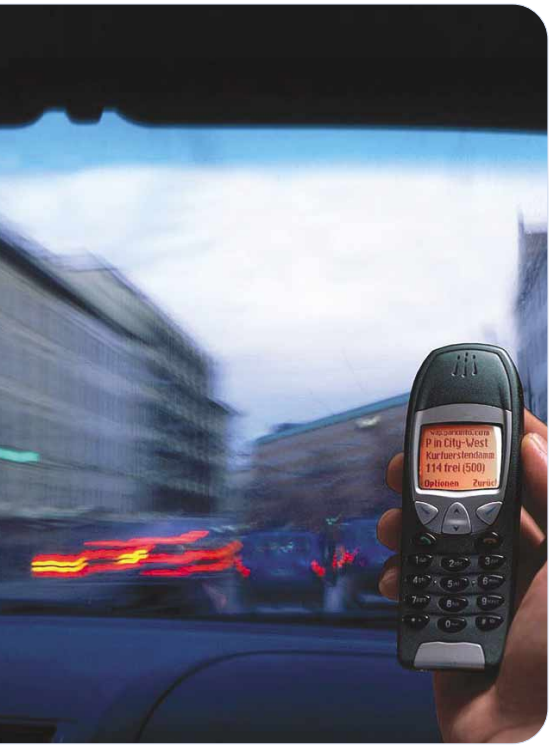
Left: Klaus Gretschmann. Director General for the Internal Market, Competitiveness, Industry, Research, Energy, Transport and the Information Society in the General Secretariat of the Council of the EU. Above: Thomas Brandtner, responsible Head of Unit for research and industrial policy.

Satellite technology and the European Union



Satellite and space technology has proved itself to be very valuable on several levels in today's European society. Helen Jameson talks to Klaus Gretschmann, Director General for the Internal Market and Thomas Brandtner, Head of Unit for research and industrial policy at the European Union.

Question: Many thanks for your time. It is very much appreciated. Would you please introduce yourself to our readers and tell us about your role?

Klaus Gretschmann: My name is Klaus Gretschmann. I am Director General for the Internal Market, Competitiveness, Industry, Research, Energy, Transport and the Information Society in the General Secretariat of the Council of the EU,. Therefore, the emerging European Space Policy in all its civilian aspects falls within my area of responsibility. I am an economist by training. In my previous career, I worked as a university professor for public economics, and Chief Economist to the German Chancellor on economic policy, most notably G-8 matters. My colleague sitting here next to me is Thomas Brandtner, responsible Head of Unit for research and industrial policy, and our space expert!

Question: Satellite and space technology has proved itself to be very valuable on several levels in today's European society. What do you see as being the great assets of satellite technology for Europe?

KG: Satellite and space technology has successfully made the journey from an exciting technological promise to an indispensable ingredient of modern life: navigation, communication, earth observation, meteorology, intelligence

gathering. We need to be able to use space technologies routinely, safely and independently in a wide range of applications if the European Union and its Member States want to continue playing a role in the global society that is rightfully theirs. We have made this very clear by recently adopting together with the European Space Agency (ESA), a Resolution on a European Space Policy.

Question: I read with interest a press release that focused on the European Union's 'Vision for Europe' regarding space. The release mentions that global issues such as climate change and humanitarian aid are of prime importance. Can you please tell us how the development of satellite and space technology will help you address these issues?

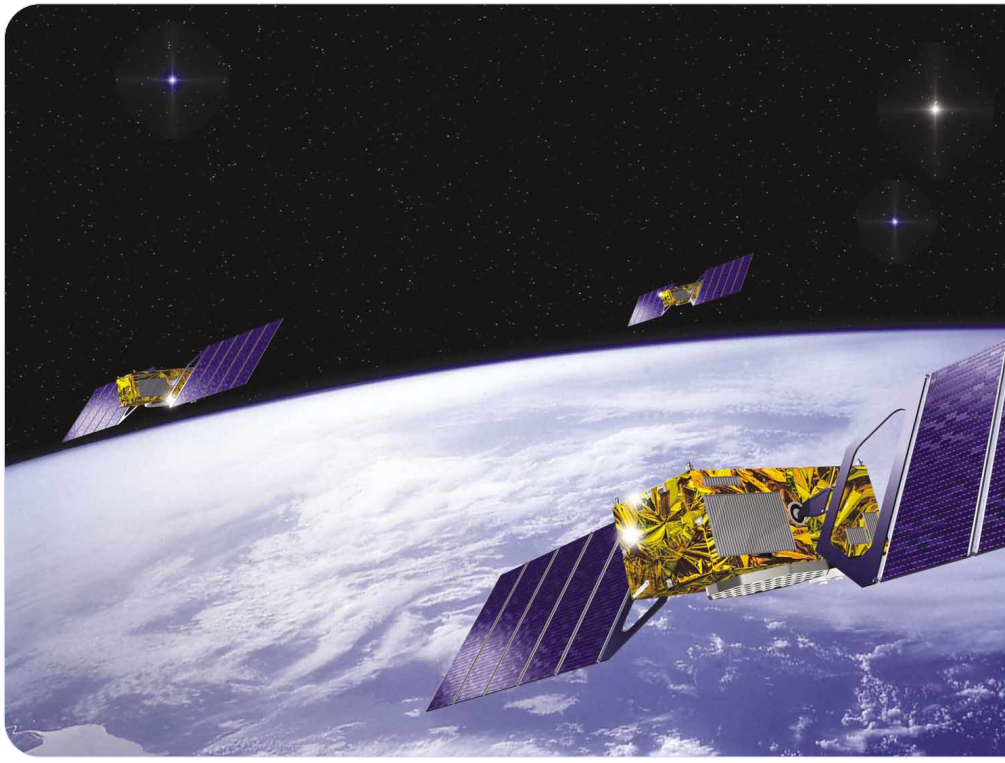
Thomas Brandtner: Only recently we had the ScienceTunnel exhibition, which was brilliantly organised by Max Planck Society and featured satellite imagery of the Earth, using different imaging techniques. The wealth of insight that can be gained from space about our little blue planet is simply breathtaking. I think this exhibition has convinced a lot of people, even among the hard-nosed sceptics. Deforestation, the melting of glaciers and the polar icecaps, the streams in our oceans, pollution patterns, droughts, harvest results - the most convenient, reliable and the most economic way to get these information is through satellites.

This does not mean that space-based observation can provide all possible information. We take great care in correlating our space data with observation results through other sources, in situ, as they say, which can mean a variety of static or ground-based sensors and can sometimes even mean sending scientists to even very remote and dangerous places to take measurements or pictures. In a nutshell: space is not everything, but without space policy nothing really works as desired.

Question: You also mention that the growth of satellite-based navigation is to be highlighted. We are familiar with the Galileo project. Can you give our readers an update on how the project is progressing and whether ESA is still on target to reach the commercial operation phase in 2008?

KG: You are certainly well aware of the frictions and difficulties that arose in the recent weeks between the Commission and the private business partners, mainly on the issue of risk-sharing. The private consortium wanted such far-reaching economic guarantees that the situation reached a point where it was difficult to see what advantages the involvement of private business through a public-private partnership would still offer at this stage in comparison with a purely public-sector initiative. It is definitely not acceptable to privatise the profits and socialise the risks. At the meeting of EU Transport Ministers of 6 to 8 June in Luxembourg, it was concluded that the concession negotiations have failed and should be ended.

They also confirmed the value of Galileo as a key strategic project of the European Union, and considered, as an alternative option, to implement Galileo as an initiative under public-sector leadership. This would not exclude a concession model at a later stage in the process. It should allow us to implement the Galileo system and commence commercial operation without too long a delay. I cannot give you an accurate date of deployment of the Galileo system. Of course, European decision makers are worried that we might face delays that could push commercial operation beyond 2012. But I am confident and assured that all sides will do everything they can to act swiftly and decisively: A final decision on how to further proceed - including on funding - is due in the fall.



Photos courtesy of the European Space Agency.

Question: Do you see a continued growth in the use of satellite communications in the EU and with the recent accession of the new Member States, do you believe the requirement for satellite communications will be more widespread?

TB: We see a potential for continued growth in the use of satellite communications in the EU. However, the competition with land-lines is fierce, and there are some technical limits - for instance when you want access the Internet via satellite, you are currently limited in your search capacity. We should be careful to bear in mind the painful lessons from the "telecom bubble" of the Nineties, and avoid any hype. Another important factor to consider is that satellites are getting larger and a lot more efficient and versatile, which means that old satellites are not going to be replaced on a one-to-one basis.

Question: How can space technology be used for defence in the EU context and what advantages does it bring?

KG: Your readers will be aware that Javier Solana, the Secretary General of the Council of the EU, is also High Representative for the Common Foreign and Security Policy. In this role, he is involved in the security dimension of space policy. Of course, the EU already uses space technology for the Common Foreign and Security Policy and for the European Security and Defence Policy. This has been done for several years and on a routine, daily basis. Incidentally this has nothing to do with any "militarization of space" or any idea of putting weapons into space, which the EU decidedly opposes. However, we could not run any peace-keeping or humanitarian operation without satellite services, and the same is true when we try to fight drug cartels. We have inherited the space imagery interpretation centre in Torrejon when WEU was merged with the EU, and we are using and currently

developing its capabilities. Nowadays, you simply cannot have a credible foreign policy, or a credible defence policy, without the permanent use of space assets. In the jargon of the specialists, it's mainly about "C3I" - the acronym that stands for command, control, communications and intelligence.

Question: Does the European Space Agency see the opportunity for development within the launch sector and are any new projects in motion?

TB: At present, we Europeans are well positioned in the launch sector, with Ariane-5 having achieved a 60 percent share in the market for commercial satellite launches worldwide, and our Soyuz-Fregat joint venture offering a very attractive solution for the lower payloads. I cannot speak on behalf of the European Space Agency, and the best person to answer this question would be highly esteemed ESA Director General André Jacques Dordain. But I can give you my personal impression that ESA is very carefully studying the different technological and economic options, and is taking all necessary steps to be ready for the introduction of the next generation of launchers.

Question: What does the future hold for the EU in space in terms of exploration and research and development?

KG: In the EC Seventh Research Framework Programme, 1,4 billion euro are earmarked for space research over the period 2007-2013. This is by no means an astronomically high amount of money, just compare it to the ESA budget which in 2006 alone was almost 3 billion euro. The importance of the EC contribution lies in the networking it provides between space technologies and a multitude of other areas of frontier and high-tech research.

The limited funds in the Framework Programme can therefore make a positive contribution to research supporting quite a large number of priority initiatives: the GMES programme, both in its space-based component and its ground-based infrastructure and in situ sensors. Innovative satellite communication services, in a multitude of applications from civil protection and e-government to tourism and leisure time; monitoring technologies and systems for reducing the vulnerability of space-based services and for contributing to the surveillance of space.

In the field of exploration of space, we intend to provide RTD support and to maximise scientific added value through synergies with ESA and the national space agencies of the Member States, by facilitating access to scientific data, supporting the coordination of efforts for the development of space-borne telescopes and detectors; funding space research and development for long term needs including space transportation; research activities to increase the competitiveness and cost-effectiveness of the European space technology sector, and, finally, science in space, including bio-medicine and life and physical sciences.

Question: What will the key objectives be for European Space Policy over the next twelve months?

TB: I see three key objectives: firstly, getting Galileo back on track; secondly, keeping GMES on track; and thirdly, moving forward with the implementation of the European Space Policy and European Space Programme.

For reaching each of the three objectives, strengthening the common understanding between Member States is a key prerequisite: at the present moment, we still have too many tenuous compromises where the agreement is more apparent than real. If we succeed, and this success would lead to the insertion of an article on space policy in a new EU Treaty, this would certainly be desirable as it would make things easier from a legal, administrative and budgetary perspective. However even without an Article in the Treaty we can and must make progress. After all, we don't have an Article on the use of computers in the Treaty, and this has never stopped the European Institutions from using computers. Lawyers often tend to have a too restrictive and complicated perspective on the real world…

Question: Finally, do you see the European space technology industry growing, becoming stronger and forging more relationships with countries beyond Europe?

KG: This certainly is the aim of the European Space Policy that has just been confirmed by the EU and ESA ministers at the Fourth "Space Council" on 22 May 2007. As an economist, I would dare to make a favourable prediction on the future growth potential of the European space technology industry, based on the following observations. Firstly, the focus on technology, innovation and the "knowledge society" enshrined in the Lisbon Strategy since 2000 requires that space policy and technology must be constantly on the minds of the decision-makers; secondly, the economic upswing that started in 2006 has increased our economic and financial margin for manoeuvre; and thirdly, the geopolitical situation since September 11, 2001 has witnessed increased security and defence challenges, which Europe will have to address. Regardless whether this is done by the Member States individually, acting in variable geometry, through international frameworks such as NATO, or by the EC-ESA combination, it will be done and it means growth and employment potential for the European space industry. It is also predictable that our international co-operation in space will increase, as it is neither efficient nor economical to do everything on our own. It is more difficult to predict which international partnerships will turn out to be the most beneficial and promising ones, and how the geopolitical developments will affect our scope for multilateral space cooperation. But we are definitely open to all globally beneficial partnerships.