

## OUT OF THIS WORLD INNOVATION, REAL WORLD APPLICATIONS

The EU and ESA look to encourage greater SME participation in the space sector - not only as contributors to the robustness of the space industry, but especially due to the positive effects of their high-tech innovations, as they permeate through to more traditional markets.

For SMEs, working in the space industry can typically be a very exciting and stimulating endeavour. The allure of creating novel space applications stimulates creativity, firing imaginations to achieve engineering innovation. However, the space activities of most SMEs contribute only to a limited share of their total turnover. They are therefore obligated to find ways to translate their space technology into products consumed in ground markets. Ultimately, **SineQuaNet** can also help them to do that, but its first operation phases will target SMEs willing to increase their participation in space activities.

## WIN-WIN SITUATION IMPROVING RETURNS ON INNOVATION & INVESTMENT

**SineQuaNet** is designed as a win-win situation. SMEs will benefit from the expertise of high-calibre experts and/or access to state-of-the-art facilities without the need for recruitment or heavy investment. By offering the support of their experts or the use of their test facilities on a remunerated basis, large groups, universities or laboratories stand to benefit from the more profitable use of their experts and an improved return on their investment in research facilities.

## WHAT'S NEXT

The initial stage of the project is underway and moving ahead at full steam. It will establish the network's foundations, prepare the necessary tools for its operation and test its functions through case studies. Even though **SineQuaNet** will require a few years to achieve its full operational potential, SMEs will be able to receive – free of charge – concrete services right from the start. During this stage, some 120 engineers will receive training in four areas identified through direct consultation with participants:

- 1) quality and product assurance;
- 2) electrical, electronic and electro-mechanical components;
- 3) writing a successful proposal for an ESA Invitation to Tender;
- 4) innovation: from R&D to business development (including sources of capital).

Many other activities will also be part of **SineQuaNet**. On several different occasions SMEs and industry players will be given the opportunity to meet the Project Team. In addition, four regional workshops will be organised throughout Europe to meet end users and discuss with them project content as well as their real needs, upon which **SineQuaNet** will ultimately be based.

## SineQuaNet IN PRACTICE

Case studies: hands-on expert support helping SMEs adapt their technologies to space.

- SME: Leirios
- Nationality: French
- Innovative capital: A new test generator for the automated testing of software development.
- **SineQuaNet** added-value: ESA specialists will assess the generator's usefulness for space, through its ability to test the Attitude and Orbiting Control System(AOCS) onboard software of an ESA small satellite (PROBA 2).

- SME: HOS-Technik GmbH
- Nationality: Austrian
- Innovative capital: Specialises in producing the additives and catalysts used to produce high-temperature resins and polyimides for the plastics and rubber industry.
- **SineQuaNet** added-value: ESA specialists will assist in adapting the manufacturing process of some of their products, e.g. polyimide and polybenzimidazole films, for their exploitation in the space sector.

## WANT TO GET INVOLVED?

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Community research

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**SineQuaNet**  
Space INtelligence, Engineering &  
QUALITY NETWORK



SIXTH FRAMEWORK  
PROGRAMME

## SineQuaNet HELPING SMEs REACH FOR THE SKY

Why the European Union is determined to ensure the improved productivity and overall success of small and medium-sized enterprises (SMEs) is easy to understand. SMEs constitute 99% of all businesses in Europe and employ two-thirds of its workers. Due to their relatively small size, SMEs possess a level of creativity and versatility that is essential to maintaining a vibrant, thriving culture of technological innovation in Europe. SMEs operating in the space sector are clearly no different.

Opportunities for SMEs in the space sector are real, and the EU wants to help them harness that potential. Those SMEs present in this high-tech sector play a vital role in reaching the objectives of the Lisbon Programme. They consistently raise the level of technological competence across all sectors, thereby improving the technological capacity of the entire European economy. High-tech innovation must be given every chance possible to establish itself as a cornerstone of European economic growth.

At the same time however, the space sector presents a unique set of challenges for SMEs that requires a range of creative solutions. Such challenges can represent significant hurdles for SMEs as competition in the space market is becoming more and more fierce, preventing them from taking advantage of the opportunities available to them. **SineQuaNet** (Space **I**ntelligence, **E**ngineering & **Q**uality **N**ETwork) was developed specifically to help SMEs overcome such barriers.

The European Commission and the European Space Agency (ESA) understand that SME participation in space industries has not yet reached its full potential. They have therefore agreed to support and finance **SineQuaNet** as a way to provide SMEs with the tools they need to increase their participation in the sector.

## WHAT SineQuaNet MEANS FOR SMEs

The space industry poses many inherent challenges, leaving it out of reach of many SMEs. One such challenge is the fundamental shift the industry has undergone in recent years. There has been a vertical integration of many large companies into the production chain, leaving the SMEs to be viewed simply as suppliers of niche or off-the-shelf components. Other barriers to the market can include:

- insufficient knowledge of space-specific engineering requirements;
- lack of access to technical infrastructure and test facilities;
- insufficient manpower resources to fully assimilate and apply the standards and procedures set by the space industry;
- lack of management know-how in the context of transnational, multipartner projects;
- complexity of procurement procedures.

**SineQuaNet**, through the combined efforts of ESA and the European Commission, specifically addresses these (often prohibitive) factors that discourage SMEs' full participation in the space sector. It connects engineering firms with the necessary experts who can help them succeed in tapping the potential of the space market.

## EU AND ESA: ONE GOAL

At the beginning of this millennium, EU public officials decided it was time to start exploring the ways in which a collective space policy could benefit society as a whole. Up until that point, space policy had existed only at an intergovernmental level guided by ESA. With the advent of such international space initiatives as the Galileo satellite positioning and navigation project and the Global Monitoring for Environment and Security initiative (GMES), it was clear that the environment was right for a productive, mutually beneficial partnership to develop between the EU and ESA.

Funding for space-oriented research in Europe currently lags behind that of other countries. For example, European funding for space programmes amounts to one sixth the size of that enjoyed by US companies. **SineQuaNet** is designed as a dedicated tool to help SMEs succeed despite that gap. Competition with third party countries is also difficult due to existing highly developed networks aided by extensive public funding. **SineQuaNet** will remedy that situation by organising European experts and infrastructure to optimise the wealth of currently available resources. It won't compete with any existing structures, but will facilitate the transfer of knowledge and resources through newly created channels of communication.

**SineQuaNet** will foster the development of a self-sustaining network of European industry experts and professionals who will coach SMEs on how to succeed in the space sector. The underlying concept of **SineQuaNet** is that it is a network without which crucial opportunities would continue to be missed, but with which vital leverage can be provided, thus reinforcing the profitable flow of innovation into and out of the space technology business.