

LEGAL ASPECTS OF COMMERCIAL SPACE STATION UTILIZATION:
VIEWS AND INTERIM RESULTS OF THE "PROJECT 2001"
INTERNATIONAL WORKING GROUP ON SPACE STATIONS

by

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Abstract

In 1998 the Institute of Air and Space Law of the University of Cologne and the German Aerospace Center - DLR – jointly established a research project entitled "Project 2001 – Legal Framework for the Commercial Use of Outer Space – ". Part 1 of this paper will first give a brief general overview of the structure and the scope of the project.

Thereafter the work of one of the five working groups of the project, the working group on space Stations, will specifically be presented. Although the title of the working group is general, its work will focus on the International Space Station which is to be assembled in the coming years. This section is divided into two parts: the first part very briefly introduce technical issues and potential commercial uses of the International Space Station. The second part will deal with selected legal issues related to the ISS. A distinction will be made between the possibility of commercial utilization and commercial operation.

The main topics of this paper are the interim results of the working group thus far. The preliminary discussions of the working group have identified the regulation of access to the ISS as one key issue. Therefore, the focus of the legal part of this paper will be placed on regulations included in international instruments (IGA, MoUs) and national regulations. Further important issues are the legal status of the space station crew, competition law issues and intellectual property rights. With regard to legal aspects of the commercialization of the ISS operation institutional aspects and liability issues are of importance.

The presentation will conclude with an outlook on the further activities of the working group, in particular with regard to a work shop scheduled for June 2000.

Part 1: The Project 2001

In 1998 the Institute of Air and Space Law of the University of Cologne and the German Aerospace Center -DLR- initiated a joint research project entitled "Project 2001 – Legal Framework for the Commercial Use of Outer Space". It aims to examine the legal implications of the increasing

commercialisation in four specific areas of outer space activities:

- remote sensing
- telecommunications
- launch and associated services and
- space stations.

Each of these activities is covered by a working group consisting of up to 25 experts, both legal and non-legal, from around the World. A fifth working group deals with the general subject of privatisation of outer space activities. As of fall 1999 two working groups had organised workshops on specific topics, in spring the working group on Remote Sensing hosted by CNES in Toulouse and in summer in the framework of UNISPACE III in Vienna the working group on privatisation. The three other working groups will hold their workshops in January and June 2000. The final results of all Working groups will be presented at an international colloquium to be held in Cologne/Germany in May 2001.¹

In the following the interim results of the working group on space stations will be presented. It is important to note that this working group has not yet held its formal workshop yet and has only met once informally. Thus, this paper will deal predominantly with the structure and the content of this topic.²

It should be emphasised that the work of the working group on space stations is in a very early stage. The outline has only been distributed recently. In the following predominately the outline will be presented which is based on a questionnaire circulated among the members of the working group, as well as on discussions at an informal meeting last fall in Paris and finally on a draft outline.

Part 2: Technical Issues and Possible Commercial Use of the Space Station

The International Space Station ISS is the largest artificial object ever launched into outer space thus far. It will have a span of 108m, a length of 88m and a height of 41m, and will weigh approximately 500t. The usable space for living and working is planned to be about 1,240m³ which equals on Earth 400 m² or the volume of two Boeing 747 Jumbo Jets.

The ISS will introduce new dimensions to research in outer space. The outer space environment offers research opportunities which are impossible or very difficult to simulate on Earth, due to Microgravity, vacuum and cosmic radiation. Major fields of research will be materials sciences, life sciences, Earth observation, space sciences, communication and navigation and space technology.

Part 3: Selected Legal Issues

I. Definition of Basic Terms

In a recent article John Logsdon defined the basic term privatisation as an activity which "*[i]nvolves a private sector, profit seeking entity carrying out functions previously the responsibility of government*" and the term commercialisation as an activity which "*[i]nvolves a private sector, profit seeking entity using its own or borrowed and/or invested funds to carry out activities intended sooner or later to result in products or services that can be sold at a profit through a market, either to government or non-government customers, or to a mixture of the two*".³

This definition was not considered as sufficient for two main reasons:

(1) It excludes public sector entities both nationally and internationally. There is no reason to assume that a public (national or

international) sector entity is not trying to eventually make an activity profitable.

(2) There may be activities which receive state subsidies although carried out by non-public entities.

Therefore, the working group will use the following definition which is broader than the one quoted above:

“Privatisation is a public policy which aims to transfer activities previously carried out by public owned entities to private owned entities, whereas Commercialisation aims to make an activity eventually profitable, regardless whether it is carried out by a private or a public (national or international) entity and regardless its funding or financing.”

II. Legal Aspects of the Commercialisation of the ISS Utilisation

1. Regulation of Access

During the discussion at an informal meeting it became apparent that the procedure of access to the ISS is largely unclear. As of today, there is neither a common policy of the ISS partners on commercial activities onboard the ISS nor is there a mechanism to harmonise access to the ISS and competition between possible commercial users. This is true internationally as well as nationally. Therefore it has been suggested that a major focus of the working group shall be the examination of the legal framework of access according to the rules of the participating partners, including regulations of access of nationals of non-partner states.

a) Regulations Included in International Instruments

This subsection will examine the existing legal framework of international instruments dealing with outer space

activities. Whereas the general international instruments in particular the Outer Space Treaty contain broad principles, the specific instrument related to the ISS, the Intergovernmental Agreement on the ISS and the Memoranda of Understanding between the ISS partners are more precise as to the access and utilisation of the ISS.

b) National Regulations

In order to make the research results compatible, the national regulations of the United States, Russia, Japan and Canada will be examined according to a common structure:

- (1) Regulation and Practice of Access
- (2) Categories of Users (basic research, applied science, services, commercial activities)
- (3) Licensing, Financing, Taxation
- (4) Procedural Matters (application procedure, decision-making process, legal relation between user and ISS-partner, legal remedies against decisions of the administrative bodies in charge)

c) European Regulations

The European partners are in a particular situation differing from that of the other ISS-partners since they do not directly contribute to the ISS. It is the European Space Agency -ESA- as an international inter-governmental organisation which provides the European element to the ISS and shares the resources with the other ISS-partners. It has to assign this share to the Member States which take part in the European contribution. Therefore, the legal framework of ESA will be examined, in addition the national regulations of three major partners (Germany, France, Italy), since these partners have to establish a legal framework with regard to the assignment of their share to potential users.

For instance in Russia, commercial space activities are governed by at least 14

different acts, codes and other regulations.⁴ As it turned out, some of the European ISS-partners became aware of the fact that the existing national legal framework is not sufficient in providing an acceptable environment for potential commercial users. Consequently, a National Space Act should be adopted by the respective legislative bodies.

2. Legal Status of the Space Station Crew

This section shall examine questions related to the legal status of the space station crew. New rules have to be drafted since the international instruments are not sufficient in delivering an acceptable framework. For instance, the so called *Code of Conduct for Astronauts* is currently under discussion among the ISS partners, which will cover various fields such as , e.g., the protection of intellectual property rights.

Up to now, mostly public sector employees have served as crew members onboard the MIR or the STS. This will not change initially. The fact that private sector entities will become crew members will most likely have implications on the crew regime.

3. Competition Law Issues

Thus far, the influence of national and international competition law on commercial activities onboard the ISS has not been addressed. The slots to utilise the ISS infrastructure are scarce. The result will most likely be increasing competition between potential users. The existing national and international legal framework will be examined as to its applicability on commercial space station activities or as to the necessity of adopting a new set of rules.

4. Patents/Intellectual Property Rights

One of the major concerns of the ISS partners is the protection of intellectual property rights. The main principle contained in Art. 21 of the IGA provides that an activity occurring in or on an ISS flight element shall be deemed to have occurred only in the territory of the Partner State of that element registry. Therefore the patent right of this particular state governs the filing and granting of patent rights.

III. Legal Aspects of the Commercialisation of the ISS Operation

This section may examine all aspects of ISS operations (logistics, control, supply etc.). The STS may serve as a precedent in which a private entity – United Space Alliances – operates the space shuttle under a special agreement with NASA.

In the recent paper *Commercial Development Plan for the International Space Station*, NASA expressively favours the provision of services necessary to maintain and continually improve the ISS capabilities. According this plan, NASA will eventually become one of a number of paying customers for the services rendered by this private entity.⁵

One major focus of this section will therefore be the identification of possible institutional solutions and their impact on other legal issues such as , e.g., questions of responsibility and liability under the existing outer space treaties.

IV. Legal Aspects of the Commercial Augmentation of the ISS and Potential Commercial Use of Outer Space Beyond ISS

After having examined the potential and legal aspects of the commercialisation of the ISS utilisation and operation the working group may delve deeper into the future by making an assessment of the prospects of commercial augmentation of the ISS and going beyond this to include space tourism. It has yet to be determined by the Working group whether the Space Station section of the final conference of the project in 2001 may be partially dedicated to the perspectives of commercial augmentation of the ISS and the legal issues arising from it.

Summary

The Projects 2001 working group on space stations will focus on the ISS currently to be assembled in outer space. At an early stage of the work, the working group identified a couple of key issues which have to be addressed specifically:

- regulation (national and international) of access to the ISS
- legal status of the space station crew
- the impact of international and national competition law
- patents/intellectual property rights.

As to the ISS Operation, institutional aspects and questions of liability have to be addressed. It is planned to raise legal issues concerning ISS augmentation and use of outer space beyond ISS either at the workshop of the working group in June 2000 in Berlin or at the final conference of the Project in May 2001 in Cologne.⁶

¹ For more details: Susanne Reif, *Project 2001: Shaping a legal framework for the commercial use of outer space*, Space Policy 15 (1999), pp. 209 subs.

² as to the work and structure of the other Working groups see the papers presented at the 42. IISL Colloquium on the Law of Outer Space: Isabel Polley & Kai-Uwe Schrogl, *Project 2001: Status Report of the Working group on Telecommunication*, IISL-99-IISL 2.01; Susanne Reif & Bernhard Schmidt-Tedd, *Legal Framework for Expanding Privatisation in Space: Views and Interim Results form the "Project 2001"-Working group on Privatisation*, IISL-99-IISL.3.01; Philip S. Makiol & Gerhard Gruber, *Project 2001: Status report on the Interim Results of the Working group Launch and Associated Services*, IISL-99-IISL.4.01

³ John Logsdon, *Commercializing the International Space Station: current US thinking*, Space Policy 14 (1998) 239, at 240 subs.

⁴ Gennady P. Zhukov, *Comments on the Draft Outline of the Project's 2001 Working group on Space Stations*, 3a) (unpublished).

⁵ National Aeronautics and Space Administration, *Commercial Development Plan for the International Space Station*, 16 November 1998, attachment 1: *Internal Study: Potential Pathfinder Areas for Commercial Development on the International Space Station*, at 4.

⁶ For further information on the Project 2001 contact the Project Bureau Ms. Susanne Reif c/o Deutsches Zentrum für Luft- u. Raumfahrt, Linder Höhe, D-51147 Köln, Tel. 49-2203/601 2647, Fax 49-2203/69 59 10, e-mail 2001-com-use-OUS@uni-koeln.de