

# ***The ESA Telecom Start-up Projects Initiative***



## ***SINEQUANET Workshop***

***8 February 2007***

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ESA Telecom Department

- **ESA Telecom Introduction**
- **ESA Telecom Start-up Projects Initiative**
- **Support after Project Completion**
- **Start-up Projects Initiative - Links**
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## ESA programmes

All Member States participate in activities and a common set of programs related to the Space Science mandatory program

In addition, members chose the level of participation in optional programmes:

- Human space flight
  - Microgravity research
  - Earth observation
  - **Telecommunications**
    - Satellite navigation
    - Launcher development



## **ESA Telecom Mission:**

Promote Competitive Position of European and Canadian Industry in the Satcom Sector through the development of New Technologies, Products, Systems and Applications

## Programmatic Instrument:

### ARTES (Advanced Research in Telecommunications Systems)

ARTES is a highly flexible programmatic tool that allows multiple forms of participation. It is also designed to address various levels of proximity to market requirements

ARTES 1 = Strategy

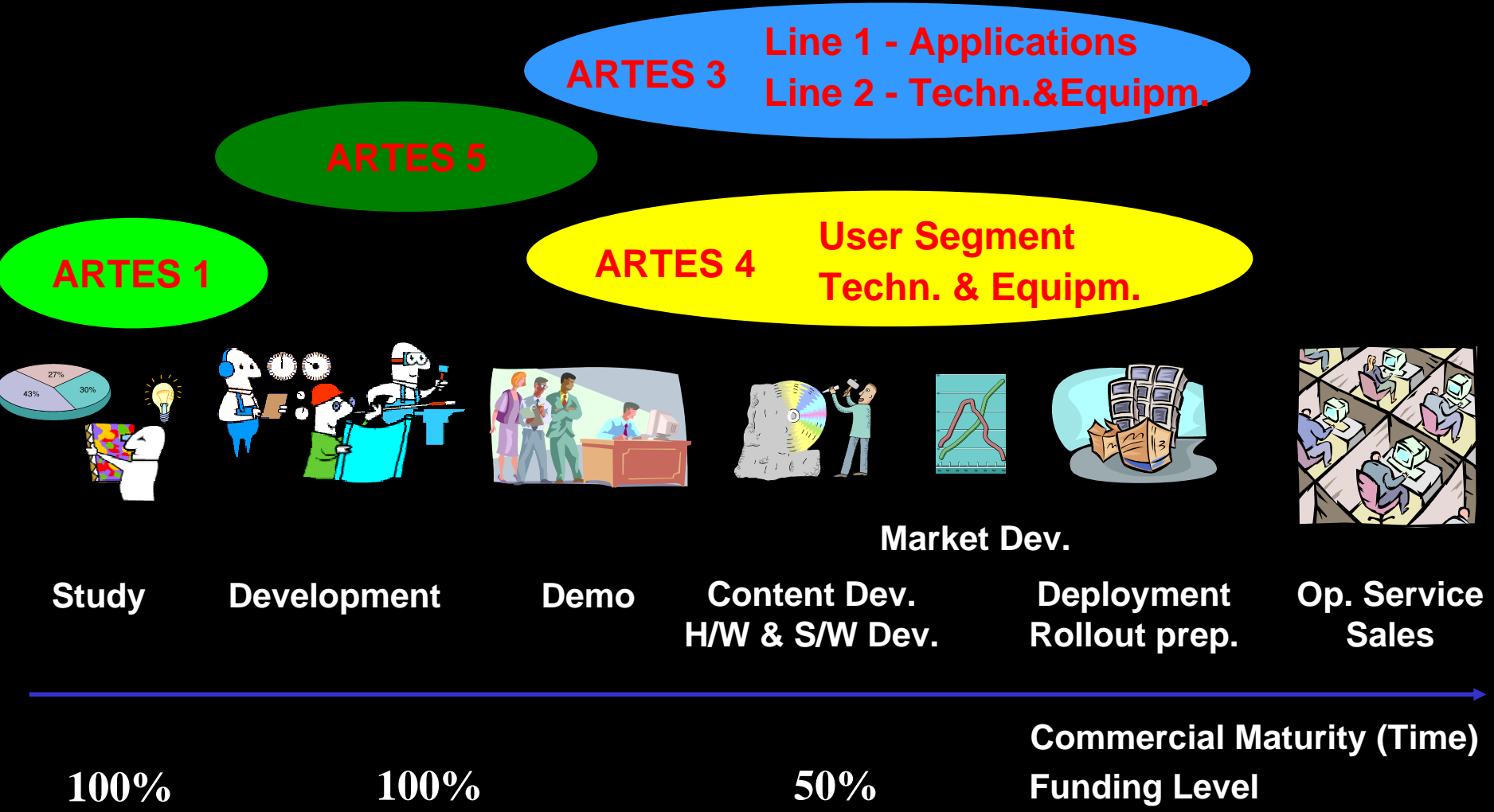
ARTES 3 = Multimedia

ARTES 4 = Partnership

ARTES 5 = Technology

ARTES 8 = Large Platform + Mission (project)

ARTES 11 = Small Geoplatform + Mission (project)



## Programmatic Instrument:

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} ESA Telecom Start-up Projects Initiative

**Objective:** Attract and assist Small and Medium Enterprises (SMEs) to **develop business opportunities in the field of satellite communications** with special attention turned to companies who have never had a contract with ESA Telecommunications

**Eligibility:** **Small and Medium Enterprises** (SMEs) according to EC definition 2003/361/EC, of 6 May 2003 (OJ L 124, 20.5.2003, p.36),  
**Supported by respective National Delegation**

**Scope of activities:**

Must be relevant for the satellite telecommunications sector  
Must include the Satcom component as an essential element:  
space-borne equipment, ground segment, application/services involving telecommunication satellites

**Process:** **Continuous open call** for proposals (revision of process ongoing)  
2-step approach: Outline Proposal → Complete Proposal  
**Direct Negotiation** mode (iteration process)

**Support:** Funding up to 50% funding, max. of 150 kEuro (ARTES 4 or ARTES 3), technical support, networking contacts, financial training

**Activity content:** Defined by industry

Integration and demonstration activities based on existing technology tailored to pre-operational products, systems and applications/ services in a pre-competitive environment

**Activity duration:** 12-18 months max.

**Proposal content:** According to framework requirements of Call for Proposal:

- Commercial Feasibility Analysis
- Product Development Document
- Product Validation Document
- Administrative, Management and Financial Document

**'Call for Proposals' in preparation:** Launch expected by beginning of March 2007

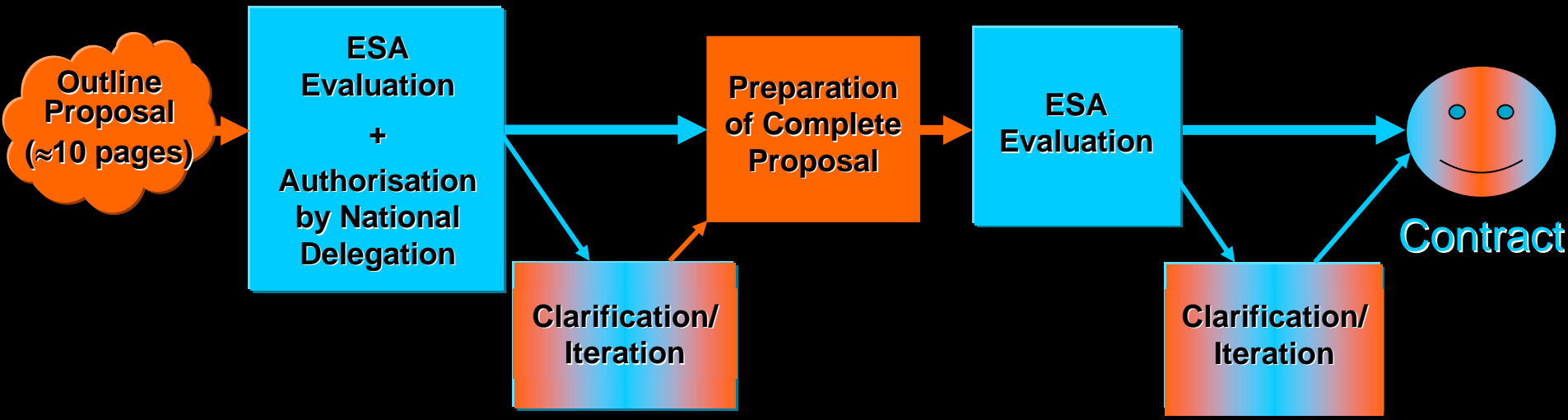
## **Content of Outline Proposal (~10 pages)**

- Rationale of the business opportunity with the key commercial aspects, including potential target market, target customers, competitive environment & own positioning, market strategy
- Solution in terms of technology, product / service, position in the value chain
- Role of Satellite Communications (Satcom) within the activity
- Development approach, main requirements, description of starting point, elements to be developed, validation/qualification status at activity end
- Background and experience related to the particular activity
- Proposed partnerships & associated status of formalisation
- Cost of the proposal (can exceed 300 kEuro, but ESA support limited to 150 kEuro)
- Administrative information like contact details, partners / subcontracts planned (subcontractors in other countries need specific authorisation)
- Information on the SME status

# Proposal Submission and Approval Process

Industry/Business actions

ESA actions



Initiated by  
Industry

2 weeks

if necessary

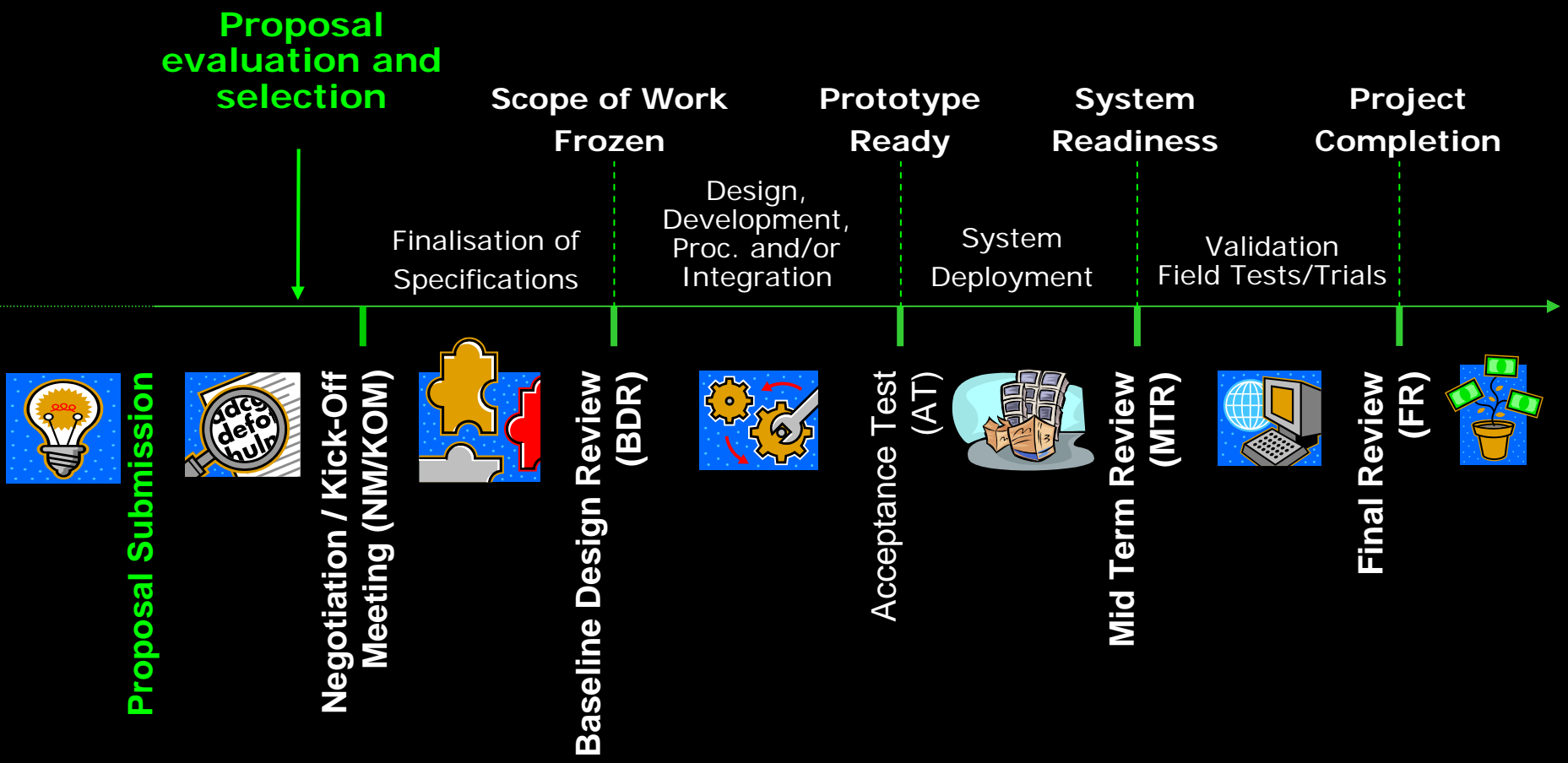
Initiated by  
Industry

4 weeks

if necessary

4 weeks

## Project execution: a common logical approach



## Activities in 3 areas:

### - Enabling Technology for Satcom:

space-borne equipment (limited): material developments, receivers, technologies

ground equipment: gateways, modulation, coding, satellite operations

user terminals and antennas: DVB-RCS, VSAT, antennas, modems, software

### - Satcom Applications and Services:

Business-to-Business: Internet to ships, interactive TV, advertising, e-Learning

Community information services: video on demand, broadband for rural areas

Relief of disaster / emergency: alarm and surveillance systems

Satcom network systems: network management

### - Location Based Communication Applications:

Infomobility services (based on positioning information):

alpine rescue service, fire fighting equipment, emergency call equipment

## Contracts awarded in previous 6 rounds:

66 contracts, 12.1 MEuro

Project Web Pages & Final Reports under <http://telecom.esa.int/startup>

## Challenges at the end of each Start-up Project:

- further developments need to be done to complete the product/service
- the product/service needs to be productionised to become ready for operational use
- partnerships have to be established for manufacturing, marketing, distribution
- the company has to survive for some time before the first product can be sold
- market / customer awareness and acceptance has to be created

**=> Need for additional resources, esp. money**

### **ESA Telecom offers additional support:**

- Financial support in the **co-funded programmes ARTES 3 / ARTES 4** (after start-up project, companies have sufficient experience to submit regular proposals for ARTES programmes)
- **Networking** within the community of the ESA Telecom programs (regular workshops on various subjects, e.g. Start-up Projects, Applications, Protocols/IP, terminals)
- Access to **ESA Telecom experience** through known persons (e.g. technical officer, User Support Office, programme office)
- **Support tools** accessible on ESA Telecom Website (e.g. Business Tool Box – Fund Raising, Industry Contact Database)
- Market Development Support (e.g. **Venture Academy**, workshops with potential investors)

- **Reference Information**

Information on the revised process of this initiative will be available on the ESA Telecom Website by February 2007 including links to project web pages of former rounds: <http://telecom.esa.int/startup>

- **ITT Documentation**

Official documentation will be issued on EMITS under 'Open Invitations to Tender' probably by March 2007: <http://emits.esa.int>

- **Project Web Pages**

On the ESA Telecom website, quite a number of projects are presented with their project web pages to provide an impression on what kind of activities are run under the ARTES programmes:

<http://telecom.esa.int/telecom/www/object/index.cfm?fobjectid=222>

- **Training Tool**

On the ESA Telecom website a training tool is available providing information how to prepare a proposal:

<http://telecom.esa.int/telecom/www/category/index.cfm?fcategoryid=67>

- **ESA SME Initiative (ESA)**
  - ↳ **project 'SINEQUANET' (ESA)**
- **ITI - Innovation Triangle Initiative (ESA)**
- **NPI – Networking / Partnership Initiative (ESA)**
- **ESI & ESINET (ESA/NL & Investors)**
- **ESINET Fund (Investors/ESA)**
- **FinanceSpace (EC)**
- **INVESAT (EC & ESINET)**
- **EOMD, GSTP, TTP (ESA)**

**Objective:** Guarantee SMEs a share in ESA's technological activities,  
Facilitate their access to technical facilities and tools,  
Promote the participation of SMEs in ESA's space activities

**Support:**

- Dedicated technology programmes encouraging technology spin-in from SMEs (e.g. LET-SME = Leading Edge Technology – Small & Medium Enterprises, Innovation dedicated Announcements of Opportunities),
- Special procurement policies for SMEs in ESA's Invitations To Tender (ITT),
- Support for SMEs diversification (e.g. Technology Transfer),
- Training and Technical Assistance (e.g. How to write a good proposal, Quality Assurance, Software Engineering, etc),
- Forums and Information Networks (e.g. Industry Space Days)
- Access to ESA facilities and laboratories
- Development of new tools (e.g. SINEQUANET)

**Contact:** Ms Nora Bougharouat (Tel: +33 1 53697654, email: SME-UNIT@esa.int)

<http://www.esa.int/SME>

[http://esamultimedia.esa.int/docs/industry/SME/SME\\_Brochure\\_EN.pdf](http://esamultimedia.esa.int/docs/industry/SME/SME_Brochure_EN.pdf)

**Objective:** Create a network for SMEs which will broker (organise, structure, deliver) between the demand for services of various kinds and the sources which can supply those services

**Support:** Access to technical facilities, expert support and training services, leverage the expertise inherent within the space industry itself

**Status:** Project initiated by ESA and EC in November 2005  
SINEQUANET is currently in its first phase including

- the definition of the needs of SMEs
- testing the concept through provisioning of concrete support to 2 SMEs
- creating a database of sources of expertise and suppliers of facilities/services
- creating a SME dedicated website (web portal under construction)
- holding a series of workshops in Europe  
(to validate the concept and allow stakeholders to provide inputs)

First workshops on 30 May and 8 December 2006

Next workshop on 8 February 2007 in Darmstadt (ESOC)

Further workshop planned in Italy (28 March 2007)

**Contact:** Ms Nora Bougharouat (Tel: +33 1 53697654, email: [Nora.Bougharouat@esa.int](mailto:Nora.Bougharouat@esa.int))  
[http://www.esa.int/SPECIALS/SME/SEM9U3BUQPE\\_0.html](http://www.esa.int/SPECIALS/SME/SEM9U3BUQPE_0.html)

**Objective:** Identification, validation and development of disruptive space innovations based on new ideas or concepts, giving preference to innovations coming originally from non-space industrial or research sectors

**Support:** Seed-money, technical support and networking contacts aiming at combining the creativity, know-how and experience of the Research Community, Space Customers and Industry (Triangle: Inventor – Developer – Customer)

**Funding/duration/subject:**

	50 kEuro	9 months	Proof of concept (inventors)
	150 kEuro	12 months	Demonstration of feasibility and use (developers)
<i>New</i>	<i>200 kEuro</i>	<i>12 months</i>	<i>Technology adoption (customers)</i>

**Process:** Next Announcement of Opportunity beginning of 2007 (continuous open)  
3 submission rounds expected, 1.5 – 2 MEuro / year  
open to industries from all member states

**History:** 2004/2005: 235 proposals received, 57 activities funded, 5.1 MEuro

**Contact:** Mr Marco Freire (ext: 6463, email: [Marco.Freire@esa.int](mailto:Marco.Freire@esa.int))  
<http://iti.esa.int>

**Objective:** Increase interaction between ESA, European universities, research institutes and industry.

Enhance research for space applications and support potential 'spin-ins' for space from technologies developed outside the space sector in areas such as consumer electronics, material sciences, micro- and nanotechnology.

**Support:** Support technology developments in selected universities and research institutes:

- co-funding for research up to 50% or 30 kEuro/year for a doctorate degree or post-doctoral investigations,
- access to ESTEC laboratories for a minimum of 6 and a maximum of 12 months,
- technical support via access to ESA experts,
- networking through links provided by ESA and search for potential partners.

**Process:** ESA invitation to universities and research organisations to submit innovative proposals for research in any technical domain relevant to space,  
Applications twice a year synchronised with the academic calendar,  
Proposal template on request

**Contact:** Mr Jörg Wehner (ext: 4409, email: Joerg.Wehner@esa.int)  
[http://www.esa.int/SPECIALS/SME/SEM8889L6VE\\_0.html](http://www.esa.int/SPECIALS/SME/SEM8889L6VE_0.html)

**Objective:** Support entrepreneurs to establish start-up companies offering new services or applications emerging from the creative use of space technologies and/or systems in non-space sectors (technology transfer)

**Support:** Seed-money, technical expertise, ESA resources, business services, office space

**Status:** Founded in 2002, 35 partners (incubators) all over Europe, ESI at Noordwijk (NL) is hub of ESINET with current 22 incubatees  
2007 transition to commercially based incubator planned

**Funding/duration/subject:**

~ 50 kEuro    6 months    Elaboration of business plan

**Process:** Proposal submission at any point of time  
Business proposal shall exploit space technologies of systems, and target non-space sectors (space technology transfer, new services making use of space systems, generic systems for better use of space systems on Earth)  
Requirement for ESI (NL): company to be registered in NL

**Contact:** Mr Frank Salzgeber (acting head) (ext: 3910, email: Frank.Salzgeber@esa.int)  
Ms Aude de Clercq (legal officer) (ext: 8662, email: Aude.de.Clercq@esa.int)  
<http://atecmmedia.com/esi> and <http://atecmmedia.com/esinet>

**Objective:** Provide dedicated equity financing in the form of early-stage venture capital to stimulate the development of companies using space technologies or satellite applications for non-space purposes

**Support:** Support from (300 ...) 500 kEuro to 5 MEuro (tbd)  
Investment focus:  
- space technology related businesses (technologies & satellite applications, non-space markets;  
- ESA member states & EC countries  
- seed funding & early stage funding

**Status:** Legal situation clarified  
Venture Capital Fund - opening in 2007  
Company to manage the fund recently selected (E-Synergy Ltd, London)  
Management team to set up application procedures and to raise the funds

Fund size (planned) ~ 40 MEuro (of which 5 MEuro from ESA)

Fund lifetime ~ 8 years (with potential extension of 2 years)

First round of project presentations to VCs planned on 23/24 April 2007, restricted to projects incubated in the ESNET network

**Contact:** Mr Frank Salzgeber (temporary) (ext: 3910, email: [Frank.Salzgeber@esa.int](mailto:Frank.Salzgeber@esa.int))  
**website tbd**

- Objective:** Bridging the divide between Space Technology opportunities and the financial support to them by encouraging and facilitating links between the European Space Sector, funding sources and innovative enterprises
- Goals:**
- Research and identification of sources of finance and actors with an interest in the European Space Sector
  - Market findings and tools to boost the amount of Space derived applications
  - Identification of weaknesses and barriers for co-operation in the market
  - Highlighting synergies between different market players
  - Recommendation on relevant policies to address those weaknesses
  - Stimulating investment in space technology, esp. technology spin-off
- 4 interactive round table meetings (2006: 1, 2007: 2, 2008: 1)  
2 investment fora (first on 23/24 April together with ESINET fund & INVESaT)  
Dissemination, publications
- Status:** 30 months project from January 2006 to June 2008  
supported by 6th Framework Programme for Research & Technological Dev.  
Partners: ESA (lead), ISU, MST Aerospace GmbH, Europe Unlimited, INBIS
- Contact:** Mr Gabrio Boerci (ext: 3910, email: [Gabrio.Boerci@esa.int](mailto:Gabrio.Boerci@esa.int))  
<http://www.financespace-innova.com>  
<http://www.europe-innova.org>

**Objective:** Bridging the gap between INnovative Enterprises and Financial InVEstors in the emerging ICT markets of Satellite Applications (earth observation (GMES), navigation (Galileo), telecommunications)

**Goals:** Constitution of a dedicated network of key representatives from the space and finance communities  
Providing entrepreneurs the knowledge for the development of successful business models in the field of space applications  
Overcoming barriers for capital investment into innovative services from space  
Catalysing innovation financing through entrepreneur's fora  
Coaching of entrepreneurs on real cases in the network of space incubators  
2 networking events (23 May 2006, 23/24 April 2007)  
2 Investment fora (1st: 23/24 April 2007, 2nd: April 2008)

**Status:** 30 months project from January 2006 to June 2008  
supported by EC DG Enterprise and Industry & ESINET  
Partners: EBN – European Business and Innovation Centre Network (lead),  
5 expert partners in satellite applications and finance (incl. ESA),  
5 incubating structures + Business School of Finance and Management (D)

**Contact:** EBN, Mr Robert Sanders (Tel: +32 2 772 89 00, email: info@invesat.com)  
<http://www.invesat.com>  
<http://www.europe-innova.org>

## **EOMD – Earth Observation Market Development**

**Objective:** Foster the emergence of a European Downstream Industry offering EO-based services, with the prospect of becoming sustainable, to Public & Private customers on the global market.

EOMD provides specific programmatic support for activities related to the market development and business phase in the overall evolution of EO-based products and services. It is open to all ESA membership countries including Canada, but with the exception of Ireland and Portugal.

**Info:** <http://www.eomd.esa.int>

## **GSTP – General Support Technology Programme**

**5<sup>th</sup> AO for Market Oriented Activities planned in Q1 2007**

**Objective:** Support of market-oriented activities on a co-funded basis (50%)  
(2006: support of up to 1 MEuro max per activity, 16.7 MEuro total)

**Contact:** Mr Udo Becker (ext: 5373, email: [Udo.Becker@esa.int](mailto:Udo.Becker@esa.int))

## **TTP – Technology Transfer Programme**

**Objective:** Exploit the technologies developed as part of the European space programmes for the non-space sector

**Info:** [http://www.esa.int/SPECIALS/Technology\\_Transfer/](http://www.esa.int/SPECIALS/Technology_Transfer/)

**Point of Contact for any question related to the  
ESA Telecom Start-up Projects Initiative:**

**Norbert Hübner**

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