

## Business with ESA Telecom





**Business with ESA Telecom**

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## ESA's Achievements in Satellite Communications

*The European Space Agency has been active in the satellite telecommunications field since the 1970s, when its predecessor, ESRO, started the development work that led to the European Communications Satellite (ECS) System.*





*OTS*, the Orbital Test Satellite, launched by ESA in 1978, pioneered the use of three-axis stabilisation and of the Ku-band for TDMA telephony and FM television distribution. *OTS* was the progenitor of the ECS satellites and led to the formation of Eutelsat, which now provides communications, broadcasting and data distribution services over an extended European region.

In parallel, ESRO/ESA's work on maritime communications, and its Marots and Marecs satellites with their advanced systems and technology, were important contributors to the early Inmarsat system. The later *Olympus* satellite pioneered Direct-to-Home TV broadcasting and the use of the Ka-band for communication between VSATs.

More recently the *Artemis* satellite, launched in July 2001, demonstrated the value of the latest technology developed by

ESA. This mission, which was initially thought lost due to a launch problem, was ultimately rescued thanks to the novel ion thrusters that the satellite was carrying for technology-demonstration purposes. As a consequence, *Artemis* is now successfully providing advanced services, employing a range of advanced technologies:

- Optical data relay with France's Spot-4 and Japan's OICETS satellites.
- Data relay at Ka-band for ESA's Envisat satellite, and in the near future for the Automated Transfer Vehicle (ATV) and the International Space Station (ISS).
- Medium- and low-rate data relay at S-band.
- L-band land-mobile coverage for Europe, North Africa and parts of the Middle-East.
- Navigational support for the EGNOS (European Navigation Overlay Service) project.



2

## About ESA Telecom

*ESA's primary aim in the satellite communications field is to contribute to the competitiveness of the European and Canadian private sector by providing a lead in research and development (R&D) activities and by forging partnerships within the industry.*



ESA Telecom is the Agency's Department responsible for coordinating, shaping and supporting innovation in satellite communications. The Telecom team solicits inputs from commercial businesses (such as equipment manufacturers, system developers, satellite operators, service providers and application developers) and academic organisations (such as research institutes and universities) to produce a single, prioritised R&D plan. The implementation of such plans allows ESA Telecom to play an important role by supporting the development of new satellite systems and technologies in preparation for future services. ESA's financial contribution is necessary to offset the inherent risks associated with advanced space projects, which often deter commercial investors.

The Telecom Programme, which forms part of ESA's EU and Industrial Programmes Directorate, is currently supported by 18 participating countries: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Norway, Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom. Each country's subscription determines the level of participation of its own industrial

sector in the programme, with the national interests of each country being represented by their respective delegation.

ESA's Telecommunications Programme is *market-focused*. This means that the great majority of the Agency's Telecom resources are devoted to supporting European industry through a variety of what are called 'near-term' mechanisms. *New technology* is also a cornerstone of ESA's development planning, recognising that a successful strategy must also be based on a solid foundation that ensures sustainability in the long term.

By providing specialised telecommunications knowledge, ESA can assist European and Canadian industry in furthering their ambitions. Moreover, by acting as a catalyst for the formulation of a coherent European position, ESA can also drive the development of *new standards* for communications services.

In carrying out its mission, ESA does not operate in isolation, but pursues its goals within a complex industrial/political environment in which many different interests interact. For achieving those goals, therefore, ESA maintains a *constant*





*dialogue* with the key players. ESA Telecom's remit includes:

- undertaking development and testing, as well as the in-orbit demonstration, of new satellite systems, equipment and services
- ensuring that new technologies are successfully transferred to, and exploited by, service providers and applications developers
- harmonising the needs at European level with the relevant national priorities
- promoting agreement on standards, to ensure that the benefits of interoperability of systems across Europe and Canada are achieved

### ***ESA Telecom reacts to the changing needs of European industry***

Since late 2001, the global telecommunications market has been experiencing a severe crisis. Stagnating demand has caused a reduction in the use of in-orbit satellite capacity and has delayed the foreseen introduction of large-capacity broadband interactive systems. The reduction in satellite orders has critically reduced the activities of satellite manufacturers.

In this troubled environment, the role of ESA has become more important. The Agency has tailored its actions to adapt its Long-Term Plan to the new market conditions. It is reinforcing its support to European industry by getting it ready to emerge from this crisis with the capabilities and competitiveness that will be required when the upturn in the market cycle occurs and growth returns.

# 3

## How the Programme is Organised

*Historically, the Programme was divided into 'Elements', within a framework known as ARTES - Advanced Research in Telecommunications Systems. Since the ESA Ministerial Council in Edinburgh in November 2001, it has been restructured into 'Programme Lines' that cover the main strategic areas and reflect the evolution from the conventional ARTES Elements to a more pragmatic and topic-related approach.*



A total of eight programme lines have been identified into which all of the necessary actions have been mapped:

**1. Programme Development** (Preparatory Activities Programme and Standardisation) – this activity constitutes the strategy component of the ESA Telecommunications Programme.

**2. Technology** - an important part of ESA's role in telecommunications is to research new technologies of a very advanced nature which require long-term vision about their eventual application.

**3. User Segment** – support to applications, ground networks and user terminals which are critical for the successful introduction of new services and the opening of new markets.

**4. Multimedia Systems** – the deployment, demonstration and early operation of GEO multimedia projects, leveraging ESA's existing investments in multimedia technologies and services.

**5. Mobility** – development of the technologies for and promotion of the early deployment of the next generation of mobile services.

**6. Large Platform Mission** – development of the large European platform, with a mass greater than 7000 kg and capable of providing power levels in excess of 20 kW.

**7. In-Orbit Demonstrations** – flight qualification of new payload and platform components plays a vital role in removing the risk from development programmes and speeds commercial adoption.

**8. Inter-Satellite Links** – ISL technologies provide the opportunity to increase the capabilities of next-generation satellite networks.

Given the present telecommunications market conditions, activities supporting the Telecom *Strategy (Programme Development)*, the *User Segment*, *Multimedia Systems* and the *Large Platform* development, as well as *Technology*, are among the Agency's highest priorities in the coming years.

A lower ESA Telecom priority is the demonstration of a future generation of *Mobile Systems*. Because the *In-Flight Demonstration of Inter-Satellite Links* and the development of a new *Small Geo-Platform* have not yet received sufficient financial support, and because they are not yet mature enough for short-term implementation, ESA Telecom is going to keep this implementation flexible through a continuous process of work-plan assessment and adaptation.



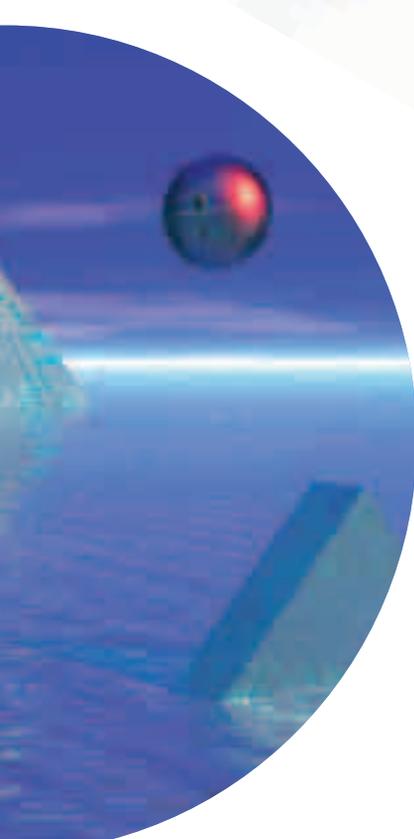
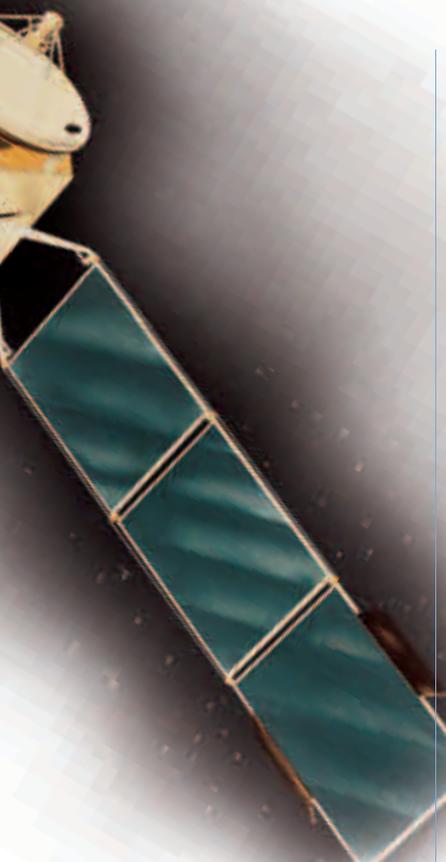


## Programme Development

*Programme Development (referred to as 'Preparatory Activities and Standardisation' in the Long-Term Plan) is a strategic component of ESA's telecommunications activities, identifying and evaluating opportunities, future systems and concepts within the space and terrestrial telecommunications markets.*

# 3a





**Objectives**

The main aim is to sustain a *strong competitive position* in the long term. This is achieved through *constant monitoring of the markets*, generating *original concepts* for new systems and services, and promoting effective, *standards-based solutions*.

Mission, system and other studies in order to prepare and continuously update ESA's medium and long-term programmes in the telecommunications field, and the technological developments necessary for the execution of the ESA Telecommunications Programme are defined.

**Activities**

Programme Development provides an analysis of the evolution and competitiveness of the space and terrestrial telecommunications markets, which helps ESA Telecom to refine its strategy. New system architectures are evaluated, providing insight into the requirements for new technological developments. *System studies* are carried out to encourage the development of synergies and

co-operation with other satellite applications, such as navigation and Earth observation.

By providing the *strategic framework* to interface with operators and service providers, ESA takes their requirements into account in the orientation its R&D planning and technology development. It is crucial to assess and anticipate the real needs of the market through consultations with operators, service and applications providers (satellite and terrestrial), users' forums, manufacturers of terrestrial and satellite equipment, institutions, and others. Some of these consultations are conducted via formal consultative bodies or, in very specific cases, via co-operations leading to joint pilot projects with pre-commercial objectives.

*Standardisation* is a key factor in the success of satellite communication services, European industry and operators. Significant effort is therefore dedicated to promoting the emergence of European-led telecommunications standards.

*Activities in this programme line are 100% funded by ESA*

	ARTES 1	ARTES 3	ARTES 4	ARTES 5	ARTES 8
<b>Programme Development</b>	•			•	



3b

## Technology

*The Technology programme line focuses on the development of equipment and subsystems for evolving satellite telecommunications systems.*





### **Objectives**

The objective of the Technology programme line is to maintain and *enhance the competitive position* of the satellite telecommunications industry and operators by developing new technologies that improve the performance and cost efficiency of equipment, subsystems and systems.

### **Activities**

Working closely with industry, ESA co-ordinates and sponsors the R&D necessary to bring new technologies to *near-market-readiness*.

By investing in new technological avenues the Agency helps European industry to develop and exploit emerging products, services and markets. It is ESA's task to carry out the development of equipment and services that correspond to the future requirements of operators and users. At the same time, an important part of ESA's role in telecommunications is to research and develop technologies and concepts of a very advanced nature with high application potential for the *longer term*.

*Given the nature of the Technology programme, which focuses on long term technologies as well as on short term technologies for immediate market opportunities, the programme covers most of the ARTES elements.*

The resulting strength of Europe's technology base has enabled its industry to command 50 percent of the geo-communications satellite market, while ground-segment providers have formed some of the world's leading Digital Video Broadcasting (DVB) set-top-box companies. ESA's R&D effort continues to seek to maintain and eventually improve *Europe's lead* in the future.

The many ESA-sponsored innovations that have already been deployed operationally include: high-performance satellite antennas, on-board processing units, radio-frequency equipment, solar arrays, power units, propulsion subsystems, avionics equipment, mechanisms, structural elements and ground-terminal equipment.

	ARTES 1	ARTES 3	ARTES 4	ARTES 5	ARTES 8
<b>Technology</b>	•	•	•	•	

3C

## User Segment

*The User Segment programme line promotes near-to-market development activities in the area of satellite communications that have a direct impact on the user community.*

*User Terminals and Applications are the two main lines of development.*



### Objectives

Traditionally, ESA has focused primarily on the development of the space infrastructure and technology. Today, the success of a satellite communications venture relies on the appropriate combination of all system elements, particularly those that are accessed directly by the end users.

In a saturated TV market, operators and service providers are seeking ways to enlarge their product/service offerings. This can only happen if new applications and user terminals are developed.

### Activities

Looking at the *User Terminals*, there are essentially three main areas of activity:

1. *The Professional Internet (DVB-RCS) group*, focusing on the high-end corporate market.
2. *The Consumer Internet (Light DVB-RCS) group*, focusing on ADSL-like Internet access to the consumer market.
3. *Interactive TV (iTV)*

The following six *Application* areas are currently active:

- *Information services for communities/groups*
- *Distance learning*
- *Infrastructure/platform: this area covers the development/enhancement of satcom systems in terms of hardware and/or software*
- *Disaster/emergency relief*
- *Business to Business and Business to Consumer*
- *Telemedicine/Medical education.*

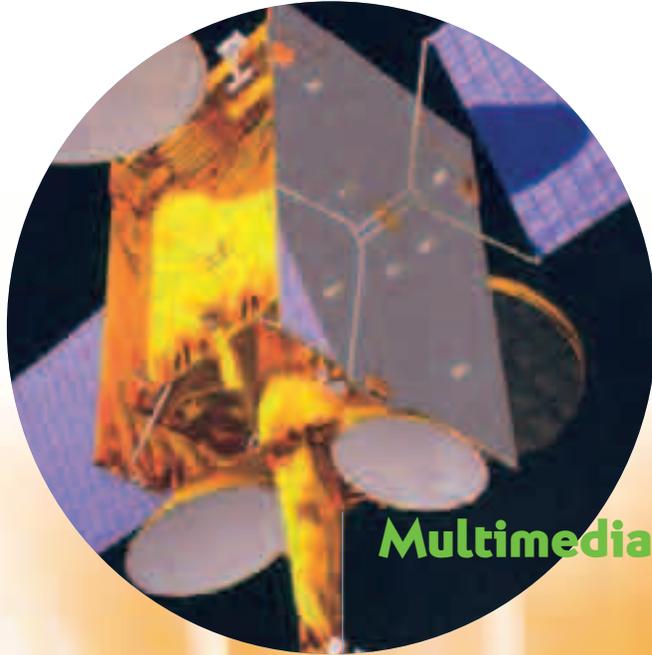
### Highlights

One project within this programme is 'Satmode'. ESA has joined forces with a team led by SES Astra (Luxembourg) to develop a satellite interactive system providing 'always-on' connectivity between the digital TV set and content providers.

The Satmode system is set to enable permanent, real-time responses by millions of TV viewers to content provider's programmes. It will also allow provision additional services such as SMS, of tele-voting, management of personal video recorders, access control, pay per view and other impulse transactions.

ARTES 1 | ARTES 3 | ARTES 4 | ARTES 5 | ARTES 8

<i>User Segment</i>	•	•	•	•	
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## Multimedia Systems

# 3d

*For the development and launching of complete state-of-the-art interactive multimedia satellite systems and services, ESA maintains the Multimedia Systems programme line. It is well equipped to meet a broad range of future market needs for European companies.*



### **Objectives**

The Multimedia Systems programme line aims to:

- create *industrial partnerships* to undertake this project
- design, launch and operate separate *multimedia satellite services* for pre-operational deployment starting in 2004
- design, launch and operate a number of smaller systems based on *piggy-back payloads* to be flown on future satellites.

Once successfully demonstrated in orbit, the services will be ready for full market development. Their early deployment will satisfy the unmet demand for multimedia services caused by current bottlenecks in the terrestrial telecommunications infrastructure, and establish open standards for multimedia systems, encouraging maximum future European involvement in this sector.

### **Activities**

Each service will be fully deployed, demonstrated and followed through to early operations. Players across the entire value chain will be included in the demonstrations: all

the necessary payloads, ground-control segments and user terminals need to be completed. ESA will pursue the establishment of partnerships with operators and industry in readiness for the deployment of these pre-operational systems. The first launch is planned for 2004.

The systems developed will be co-funded with industry. Satellite operators, in particular, will share the risk during development, in leading the pre-commercial phase, and later market development. Prime contractors will be appointed for each service to lead consortia.

Always open to and interested in new ideas, ESA Telecom encourages the submission of ideas related to elements or subsystems of the projects.

### **Highlights**

An early product of this programme line is the AmerHis project, a new approach to satellite transmission. AmerHis will work like a *switchboard in space*, making it possible to use satellite capacities much more efficiently. The AmerHis system is intended to provide high-performance interactive multimedia services through Hispasat's Amazonas satellite in its four Ku-band coverage zones: North America, South America, Brazil and Europe.

	<i>ARTES 1</i>	<i>ARTES 3</i>	<i>ARTES 4</i>	<i>ARTES 5</i>	<i>ARTES 8</i>
<b>Multimedia Systems</b>	•	•	•		

The logo consists of the characters '3' and 'e' in a bold, green, sans-serif font. The '3' is slightly larger than the 'e'. Both characters have a white outline and are set against a background of a blue grid with a white arrow pointing right.

## Mobility

*The Mobility programme line works to shape the future of advanced mobile satellite services. It focuses on system concepts for next-generation regional mobile systems, one example being a seamlessly integrated satellite element - Mobile Satellite Systems (MSS) and Digital Audio Radio Services (DARS). Development and adoption of appropriate standards and compatibility with terrestrial infrastructure are a priority.*



### **Objectives**

The Mobility programme line has the following objectives:

- to develop optimised system architectures and subsystem specifications based on the inputs provided by operators and industry, aiming at improved integration and operability with existing and future networks
- to support European industry in standardisation and regulatory activities
- to develop the necessary innovative key technologies to ensure independence from systems or equipment from non-European suppliers
- to develop, demonstrate and promote advanced mobile satellite systems that use technologies developed in Europe
- to develop and demonstrate applications and services that use these advanced mobile satellite systems and facilitate satellite integration with terrestrial networks and hybrid satellite/terrestrial localisation systems.

### **Activities**

System-architecture studies initiated under this programme line will be used to develop the next generation of mobile services, systems, equipment and user terminals.

A special task force dedicated to *Advanced Mobile Satellite System (ASMS)* has been set up, with members selected by a number of mobile telecommunications operators and industry. It supports *European standardisation and regulatory activities*, co-ordinates a common vision for development, and helps industry build on the existing infrastructure. This activity will help to give European mobile satellite services a stronger foothold and protect the industry from dependence on US-based systems.

	<i>ARTES 1</i>	<i>ARTES 3</i>	<i>ARTES 4</i>	<i>ARTES 5</i>	<i>ARTES 8</i>
<i>Mobility</i>	•	•	•	•	



## Large Platform Mission

# 3f

*The Large Platform Mission (also known as AlphaSat) is centred around the development of a new European multipurpose platform (also known as AlphaBus) to accommodate large telecommunications payloads, initially with power requirements of 12 to 18 kW, but with growth potential to 25 kW. The programme is based on strong cooperation with CNES, Alcatel Space and Astrium.*

### Objectives

Large satellites are expected to account for 30% of the geo-market in 2010. The consolidation of European industry combined with the development of enabling technology will provide a credible European alternative for satcom operators. This will also have the added effect of overcoming the competitive gap in the world market. The success of the programme will secure European independence in the sector and stimulate future telecom applications requiring intelligent payloads with high power requirements.

The ESA programme line has the following objectives:

- Initiate ESA-funded pre-development contracts to secure enabling technology and to assist the emergence of 'second-source' hardware suppliers able to match the market needs of the Large Platform.
- Develop and qualify, together with CNES (Centre National d'Etudes Spatiales) and Industry, a generic production line for AlphaBus based on ground qualification of development and engineering models.

- Place an ESA procurement contract for the proto-flight model of AlphaBus.
- Consolidate a Large Platform Mission combining ESA-funded payloads (ARTES 3) with institutional and/or commercial payloads, allowing the in-orbit demonstration of a proto-flight large platform by 2007/8.

### Activities

The Large Platform Mission programme line presently involves three mainstream activities:

- *Pre-developments.*
- *AlphaBus:* the development of a generic line of large platforms.
- *AlphaSat:* the mission-definition study with the prime contractors focusing on an institutional mission in co-operation with the European Community, and the need to match an innovative public service with the unique capabilities of the AlphaBus.

The decision to procure the AlphaBus protoflight model is de-coupled from the overall AlphaSat mission definition, allowing the work on AlphaBus and AlphaSat to proceed in parallel.

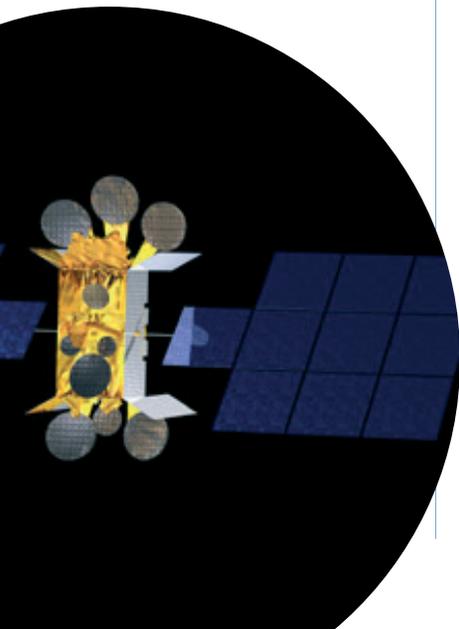
*ARTES 8 has been specifically created for the Large Platform Mission programme line.*

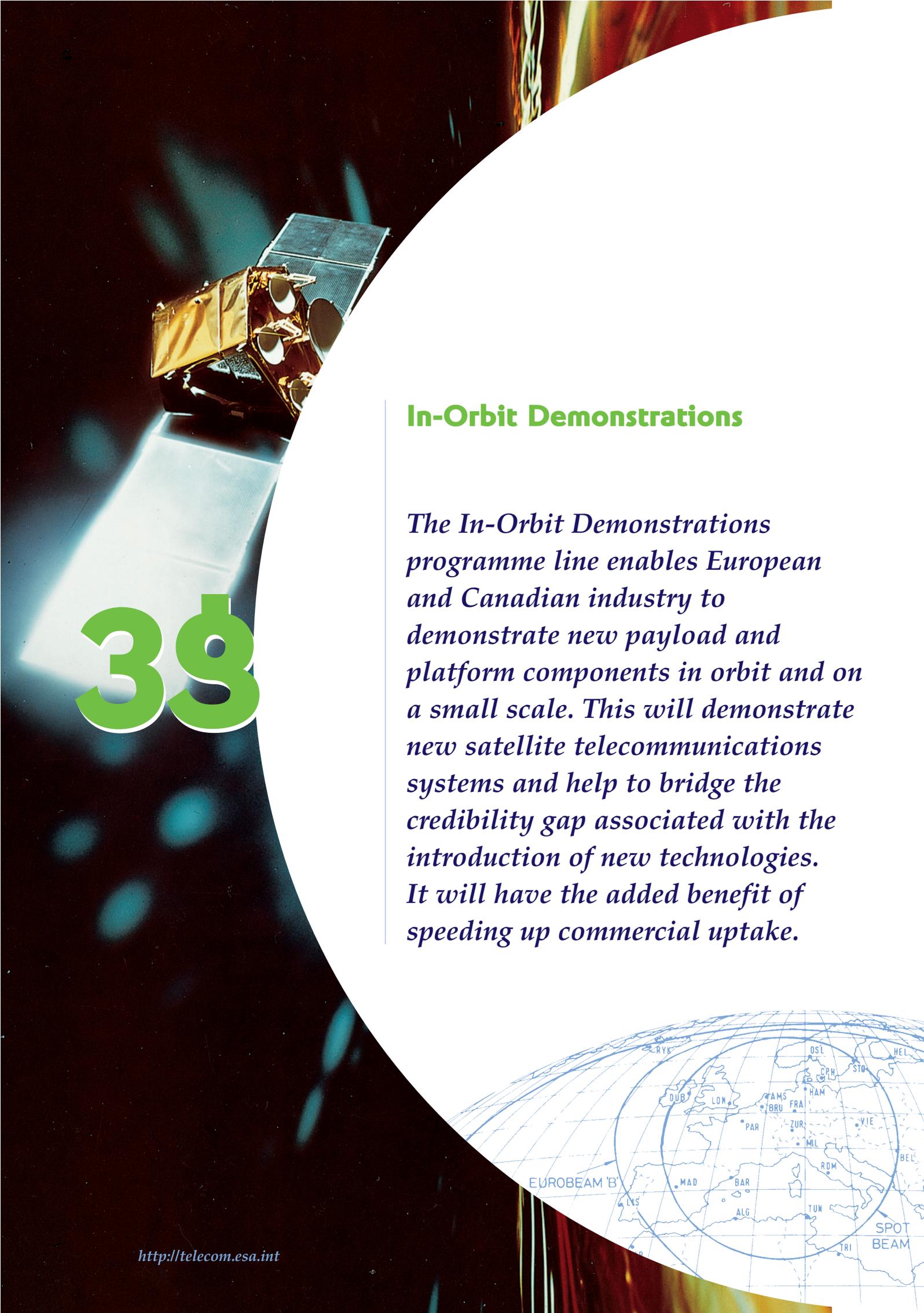
ARTES 1 | ARTES 3 | ARTES 4 | ARTES 5 | ARTES 8

Large  
Platform  
Mission

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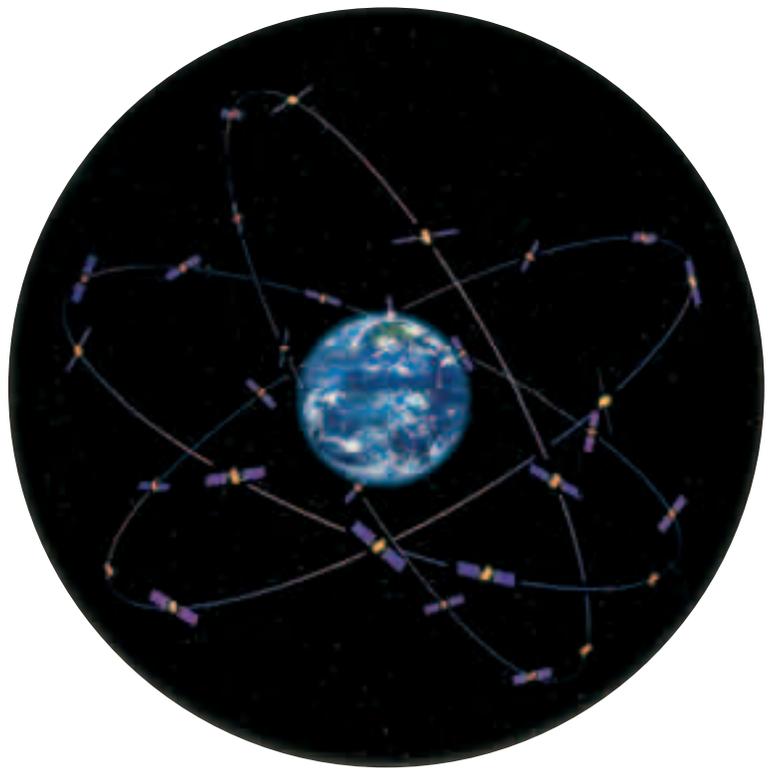




3\$

## In-Orbit Demonstrations

*The In-Orbit Demonstrations programme line enables European and Canadian industry to demonstrate new payload and platform components in orbit and on a small scale. This will demonstrate new satellite telecommunications systems and help to bridge the credibility gap associated with the introduction of new technologies. It will have the added benefit of speeding up commercial uptake.*



*This programme line is currently in a definition phase. Several feasibility studies are taking place. The full launch of this programme line will depend on a demonstrated market and on the availability of financial support from the Member States.*

ARTES 1 | ARTES 3 | ARTES 4 | ARTES 5 | ARTES 8

**In-Orbit  
Demonstra-  
tions**

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# 3h

## Inter-Satellite Links

*The Inter-Satellite Links programme line supports the development of on-board ISL terminals, and enables satellites to be linked together in orbit, thereby increasing their effectiveness.*



**Objectives**

The Inter-Satellite Links programme line aims at developing and demonstrating *radio-frequency* and *optical inter-satellite links*.

Most of today’s communications satellites only have links to their ground station(s), which means a signal destined for another satellite has to be relayed via that ground station. Inter-satellite links promise to greatly increase the capabilities of next-generation satellites, enabling operators to establish full broadcast services across the globe without the added complication of relaying signals via ground stations.

**Activities**

ESA has been researching and developing the inter-satellite link technique for more than twenty years, first with radio-frequency links and most recently with laser links. On 21 November 2001, the French Spot-4 satellite successfully transferred data to ESA’s Artemis spacecraft using the Agency’s SILEX modulated-laser system.

*Laser links* have a greater carrying capacity than RF links, are less vulnerable to signal interference, and are extremely secure and difficult to intercept.

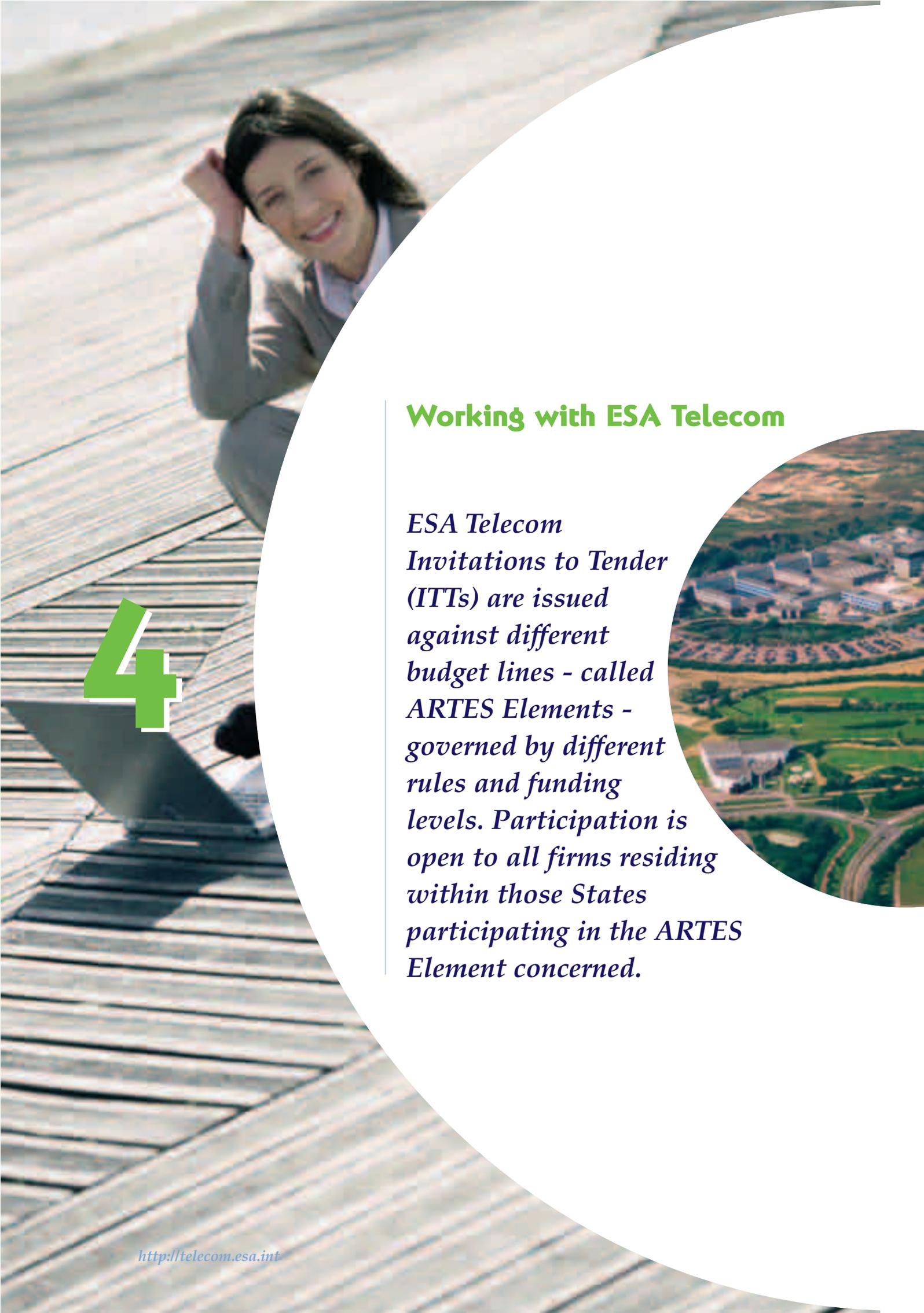
ARTES 1 | ARTES 3 | ARTES 4 | ARTES 5 | ARTES 8

*Inter-Satellite Links*

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# 4

## Working with ESA Telecom

*ESA Telecom Invitations to Tender (ITTs) are issued against different budget lines - called ARTES Elements - governed by different rules and funding levels. Participation is open to all firms residing within those States participating in the ARTES Element concerned.*



ESA will *fully fund* (100%) projects in the early stages of innovative-technology development where there is a perceived high commercial and/or technical risk. ESA will *partially fund* (up to 50%) projects related to the integration and demonstration of activities based on existing technologies that are tailored to pre-operational products, systems and applications with identified market opportunities.

Before considering responding to an ITT, a company should ensure that:

- The company and its sub-contractor(s) are located within the Participating States listed under the applicable ARTES Element.
- The National Delegation will support the proposal (applicable to ARTES 4 and ARTES 5 Elements only).

### ***Fully funded budget lines (100%)***

#### ***ARTES 1***

Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom

#### ***ARTES 5***

Austria, Belgium, Canada, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland

#### ***ARTES 8\****

France, Germany, Luxembourg, Netherlands, Norway, Switzerland

### ***Partially-funded budget lines (50%)***

#### ***ARTES 3***

Austria, Belgium, Canada, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom

#### ***ARTES 4***

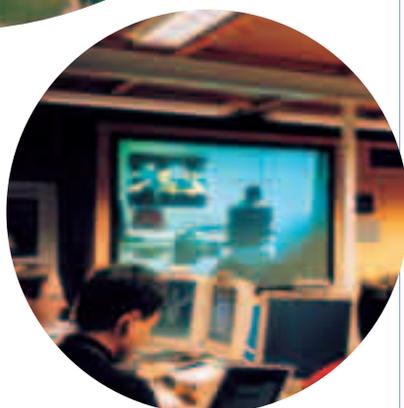
Austria, Belgium, Finland, France, Greece, Ireland, Italy, Netherlands, Norway, Sweden, Spain, Switzerland, United Kingdom

#### ***ARTES 8\****

France, Germany, Luxembourg, Netherlands, Norway, Switzerland

ITTs are generally issued in open competition. Restricted-competition and direct-negotiation ITTs are issued in some specific cases. Apart from the current opportunities, there is a continuous open call for unsolicited proposals for all programme lines in ARTES 4. Detailed conditions can be found in the ITT Conditions of Tender. For detailed information about the ITT process and how to participate in ESA Telecom's current opportunities, please refer to: <http://telecom.esa.int>

*\*ARTES 8 has both 100% and 50% funding profiles. Details can be obtained by contacting the contracts officer.*





# 4a

## Start-up Initiative

*In addition to the regular ITTs, ESA Telecom is offering exciting opportunities for start-up projects - an open door for business innovation. The Start-up Initiative aims to support a number of Small and Medium-sized Enterprises (SMEs) through the early development stages of researching and refining a business proposition.*

*SMEs are defined, using European Commission criteria, as companies that:*

- *have fewer than 250 employees*
- *have either an annual turnover of less than 40 million Euros or an annual balance-sheet total of less than 27 million Euros*
- *are independent, i.e. not more than 25% owned by a larger (non-SME) company*



The field of satellite communications can be a tough one for smaller businesses to enter. The technical and commercial risks, as well as the perceived complexity of the area, can act as strong deterrents to entrepreneurs and potential financiers alike. However, satcom provides many exciting possibilities for new technology, applications and services in areas such as mobile communications, the Internet, multimedia, broadcast and location-based communication systems. And it is not only the large enterprises that can exploit these opportunities successfully!

In 2001 ESA launched an initiative designed to *help smaller companies* enter the satcom sector or to develop new business ideas in the field. The results have encouraged ESA to expand and refine the scheme to build on the initial success. The latest initiative supports SMEs through the awarding of development contracts, with one of two funding levels available depending on the commercial maturity of the proposition:

- (a) financial support up to 100% (max. 300 000 Euros) for validation of concepts in the early stages of development involving innovative technologies with perceived high commercial and/or technical risks
- (b) financial support of up to 50% (max. 150 000 Euros) for integration and demonstration activities based on existing technologies tailored to pre-operational products, systems and applications, with identified market opportunities.

In addition to the *financial support*, ESA will also use its *expertise* and *contacts* to bring together complementary ideas and ventures in the satcom field. The aim of the Start-up Initiative is to ensure that at the conclusion of the project,

companies are in a position to progress the commercial exploitation of their proposal, either independently or possibly through one of ESA's alternative schemes, e.g. the Multimedia programme line. Furthermore, ESA Telecom offers *satellite capacity* and *ground infrastructure* to the most promising projects.

### ***Who is eligible?***

Any small or medium-sized business from a country participating in ESA's Telecommunications Programme is eligible to apply. These countries are Austria, Belgium, Canada, France, Finland, Germany, Greece, Italy, Ireland, Luxembourg, Norway, Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom (please, check specific tender documents). Particular attention will be paid to proposals from companies who have never had a contract from ESA before.

### ***How do I apply?***

The application process has been divided into two steps to allow feedback on initial ideas (Step 1: Outline Proposal) before a full proposal (Step 2: Complete Proposal) is required. Initial ideas, described in less than two pages of text, have to be submitted using an online form. These ideas will be evaluated by ESA Telecom and companies will be informed about the outcome of this pre-selection process. Selected companies will then be invited to submit full proposals according to the schedule of the tender. Again, an evaluation period will follow to select the proposals that are deemed valuable enough to receive a contract.

For more information and the dates for the next round, please refer to: <http://telecom.esa.int/startup>



4b

## **User Support Office (USO)**

*The User Support Office (USO) functions as a single point of contact for all firms wishing to work with the Agency in the fast-moving satellite communications sector - with a particular focus on Small and Medium-sized Enterprises (SMEs). In addition to this support, the USO makes available a suite of fully remotely accessible services that have been developed to meet the needs of ESA Telecom partners.*



The USO provides tools to support companies in their work before, during and after an ESA Telecom project. These include *web-based training courses* about current satcom technology and how to work with ESA Telecom, along with *document templates* and the *project management software* eProject Enterprise.

A dedicated *Call Centre* provides rapid troubleshooting, while a web-based *Bulletin Board* facilitates co-operation between different projects. Online *expert groups* provide a forum in which to discuss specialist issues of interest to project partners, from telemedicine to digital cinema.

The USO also provides access to a wide range of *ESA resources*, from uplink stations to leased satellite capacity. A Europe-wide network of *Local Agents* is available to facilitate co-ordination between industry, national delegations and

the Agency in order to match USO initiatives with the different national situations. The USO is also looking beyond the traditional horizons of telecom initiatives to help projects prepare the ground for the follow-on to the successful R&D activities.

A specific *Market Development Support* function has been implemented to provide initial guidance on typical business matters: pricing strategy, public relations and fund raising guidelines are now available in the Business Toolbox for telecom projects – but much more is in preparation!

Further information and a brochure about the User Support Office are available on the ESA Telecom website:

<http://telecom.esa.int/uso>

or via e-mail:

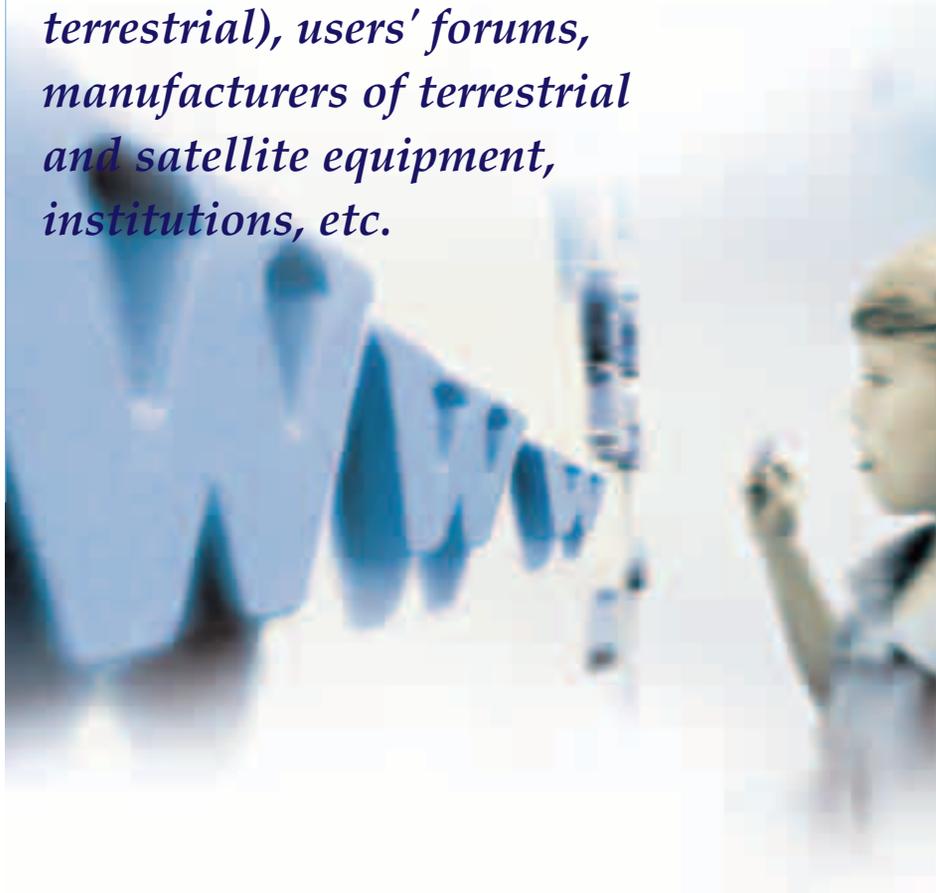
[user.telecom@esa.int](mailto:user.telecom@esa.int).



## Special Interest Groups

# 4C

*With its Special Interest Groups, ESA is developing an open environment for exchanges between operators, service providers, applications providers (satellite and terrestrial), users' forums, manufacturers of terrestrial and satellite equipment, institutions, etc.*





With the Special Interest Groups, ESA develops an open environment for exchange between operators, service providers, applications providers (satellite and terrestrial), users' forums, manufacturers of terrestrial and satellite equipment, institutions, etc.

Special Interest Group objectives cover :

- Common industry-wide vision/position documents
- Common system/component specifications
- Common positions vis-à-vis standardization regulatory bodies
- Recommendations to ESA on the orientation of R&D planning and development
- Industrial expert advice to ESA
- Implementation of joint pilot projects with pre-commercial objectives.

Among the standardization/special interest groups are:

### ***Satlabs Group***

This is an international, not-for-profit association whose members are committed to bringing the deployment of the DVB-RCS standard to large-scale adoption. The main objective of the SatLabs Group is to ensure interoperability among DVB-RCS terminals and systems and the availability of solutions for interoperability testing and certification.

Another objective of the Group is to achieve lower user terminal costs by exploiting commonalities between different systems, defining and developing common critical components and technologies, and defining common practices and recommendations.

### ***AHG-RSAT***

On ESA's initiative, and with the co-operation of the main interested parties, the Ad-Hoc Group (AHG-RSAT) was created with the aim of developing recommendations that could form the basis for standards for satellite terminals to be designed to operate within a variety of Regenerative Satellite Multimedia Systems (RSMS). The basis of the technical work was the DVB-RCS ETSI Standard.

### ***ASMS-TF***

The Advanced Satellite Mobile Systems Task Force (ASMS-TF) is an independent, industry-led body, committed to the successful introduction and development of advanced (including 3G and beyond) mobile satellite communications systems and services.

Interested? Then please visit the ESA Telecom website <http://telecom.esa.int/specialinterest> for more information or membership application.



4d

## Frequently Asked Questions

### *Who can participate in ESA Telecom programmes ?*

Participation is open to all firms residing in the ESA Member States participating in the ARTES Element concerned. For ARTES 4 and 5, the national Delegate has to support the proposal in writing.

### *What is ARTES?*

ARTES (Advanced Research in Telecommunications Systems) constitutes a set of legal and financial frames that allow the implementation of R&D activities with different degrees of technical and commercial maturity. For the relationship between ESA's programme lines and the ARTES programme elements, please consult the ESA Telecom website:

<http://telecom.esa.int>

### *How do I find out who the Delegate for my country is?*

A list of all national Delegates can be found on the ESA Telecom website: <http://telecom.esa.int/delegates>.

### *How do I find out about current opportunities to participate in ESA Telecom programmes?*

A list of all ESA Telecom opportunities for which a proposal can be submitted can be found online on the ESA Telecom website:

<http://telecom.esa.int/opportunities>

### ***What is EMITS?***

EMITS is ESA's official electronic tendering system, to which every company in the Agency's Member States is allowed access. To apply for a password, go to:

<http://emits.esa.int/> and click on "Registration Request".

### ***What do I have to keep in mind when I prepare a proposal for ESA Telecom?***

Guidelines for the preparation of fully or partially funded projects can be found online at:

<http://telecom.esa.int/proposalpreparation>.

### ***Is it possible to communicate with the ESA Technical Officer to explain my proposal during the tendering period?***

No. Any questions relating to the ITT should be addressed in writing to the Contracts Officer. The proposal must be written as carefully and clearly as possible, addressing every single point required by the ITT. The proposal as submitted will form the sole basis for evaluation according to the evaluation criteria.

### ***How does the User Support Office help SMEs and new entrants?***

The USO was created to foster growth of SMEs and small start-up ventures in the field of satcom-based technologies and applications. Its services aim to facilitate access for SMEs and new entrants to ESA Telecom's projects, to assist them during the execution of the project, and finally to provide access to the business-development tools needed to bridge the gap

between the concept feasibility/sustainability demonstration stage (typical of an ESA Telecom project) and commercial readiness.

### ***Where is the User Support Office located?***

The USO staff are located in the Telecommunications Department of the ESA Application Directorate, at ESTEC in Noordwijk, The Netherlands. Unlike more traditional business-incubator concepts, the USO does not provide office facilities, but the full range of its services are accessible from the website or the contact points.

### ***What is eProject?***

eProject is a web-based project-management and collaboration tool freely available to all companies that are under an active contract with ESA Telecom. Please refer to your ESA Technical Officer for more information on how to use it.

### ***What is a project web page?***

Projects under ESA Telecom contract are represented on the ESA Telecom website <http://telecom.esa.int> with a project web page, which gives the contractors, contacts, objectives and current status of the project. The project web page is a contractual delivery and the template can be downloaded from: <http://telecom.esa.int/usol/projectsupport/doctemplates/projectwebpage>.

### ***I am looking for a sub-contractor or partner for my proposal. Does ESA Telecom offer any support in finding one?***

The USO has created a Bulletin Board. It is accessible free of charge for companies under ESA Telecom contract and offers you the opportunity to explore the sharing of resources among projects or offers a starting point for exploring new partnerships. You can also offer or search for equipment or hardware and look for new team members or knowledge.

### ***Does ESA Telecom offer satellite capacity?***

Yes. ESA is currently leasing 10 MHz of capacity on the F3 transponder of Eutelsat SESAT, located at 36 degrees East orbital position. This capacity can be made available to Telecom projects subject to availability and co-ordination among the different user groups. Access to ESRIN and ESTEC Uplink Stations is also offered to Telecom projects free of charge, in order to exploit the Eutelsat transponder capacity leased by ESA.

# 5

## Latest Information from ESA Telecom

*Would you like to be kept up to date regarding current opportunities, the Start-up Initiative, Calls for Ideas and the many other things happening at ESA Telecom? If so, subscribe to the ESA Telecom website and you will regularly receive information, simply by completing a short webform and selecting the type of information you wish to receive: see <http://telecom.esa.int/subscribe>.*



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## **BR-206**

*August 2003*

Prepared by: *Ninja Menning*

Published by: *ESA Publications Division  
ESTEC, PO Box 299  
2200 AG Noordwijk  
The Netherlands*

Editor: *Bruce Battrick*

Design & Layout: *Leigh Edwards*

Copyright: *© 2003 European Space Agency*

ISSN: *0250-1589*

ISBN: *92-9092-651-1*

*Printed in  
the Netherlands*

Price: *7 Euros*