



Château de Betzdorf, Luxembourg, July 6, 2005

Speech given by Michael Osborne
Director International Futures Program
Global Science Forum

On the occasion of the first presentation of the newly released OECD Publication
and Futures Project report

***SPACE 2030 : Tackling Society's Challenges
or, how space-based applications can help***

Welcome and thanks:

Welcome to all of you who were able to join us today.

I wish to thank the government of Luxembourg and SES Global for their kind hosting of this launch today and their strong participation in the *OECD Futures Project on the Commercialisation of Space* over 2003-2004.

Why we are here:

We are here today to launch the latest OECD publication on the space sector: "Space 2030: Tackling Society's Challenges".

This publication covers the results of the two-year space project that the OECD Advisory Unit to the Secretary General conducted through our International Futures Programme.

The publication also provides recommendations to the OECD to improve the general framework conditions of the space sector.

One may wonder, why we decided to deal with space at the OECD?

- Our mission at the IFP is to conduct long term policy analysis on complex emerging issues
- Space is definitely an increasing key strategic and economic sector for many countries, with an increasing role of private actors
- Finally, it is important to remember that OECD governments account for the lion's share of spending on space programmes.

But we did not embark on this large scale project alone.

Our "Space Project" was conducted from 2003 to 2004 with the active participation of a Steering Group composed of twenty-five high-ranking experts and decision-makers from public space agencies and private entities; major actors in industry from both space and non-space sectors. SES-Global and the Luxembourg government were particularly supportive. Other participants included: 9 space agencies, 8 ministries and 5 major corporations from 15 countries.

The Project has been enriched by an important worldwide consultation process, which led to discussions and comments from more than a hundred experts, international governmental organisations, private actors and users of space applications.

The added-value of the project comes mainly from:

- The broad socio-economic demand approach that was used to assess the opportunities for developing and maintaining sustainable space infrastructure. This is quite different from the "technology push" perspective that has often prevailed in many studies.
- We also used the OECD/IFP's specific transversal expertise in the analysis of economic sectors and policy-making, involving different OECD directorates.
- And let's not forget that the OECD has no stake in the space sector, so the results provide an international overview of the sector, which at times can even be a bit critical.

Main lessons learned during the project:

During our project, we conducted a scenario based analysis over the next three decades and confronted five key societal challenges that decision-makers will face, looking at what solutions space has to offer.

The challenges include:

- threats to the physical environment – such as climate change, growing pollution,
- management of natural resources
- evolution towards the knowledge society,
- increased international mobility
- and rising concerns about civil security, such as dealing with disasters.

A number of important lessons have been learned throughout our Space Project, and it is upon those findings that recommendations have been formulated. I will go briefly over three main lessons learnt:

(1) The first one is that space assets can indeed contribute - thanks to their unique characteristics – to tackling major societal challenges.

As I mentioned before, we have conducted an innovative demand-oriented analysis. We have confronted the main challenges governments will have to face over the next decades to the solutions we can expect from space systems. And we found that space can make a useful contribution for both OECD and non-OECD countries.

As an example, in the case of disaster management, the convergence of several space technologies – telecommunications, satellite positioning and Earth observation – have recently shown in Asia how space could really help decision-makers and more generally the populations.

(2) The second lesson is that space activities could face a rather promising future.

Indeed, the scenario-based analysis we conducted provides rather encouraging prospects for the future of space activities in OECD and non-OECD countries. Over three differing scenarios, we found that space applications will be pursued in all cases – although the efficiency of the overall space infrastructure highly suffers when there is less international cooperation. By “space infrastructure” we mean all space systems, including their ground segment – whether public or private – that can be used to deliver space-based services.

Application-wise, we found that information-intensive applications such as satellite-based telecommunications, Earth observation and navigation have a possible bright future. The prospects of more complex applications, such as transport and space manufacturing-related applications are more uncertain, given the cost of access to space, which is unlikely to decline drastically over the next decades, and the complex technical problems of working in space.

(3) A third and final lesson learned deals with the key role of public authorities and the importance of the framework conditions they set up for the space sector.

In fact, while it was found that the role of government will be essential for the future development of space activities, the framework conditions – whether they are institutional, legal or regulatory – are far from ideal.

- As a first example, there are a number of uncertainties on the institutional front in many OECD countries concerning “**who does what**” in space. In fact there are questions on how the different public and private space actors are positioned and how to make their relationships work more efficiently.
- A second set of issues relates to the **rules of the game** – the legal and regulatory framework – that space actors have to abide by. Some limitations facing space actors result from many missing pieces of legislation or the lack of business friendly measures. As an example, the lack of clear national space laws and licensing regime in a number of

space-faring countries is problematic, since it leads to many uncertainties for the private actors.

- Finally, it was noted that although some space ventures have attracted a lot of public interest, there is a **lack of awareness** in the general population of the concrete contribution that space can make to society¹ at large, with adverse consequences for the political decision process.

Of course, the few points I went over are more detailed in the publication, but this gives you an idea of the many challenges we face when wanting to establish a sustainable space infrastructure. Because... this is what our recommendations aim for.

What we recommend:

Over the past decades, work at the OECD has shown that the existence of an efficient, robust and sustainable infrastructure is essential for the smooth operation of modern economies.

As well illustrated when major failures occur, the world depends on the unobtrusive, but ubiquitous, presence of such infrastructures as communication or electricity networks, as well as on their seamless and essential operation.

We found that the same is true of civil space applications. Space will play an increasing role in our daily lives, as shown by the meteorological maps we watch each day on our televisions, in information services often relayed by satellite telecommunications links.

This means that developing and supporting a sustainable space infrastructure should be a major objective of public policy.

Based on our findings, and in order to help decision-makers in governments improve the situation for the future, we have come up with an overall, consistent set of broad policy orientations that can offer a useful framework for policy formulation.

The recommendations are made from a broadly societal non-space perspective and focus mainly on user-oriented space activities that may contribute to social and economic development in OECD countries and beyond.

We have formulated three complementary blocks of recommendations:

- One aims to implement a sustainable user-oriented space infrastructure;
- Another one promotes the public use of this infrastructure;
- And the third provides measures to encourage private sector participation in space infrastructure.

¹ There is a danger that the knowledge and expertise accumulated over decades may be lost in the coming years if too few students are attracted to careers in the space sector.

(1) Block 1: Implement a sustainable space infrastructure

Here we address two complementary sides of space infrastructure:

- The first set focuses on the part of space infrastructure that is directly “user-oriented” and includes communications, navigation and Earth observation services. As an example of cost-saving measures, we propose that governments should facilitate the **aggregation of demand for space services** across large geographical areas to extend, for instance, the delivery of e-government services to all citizens in rural and remote areas.
- A second set provides measures concerning enabling infrastructure for space activities. As an example, **we encourage the development of international co-operation for conducting pre-competitive R&D work** to reduce the cost of access to space. There are many lessons learned to be gained from diverse non-space sectors that have strong security constraints. The use of ‘black boxes’ can be explored further, as it regularly allows companies to share key information while still enabling them to retain some elements.

(2) Block 2: Encourage public use

As you know, governments are major users of infrastructure, be it public infrastructure to deliver services to citizens or private infrastructure as an input in their activities. And a sustainable space infrastructure offers very attractive opportunities for pursuing a broad range of public missions in a cost-effective manner.

The publication provides a systematic approach to foster public use at national and international levels.

- At national level, one of the main thrusts is on measures designed to strengthen co-operation between user ministries and space agencies to foster the effective generation and use of space-based data and to facilitate transactions between suppliers and public users of space-based services. For example, based on recent experiences in Europe where floods have had negative impacts on large parts of the economy, it is now clear that civil protection agencies have much to gain from using space data integrated in user-friendly geo-information tools. **One efficient way to do this is to establish a promoter in the main user departments**– at a level high enough to be effective – who can promote synergies between the users and providers of space solutions.
- At the international level, we hint at broad public measures for using space solutions in case of disasters or treaty monitoring. In all cases, **good financial footing for any large scale public service is key and financing mechanisms need to be implemented**. We found that space agencies and the private sector cannot be expected to fund the increased use and operations of the space systems by a large community all alone. In a perfect world, users should pay a minimum to help cover the expenses, but international collaboration is key.

(3) Block 3. Encourage private sector participation –

So, I briefly mentioned (1) some measures we propose for setting up an overall sustainable space infrastructure, and (2) establishing mechanisms to increase public use of space assets. A last element concerns (3) the role of the private sector.

While space activities were essentially public at the beginning of the space age, the role of private actors has been on the rise. It is in the best interest of governments to ensure that private actors are in an optimal position to develop innovative applications that contribute fully to the economy and society at large.

Here we have developed three main sets of measures:

- To have better “rules of the road” for private actors and create a more supportive legal and regulatory environment.
- To strengthen the private provision of space goods and services.
- While improving the international and financing business environment.

I will only give one brief example:

- Empirical work conducted at the OECD and elsewhere suggests that countries that largely leave the production of goods and services to the private sector tend to perform better, on balance, than those that do not. Leaving production to the private sector allows the public sector to concentrate on what it does best, *i.e.* providing public goods and services to the population at large and elaborating and enforcing effective rules of the game for private actors. We suggest that **governments should contract out to the private sector as much as possible to spur growth while putting in place mechanisms for encouraging the participation of innovative SMEs in the procurement process.**

Possible Follow up:

Background for the follow up

Well, at the final meeting of the project Steering Group, several participants asked us to investigate if a follow up of the space project could be envisaged, to build on the momentum.

So, since January 2005, we have conducted a large scale consultation process, and we found there is a lot of interest from countries in and outside OECD, for the Organisation to continue its work on space.

Based on feedback from other organisations and discussions with participants of the space project, it was suggested that the OECD could have a useful and innovative role, complementary to other existing institutional structures, such as the UN. We were also surprised to hear that an important think-tank based in Washington DC, the Center for Strategic and International Studies, came up

with the same type of proposal recommending the creation of a new “International Space Governance Forum”, possibly hosted at the OECD.²

The Space Forum

Basically, if enough participants in space-faring countries are interested, the OECD IFP could host a dedicated **platform** for international discussion and co-operation on a wide range of key economic issues, affecting the future development of space infrastructure and space-based applications.

This **OECD Global Space Forum**, which would promote the use of economic information and analysis in the development of “best policy options”, would have two major missions:

(1) First, it would monitor and promote the key Space Project recommendations on:

1. How to develop an enduring and sustainable space infrastructure;
2. How to foster the public use of space tools;
3. And how to encourage private sector participation.

(2) Moreover, the Forum would contribute to dialogue and research into the economic dimension of space-related activities, in response to new developments in technology and changing social needs. To do this it would:

- *Promote an exchange of ideas and identify key lessons-learned* that could benefit the different actors.
- *And review best practices* both in the space sector and in other economic sectors

Based on proposals from partners in Europe and North America, the Forum could specifically look into the development of a “space economy toolkit” for policy and private decision-makers, with specific economic indicators. But it could also formulate, on an economic basis, some guidelines underpinning space law.

The Forum could be created for a period of three years under the umbrella of the OECD/IFP, after which its mandate would be reviewed. For now, the Space Forum would be financed in the first instance through voluntary contributions from government departments and agencies. The private sector would be invited to participate in specific working groups.

All this is very much work in progress, and we are open to comments and suggestions. We have set up a date, tentatively on October 27th-28th, 2005 in Paris for the Founders’ Meeting of this new Global Space Forum.

This has been an exciting project. I thank you for your attention.

² See the latest White Paper of the Human Space Exploration Initiative (HSEI) at the Center for Strategic and International Studies (CSIS), entitled “The Still Untrodden Heights: Global Imperatives for Space Exploration in the 21st Century” Website : <http://www.csis.org/hse/index.cfm>.

Contacts:

Pierre-Alain Schieb

Email: Pierre-Alain.Schieb@oecd.org

Phone: 33 1 45 24 82 70

Manon Picard

Email: Manon.Picard@oecd.org

Anita Gibson

Email: Anita.Gibson@oecd.org