' perceptions as to the use of satellite services vary from assumptions that they need highly specialised space skills (which they do not possess) to thinking they would need to buy a satellite to use the services. These misconceptions mean that the final-user is generally not in a position to identify his needs and even less to articulate specific requirements for satellite information and services. As Mr J. Smith, Devon County Council Deputy Leader and Leader of the AER Emergency Planning Network concluded after his participation to a Eurisy thematic

workshop, users (regional authorities in this case) do not know that they do not know.[5] Indeed it is impossible for users to become proactive in their approach to using satellite information and services unless their first realise that such solutions exist for them.

Even when convinced of the technical excellence of a prototype service, a professional or decision-maker will question the usefulness of the new service as compared to the one in-house, as well as the impact of the service on the organisation (will the change be worth the efforts?) and on human resources (training? number of staff? how to manage the change?), the availability of the service (will it be operational before the next election?). Some of the doubts of the users are well-founded: the 7-8 years life-span of a satellite and the uncertainty on its replacement, for instance, rightly raises the question of the sustainability of the services. Some users are discouraged to find that some satellite information is not available in real time, as they need it. Also, faced with a variety of choices, the users find it is not easy to make informed, objective decisions about what to choose, or feel that they would lose control of some of the processes taken over by satellite services or the service provider.

The space sector is thus required to question its assumptions as to what the final-users know, or the extent to which they understand its proposals. It needs to work closer with the final-users, understand their constraints and culture and learn to speak their language, so that the proposed solutions make sense and be relevant to users' expectations. This approach will enable users to express their needs and requirements and to take informed decisions about the solutions they choose or not.

In other words, the space community needs to find ways to make itself recognised as a reliable resource at the service of the final users, who should feel confident about having equal-footing exchanges with the space sector.

It is Eurisy's aim to support this process, by helping the two communities create new common codes and a common language, thereby allowing them to work together better.

### 1.3.2 Transitioning from R&D to operational services for final users

Demonstration of technical feasibility – though not sufficient in itself – remains one of the first steps in convincing users that satellite information and services are suitable for resolving a great number of their problems.

A number of projects aiming to demonstrate technical feasibility to users are taking place in Europe, in particular through the GMES and Galileo programmes. Most of these projects are successful from a technical point of view. However not all of them lead to the adoption of the service, even when the user is convinced of their practical benefits.

There is a further, obvious gap between the service demonstration phase and the adoption and implementation of the service by the final-users.

Innovation, in the space sector as in any other sector, is a complex and lengthy process, starting with research policies, R&D activities, leading to technical demonstration, and eventually (though not always) to operational, commercial products and services. Satellite information and services have been demonstrated on many occasions but often they do not succeed in entering the market and reaching the users. This is explained by the R&D-centred nature of the organisation of the European space sector<sup>3</sup>.

The public support to this process – from demonstration to operational implementation – usually stops after the technical demonstration, leaving the user to figure out what to do with a technology they do not fully understand, even if they believe it has added value. Further support throughout the implementation process is required before the final user can commit to finance the service. The *service providers*<sup>4</sup> do not have the expertise, the resources or the long-term strategic vision necessary for providing the required support to the user

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<sup>3</sup> A notable exception is the case of military applications, which transition more easily from R&D to operational services. However the defence sector has traditionally exerted a strong user pull facilitating this transition, which is not the case with the categories of users Eurisy is working with.

<sup>4</sup> *Service provider*: an organisation, either private or public, that offers a value-added service by transforming satellite data into ready-to-use information for the *final user*.

beyond the R&D phase (often publicly funded), and to the market phase.

Long-term support to users is therefore required to create and encourage user-pull to stimulate the transition of R&D services to fully operational, commercial ones.

## 2 THE EURISY USER PROGRAMME

Eurisy's mission is to bridge the gaps hindering user communities in making the most of satellite information and services and to support more fluid and productive exchanges between the space sector and society with significant benefits for both.

In order to fulfil its mission, Eurisy initiated a user programme in November 2006 to help final users capitalise on innovation emanating from the space sector.

### 2.1 Methodology for Eurisy's user programme

Eurisy's approach has been modelled according to the gaps identified above and the lessons learnt from these observations. In order to learn the language of the users, to better understand their concerns and priorities, Eurisy develops grassroots long-term partnerships with the most relevant pan-European representations of the targeted final user group. This allows Eurisy to base its actions on a good knowledge and appropriation of the users' agenda, in order to ensure that it contributes to it in a relevant manner.

Language has been identified as a major barrier in the users' understanding of satellite information and services and their use. It is why Eurisy emphasises peer-to-peer dissemination of good practices and successful implementation strategies. Indeed, the demonstration of the benefits of satellite services is seen as most reliable, legitimate and convincing when those who demonstrate them are the final-users, not the service providers. The final users have the unique advantage of speaking to their own community, whose concerns, codes and language they have intimate knowledge of. As an observer and facilitator for these exchanges, Eurisy has a unique insight into the users' expressed or non-expressed needs. This analysis allows Eurisy and its partners to form a global vision of both

limiting and facilitating factors for implementing operational satellite services, and to engage in support for the users in the long-term. In order to cover aspects which are usually not covered by mere technical demonstrations of satellite services (decision-making process, financing mechanisms, organisational change etc) Eurisy is working on setting up models for service implementation by the final users.

Finally, this places Eurisy in a position to provide bottom-up feedback to policy-makers and the space sector to inform them of the leverages of action they have in facilitating users' access to the services. This input is aimed to contribute to shaping future space and development policies.

## 2.2 Programme implementation and preliminary results

The first user community Eurisy has set to work with, as part of its user programme, is that of the Local and Regional Authorities<sup>5</sup>. The programme for local and regional authorities has enabled Eurisy to refine its methodology to support user communities, to develop its expertise and acquire the relevant tools. The programme has already provided concrete and encouraging results only 18 months after its beginning.

Partnerships have been developed with the most relevant representative organisations of cities and regions in Europe: the Assembly of the European Regions (AER), the Committee of the Regions (CoR), and the Council of European Municipalities and Regions (CEMR)<sup>6</sup>. All are now working with Eurisy to learn more about the solutions that satellites can offer, and how to implement these solutions in a sustainable manner.

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<sup>5</sup> The rationale behind a support programme for local and regional authorities is that they are major drivers for change. Through their ability to 'think global, act local' the Regions have become instrumental in the success of equally ambitious EU development projects such as the Lisbon and Gothenburg Agendas, or "Regions for Economic Change". The better equipped they are, the more able they are to live up to this role. Satellite information and services have an important role to play in supporting them to achieve their objectives.

<sup>6</sup> Other organisations that have worked with Eurisy on specific themes are worth mentioning: The Association of European Border Regions (AEBR), and the Conference of Peripheral and Maritime Regions (CPMR)

In the series of successful events inaugurated by a conference in Barcelona in May 2007, a number of experienced local and regional representatives who already use satellite information and services have shared their experience with their peers from across Europe. Over the last 18 months, through 2 conferences and 3 workshops, 125 Regions have learnt that they are concerned by satellite information and services.

The conclusions and recommendations of the first term of the programme have been included in a Position Paper, endorsed and co-signed by the AER, which has given it further legitimacy. This Position Paper was presented during the mid-term conference hosted by the CoR on 11 September 2008 in Brussels. It recommended the set-up of financial mechanisms for final users, and in particular a coordination mechanism covering the transition between R&D and structural funds.

The mid-term Brussels conference gathered over 150 participants from European local and regional authorities, the European Commission, the European Parliament, the European Space Agencies and the space industry. Most importantly, it marked the peak of the momentum gained by the programme so far: while attendance to the programme's inaugural conference in May 2007 included 20% of regions, attendance from regions to the Brussels conference rose to more than 50%.

Throughout these events, Eurisy has facilitated numerous exchanges between local and regional authorities and service providers, which in some cases lead to successful working relationships.

Furthermore, two case-studies have been initiated, attempting to provide some answers to the question of how regions can implement and benefit from self-sustainable, operational satellite services. Eurisy currently works with the AER and 10 European Regions to help them improve energy efficiency objectives by using satellite services. The previous case study, initiated thanks to Eurisy's efforts and concerning several regions in Romania, has passed the case-study stage and is now in the process of operational implementations of the service for mitigating flood risks.

Another sign of changing perceptions of local and regional authorities with regards to

satellite services is the place they are willing to give to Eurisy in their own events. Eurisy has organised, on request of regions, several information and training sessions in regions' events, such as the Open Days<sup>7</sup> in Brussels. Furthermore, the AER, CEMR and Eurisy have and will continue to co-organise thematic workshops for regions. Not only are Eurisy events included on the AER or CoR agendas; these organisations have also realised they are stakeholders of satellite information and services, and are decided to play a role in their development.

Eurisy has achieved its mission: to put space on the agenda of local and regional authorities in Europe and create a strong understanding that satellite information and services must serve regions. The importance of such a programme, and its results, can be no better described than by the users themselves:

*“Indeed, when AER started cooperating with EURISY last year, it was not that clear to AER member regions what exactly satellite information and services – on the one hand – meant exactly, and on the other hand – could bring us in our daily policy work. That is exactly how innovation works: firstly you wonder why you should be interested in this new idea or concept and there is an important need to explain, define, give examples, show best practices. Then, you become aware of what you can do with this new concept or idea and a new horizon opens up. AER has realised that satellite services could help our regions innovate and solve concrete problems linked to issues as diverse as transport, health, agriculture and fisheries, energy, environmental protection, emergency planning etc. So not only spatial planning as one could think first. But our problem, as regional representatives, was: “we know nothing about these technologies”, so how could we imagine what we can do with them and even further, make use of them?”[6].*

While the results of its programme for local and regional authorities are encouraging, Eurisy is committed in working with them on the long term and will open up its programme to new final-user communities.

### 3 CONCLUSION

Space offers unexpected solutions and tools for society to use in meeting its challenges of today and tomorrow. These solutions are becoming indispensable to ensure its sustainable development, yet their potential is far from being fully exploited.

Some of the reasons behind this are false assumptions, rigidities and resistances in the exchanges between the space community and society, the complexity and length in time of the process leading from R&D to operational use of its results, and lack of institutional support for users throughout this process.

More knowledge transfer from one sector to another will necessitate a change of perspectives and assumptions of both the space sector relative to the user communities, and of the latter relative to space-based tools. Policy-makers, on the other hand, have a role to play in supporting this process of inter-sectoral collaboration in the long term. Notably, through adequate regulatory and financial mechanisms, they are in a position to support the access of users to the benefits of the satellite services, by integrated funding of the whole process from R&D to operational use of products and services.

Eurisy operates in the interest of society in supporting users' access to satellite information and services. Through its programme for local and regional authorities, Eurisy has proved a reliable facilitator, intervening successfully on the gaps identified as hindering inter-sectoral knowledge transfer and dialogue.

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<sup>7</sup> Open Days – the week of European regions and cities is an annual event gathering more than 5000 regional representatives for 4 days in Brussels, on the initiative of the Committee of the Regions and EC DG Regio.

#### 4 REFERENCES

[1] “The Space Economy at a Glance” OECD Publications, 2007.

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[4] 4th SPACE COUNCIL Resolution on the European Space Policy, 22 May 2007: [http://www.consilium.europa.eu/ueDocs/cms\\_Data/docs/pressData/en/intm/94166.pdf](http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/94166.pdf) (last consulted in Sept. 2008)

[5] Conclusion speech by Mr John Smith, Devon County Council Deputy Leader and Leader of the AER Emergency Planning Network, Assembly of European Regions (AER), to the Eurisy thematic workshop “Local and Regional Risk Management” on 10-11 March 2008 in Sinaia, Romania

[6] Presentation of AER-EURISY Position Paper “For a facilitated access for Regional and local authorities to the benefits of satellite information and services” by Thomas Andersson, Chairman of the AER Group on Future Regional Policy and County Councillor for Jämtland (S), during Eurisy conference “Regional Policy: benefits from Satellite Information and Services on 11 September 2008, in Brussels