

Panel on the Galileo Programme, 22nd November -2011
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Thanks for the invitation to the panel. Our department, which is devoted to support the participation of the scientific and technical community into the European Framework Programme for R&D, has followed the evolution of the industrial participation in the Research Satellite Navigation Programme for many years. Thus, we will refer not only to the big players but especially to the small ones and to the entrepreneurs. We are close to the participant. We have helped them (and we will continue supporting them) to achieve their goals in R&D and in technology and knowledge transfer from research to the market, always with the benefit of the citizens in mind. In addition, our institution **encourages entrepreneurship**, supports the creation of new innovative companies and puts these entrepreneurs in contact with regional and local actors, which sometimes can provide more dedicated and customized services.

The first thing to note is that the Galileo programme has been (and remains) an **opportunity for creating highly qualified jobs** in Europe. Groups of excellent researchers, scientists and technicians have found a place for testing concept ideas, designing new services and conducting applied research with the objective of solving real problems and of improving the quality of our daily lives. Centres of knowledge have been deployed inside big industrial players but also we have seen the spontaneous generation of new small and medium-sized companies focused on R&D. Galileo programme has been an enabler of this.

In addition, seeking efficient solutions has fostered and encouraged natural and **synergic interactions with other space sectors**, for instance, GMES and satellite communications. Also some ground-based technologies have been involved in this delivery process: In-situ networks of sensors, airborne platforms equipped with remote sensing and measuring technologies, ground telecommunications and ICT solutions.

As a result of these symbiotic interactions, cross-disciplinary outcomes are reaching the market in new sectors such as telemedicine. Here solutions for distance caring and for monitoring of individuals with special needs or dedicated products for the ageing population, are performing totally in-line with the societal challenges that Europe is facing right now and in the future.

Another example of the programme's proximity to the citizenship is the public transport solutions, which have extensive use. GNSS technologies have enabled a most efficient way of managing public services and of generating accurate information for the passenger. It is a fact that the public transport sector has been one of the earliest adopters in such a way that now satellite positioning and satellite infrastructures are a common facility.

Besides the "cascade effect" on other sectors, the European GNSS programme has promoted **international collaboration**. EGNOS extension and GNSS applications have been the excuse to establish continuous links with other actors all over the world: From Latin-America to Asia, and especially with our neighbouring countries in Eastern Europe, North Africa and the Middle East.

We can "export" not only our knowledge but also our experience and our values to these collaborators in the global competitiveness area.

On the other hand, the international environment has highlighted some of our **weaknesses. For instance, the rapid** delivery of satisfactory solutions to the market is one of them.

Even that this problem is not specific to Galileo and EGNOS, they have contributed to face the issue. We need to speed up our time to market in order that we do not lose competitiveness to other providers around the world. Thus a response, from the policy stakeholders, to crucial issues for our companies such as the **certification and standardisation of products, services, procedures** is paramount in order of to do not lose the momentum.

Coming out to the most important, which is the **market up-take thanks to the excellent collaboration between research and industry**, one can find good examples of “almost-ready” assimilation of GNSS: **Civil aviation, railway and road sectors** are the main exponents. In this last one, the closest approach to the mass market is road tolling and pricing (or pay-for-use). It has been demonstrated that, under certain conditions and when collaborating with already existing ground technologies (such as radio-frequency based systems), GNSS provides an optimal solution. In large road networks which can be potentially submitted to changes due to natural or man-made factors, satellite-based services are much more cost-effective and flexible than the usual ones based only on terrestrial sensors. The flexibility refers, for example to road network enlargement, variable geometry, elastic information chain to the user (safety driving) and to the traffic management bodies, etc.

Of course there are some concerns in this example, but most of these do not depend on the satellite infrastructure or technology themselves but, for instance, on the current policies (i.e, the system enforcement). That said, Galileo and EGNOS provide advantages on issues such as the authentication and the positioning integrity which justify the use of the GNSS-based solutions.

To conclude this statement, we could say that the European Satellite Navigation programme, in spite of all the drawbacks and technology limitations, has been and will be a vector for **leveraging and generating excellence in the Horizon 2020; a cross-sector and international collaboration pool** and, finally, one of the **key pieces in the puzzle for empowering new business and new jobs opportunities in Europe.**