THE UNIDROIT CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT AND THE PRELIMINARY DRAFT PROTOCOL ON MATTERS SPECIFIC TO SPACE ASSETS

-

WHAT SHOULD BE THE POSITION OF GERMANY IN RESPECT OF THE PROTOCOL AND IN PARTICULAR THE VARIOUS OPT-IN/OPT-OUT ALTERNATIVES CONSIDERING THE COMMERCIAL NEEDS AND LEGAL IMPLICATIONS?

Ingo Förster
University of Applied Sciences Lüneburg, Germany

ABSTRACT:

The shift from a state/government dependant to a commercially oriented industry and the global context of the space business require new ways to finance space equipment. This is also supported by the immense amount of financial resources that are involved in the space industry. In response to this trend, the International Institute for the Unification of Private Law (UNIDROIT), has elaborated a Convention on Mobile Equipment. As regards space equipment a group of international experts formed the "Space Working Group" and commenced drafting a protocol specific to space assets, which shall provide the legal frame for modern asset based financing. This paper provides economic and legal background information for the raison d'être of the Convention/Protocol and identifies its merits. The main focus is the comparison of the current draft Space Protocol with German Law, in particular the different opt-ins and opt-outs. Due to these options a state is given the opportunity to choose between certain provisions by way of declaration. The paper examines different options and offers recommendations from a German industrial point of view. In conclusion, it points out the compatibility of the Convention/Protocol with German law and underlines its importance for the German Space Industry. The significance of the Convention/Protocol may even increase in the future, when production in space and permanent space transport through reusable launch vehicles will be technically achieved.

1. A NEW INTERNATIONAL LEGAL REGIMEN FOR SPACE ASSETS:

The development from a state/government dependant to a commercially oriented space industry and the global context of the space business require new ways to finance space equipment. This is also supported by the immense amount of financial resources that are involved in the space industry. In response to this trend, UNIDROIT[1] has elaborated the "Convention on International Interests in Mobile Equipment", hereinafter referred to as the "Convention".[2] As regards space equipment, a group of international experts formed the "Space Working Group" (SWG) in 1997 and commenced drafting the "Protocol on Matters specific to Space Assets, hereinafter referred to as the "Protocol"[3], which shall provide the legal frame for modern asset based financing.

This paper refers to the draft Protocol after the Rome meeting of the Space Working Group dated January 2002, UNIDROIT

[1] UNIDROIT is the acronym of the International Institute for the Unification of Private Law. It is an independent intergovernmental organisation with a history reaching back to the year 1926. Its purpose is to study needs and methods for modernising, harmonising and co-ordinating private and in

[2] The full text of the Convention is available for download under http://www.unidroit.org

[3] The text of the current preliminary draft Protocol can be accessed via: http://www.unidroit.org/english/internationalinterests/draftspaceprotocol/72j-10-e.pdf

Doc. No. 10. The development of the Protocol is still an ongoing process.

2. BACKGROUND, MERITS AND STRUCTURE OF THE CONVENTION/PROTOCOL:

Before analysing the implications with German law, it is required to extract the relevant rationales and merits of the Convention/Protocol.

2.1 Economic Background:

The evolution of the international space industry shows a shift from a formerly state/government dependent to a more and more privatised industry. To a great extent the satellite industry is the motor of this privatisation process. Whilst during the times of cold war many satellites were used for military purposes, more and more of today's satellites are utilized commercially. The spectrum of modern satellite applications ranges from telephony and mobile services over internet access to television and radio broadcasting. Growing revenues and profit margins of the majority of satellite operators show the economic success and profitability of the satellite operating business.[4] From 1965 until the end of 2001 531 geostationary satellites were sold with an estimated value of 47.9 billion USD plus another 227 satellites worth 2.8 billion USD for low earth orbit constellations.[5]

However, after the Globalstar and Iridium disasters and due to an overcapacity in the telecommunication market, it became more difficult to obtain financial resources and the commercialisation process experienced a slow-down. In particular new satellite operators suffer from financing difficulties since many of them do not have the financial standing to be attractive for lenders. A shift from debtor-based to asset-based financing, as provided by the UNIDROIT initiative, would enable these operators to obtain the required resources giving lenders the opportunity to sell the respective assets in case the borrower is in default.

2.2. Legal Background:

Apart from the aforementioned economic background the UNIDROIT initiative has also a legal dimension. Many legal systems as regards security rights follow the rule "lex rei sitae" and apply the rules of the State where the asset is situated. Due to the international context of the space industry where a space asset during its construction phase may move across various national borders and due to the fact that space assets, once they are launched, are located in outer space and then beyond the jurisdiction of any State[6], this approach seems inappropriate for space assets.

2.3. The Convention and its two-tier approach:

In order to overcome the problems connected with high value assets passing national frontiers, UNIDROIT has elaborated the Convention, which was originally intended to cover various categories of movable assets. However, this plan was later abandoned in favour of a two-tier approach where all the general rules are contained in the Convention and the asset-specific rules are provided by the 3 respective protocols for aircraft equipment, railway rolling stock and space assets. The driving force behind this decision was the aviation industry, which

---

[4] For revenues of satellite operators see Euroconsult: "Operating revenue of satellite operators 1998-2000", page 24; for profit margins see Euroconsult: "Profit margins of satellite service providers 1997-2000", page 28

[5] See Euroconsult page 81; for a complete overview see Euroconsult "Commercial geostationary communication satellites: Past deliveries and estimated backlog of prime contractors, 1965-2001", page 82.

[6] See Article II of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 1967, UNTS 205, 208, hereinafter referred to as OST.

wanted to enjoy the benefits of the Convention as early as possible without having to wait until the asset-specific rules other than aircraft-equipment were drafted.[7] Due to the efforts of UNIDROIT and the International Civil Aviation Organization (ICAO), the Convention and the Protocol on Matters specific to Aircraft Equipment were adopted and opened to signature in November 2001. Since then the Convention and the respective Aircraft Protocol have been signed by 26 States and ratified by 1 State.[8]

In 1997 a group of international experts formed the Space Working Group (SWG) and began to elaborate a Protocol, which shall provide specific rules for space assets. For December 2003 a first session of a UNIDROIT Committee of governmental experts is scheduled for the initiation of the intergovernmental process.[9]

2.4 The Merits of the Convention/ Protocol:

The merits of the Convention/Protocol can be briefly divided into legal and commercial merits. Since the aim of this paper is an analysis of the Protocol under a German law perspective, they shall be briefly summarized at this stage.

2.4.1 *Legal Merits:*

One of the major legal merits of the Convention/Protocol is the introduction of standardised remedies[10] for creditors in order to overcome the aforementioned legal problems arising from the perfection of security rights in space assets. The Convention/Protocol ensures the enforcement of those remedies in cases of insolvent debtors through adequate insolvency rules.[11] A further novelty is the introduction of a worldwide register for international interests in space assets, which it is already common practice for ships and aircraft on a national level.[12]

2.4.2 *Commercial Merits/Circle of Beneficiaries:*

The commercial merits are those, which are expected to result indirectly from the provisions provided by the Convention/Protocol. Through the introduction of asset-based financing to the space sector, a large number of start-up companies with a lower financial standing will be enabled to access capital. Funds will also be available at lower interest rates resulting from a reduction in cost in the financial sector. This cost-reduction will be achieved through a lower risk for creditors as a result of the legal merits of the Convention/Protocol and through the standardisation of the sequences of operation, which the financial sector will establish once the Convention/Protocol will be ratified by a larger number of States. Lower interest rates will lead again to a higher demand of capital by operators, which will then be able to provide an increased amount of services to consumers. The increased number of operators, which are enabled to access capital as a result of the Convention/Protocol will demand more satellites and launch services. In conclusion, it can be said that the Convention/Protocol will be beneficial for all involved parties: manufacturers, financiers, insurers, consumers and even States, which will achieve macro-economic benefits from an increased tax income and less unemployment.

---

[7] See Stanford: "A broader or a narrower band of beneficiaries for the proposed new international regimen?: Some reflections on the merits of the Convention/Protocol structure in facilitating the former", in Uniform Law Review 1999-2, p. 244

[8] A status report can be accessed via http://www.unidroit.org/english/implement/i-2001-aircraftprotocol.htm

[9] See Panahy: "The Preliminary Draft Protocol on Matters specific to Space Assets: An Overview of its Objectives and Key Provisions, UNIDROIT 2003, C:G:E: Space Pr./1/W.P. 5, Rome, July 2003

[10] See Chapter III of the Convention, in particular Article 8

[11] See Article 30 of the Convention and Article XI and XII of the Protocol

[12] See Chapter IV and V of the Convention

3. THE UNIDROIT SPACE PROTOCOL AND GERMAN LAW

The following paragraphs will first focus on general issues of discussion, which have arisen during the recent years in Germany and will then analyse different opt-ins and opt-outs, which are contained in the Protocol enabling contracting States to choose by way of declaration to apply or to abstain from certain provisions. This paper will examine different options and offer recommendations from a German industrial point of view.

3.1 Space Assets:

The term "space asset" constitutes the heart of the space protocol since only those assets as defined by the protocol may be the basis for asset-based financing.

3.1.1. *Definition of Space Asset*

The Protocol defines the term space asset as "any separately identifiable asset that is in space or that is intended to be launched and placed in space or has been returned from space.".[13] It also comprises future developments such as space vehicles that are assembled on space stations or reusable space vehicles.[14] According to Art. I (f) (ii) of the Protocol the definition of space asset extends also to separately identifiable components that form a part of an asset, are attached to an asset or are contained within an asset. Such component may be located in space, intended to be launched or returned from space. It may also be assembled or manufactured in space.[15] The legal requirements for the identification of a space component are set forth in Article VII (v) of the Protocol.

3.1.2 *Article I (f) of the Protocol and § 93 of the German Civil Code*

The extension of the term space asset to components is contrary to § 93 of the German Civil Code, hereinafter referred to as "BGB", which provides that integral components of an object that cannot be separated without the physical destruction or alteration of its nature cannot be subject to separate rights.[16] Furthermore, as a result of § 93 in connection with § 947 BGB, a component manufacturer under retention of title looses his property rights the very moment when the component becomes an integral part of another object of higher value and he becomes unable to dispose over the supplied component. The same applies to secured creditors who cannot dispose over a component, which was subject of a security agreement and became an integral part of an object with a higher value. The argument behind the German rules is the prevention of objects from being dismantled by conditional sellers under reservation of title agreements and creditors under security agreements. Due to § 951 BGB the economic loss suffered may be compensated; a claim to restore the situation prior to the combination instead is denied. The original intention of these rules was to preserve the value of an object which was created through the assembly process and which is usually higher than the value of the components themselves.

3.1.3. *Problem: Satellite and Transponder*

The aforementioned conflict of law was originally identified by the German satellite industry and gave rise to further discussion in Germany.[17] Attention was drawn to the fact that § 93 BGB prevents the use of transponders as collateral. However, transponders play an essential role in the satellite and communication business. Each communication satellite carries a number of transponders, which are responsible for the transmission of

[13] See Article I (f) (i) of the Protocol
[14] See Article I (f) (iii) and (iv) of the Protocol
[15] See Article I (f) (ii) of the Protocol

[16] See Palandt Heinrichs: § 93 No. 4
[17] Mr. Arwed Hesse originally identified the issue in 1999. Mr. Hesse is a representative of the German satellite industry and a member of the Space Working Group. See also Hans-Georg Bollweg and Michael Gerhard: Sicherungsrechte an Luftfahrtausrüstung und Weltraumeigentum, in: Zeitschrift für Luft- und Raumfahrtrecht, 50. Jg. 3/2001, p. 388-389.

signals from earth to space and back. Commercial practice in the U.S.A. shows that transponders are subject of leasing agreements in order to maximise the capacity utilization. This development underlines the rising commercial importance of transponders for the satellite industry and the need for an adequate solution to secure financial interests in them.

3.1.4 *Possible Solutions/Workarounds*
The commercial need and the current practice of U.S. satellite manufacturers make the Protocol rules concerning components most welcome for the German space industry and financial institutions. Despite the fact that the German civil law property rules on components conflicts with the definition of space asset as provided by the Protocol, the German law system is nevertheless capable to accommodate the protocol component rules. Since the Convention and the Protocol constitute international (superior) and more specific legal rules on components, the UNDROIT rules would prevail in case of a German ratification and create an exception within the national law system which would merely apply to space components. An exception from the general principle of integral components e.g. represents the German "Wohnungseigtumsgesetz", which allows acquiring ownership in apartments (condominium), even though the apartments represent integral components of the entire building.

The component rule of the Protocol has not reached its full potential yet, once the technology will be achieved, it will also provide the legal basis for space or planetary stations consisting of several segments or apartments, which might then also serve as collateral and hence enable a larger circle of operators and manufacturers to benefit from asset based financing.

Another German concern was that a bank might sell a satellite in case an operator is not able to meet his contractual obligations under the loan agreement. It was argued that the new operator might move the satellite to another orbital position making it impossible for the owners or lessees of single transponders to continue with their business. This problem can be overcome since buyers or lessees of transponders may protect themselves through the use of specific clauses in the respective sale or leasing agreements. Such clauses could provide for compensation payments for the loss suffered by transponder operators in case a secured creditor moves the satellite to another orbital position.

3.2 Associated Rights
Another issue of discussion within the sessions of the Space Working Group was the transferability of licences or permits which are required for satellite operations. Licences for orbital positions and frequency bandwidths are granted e.g. by the International Telecommunication Union (ITU). Furthermore states are required to supervise the space activities of their nationals according to Article VIII OST. Such governmental supervision is carried out through national licensing procedures.

3.2.1 Definition of Associated Rights
The term "associated rights" as defined by the Convention comprises rights to payments, which are associated with the secured object. In contrast hereto the term associated rights as defined by the Protocol comprises all licences that are required to control, operate or use a space asset.[18] In order to distinguish the associated rights as defined by the Convention from the associated rights as defined by the Protocol a proposal was made during the Rome Meeting of the Space Working Group to establish a new term "linked" or "related

[18] Compare Article 1 (c) of the Convention with Article I 2. (a) of the Protocol

rights".[19] The creation of the new term "related rights" for licence rights was also recommended by Mr. Alfons Noll, member of the Space Working Group, during the UNIDROIT Colloquium on the Preliminary Draft Space Assets Protocol held at the Head Office of the European Space Agency (E.S.A.) in Paris on 5th September 2003.[20]

3.2.2 *Problem: Licences are not transferable in the majority of countries due to national licensing procedures*

The value of a space asset as collateral depends to a great extent on the transferability of licences. However, licences are mostly subject to national licensing procedures and limited to a specific operator. The Protocol recognises such national licensing procedures, which is indicted by the addition "to the extent permissible and assignable under the laws concerned". [21]

However, the non-transferability of licences diminishes the value of space objects as collateral. From a creditor's point of view transferability at least among "blue chip companies" that fulfil the standards of the national licensing procedures is most desirable.[22] In particular, a possibility of an unbureaucratic transfer would lead to further cost-reduction in the financial sector and hence to lower interest rates, which would be beneficial for operators and manufacturers.

3.2.3 *Possible Solutions*

A possible solution could be the regulation of licensing procedures through national space legislation. A German Space Act has been requested several times and a draft is currently under preparation. A national Space Act could provide procedures for the conditions under which a transfer of licences may be carried out.[23] Since the primary concern of governmental supervision is liability according to Article VI/VIII OST, the authorities will mainly focus on the reliability and creditability of potential licensees. If both prerequisites are given, it is most desirable that the transfer of licences may be permitted. Such practice may lead to transferability among a limited number of "forum" states, which provide the required environment for space related financing. Those states instead, which ignore the demands of the market and put an undue burden through increased bureaucracy upon commercial entities will be left out.

3.3 Opt-ins and opt-outs: recommendations from a German perspective

In response to the different law systems and attitudes of governments to allow alterations of their domestic legal system, the Protocol provides that states may choose or abstain from certain provisions by way of declaration. Prior example in international private law is e.g. the United Nations Convention on Contracts for the International Sale of Goods 1980 (CISG).[24] It is the intention of the following paragraphs to present some of the different opt-ins and opt-outs as contained in the Protocol, to compare them with German Law and to give recommendations from a German perspective considering the

[19] See Michael Gerhard in his comments on the occasion of the Rome Meeting of the Space Working Group., UNIDROIT, W.P.2, Rome, January 2002

[20] See Alfons Noll: "Contribution to UNIDROIT's Paris 2003 Colloquium on its Preliminary Draft Space Protocol", Geneva, August 2003, p. 3

[21] See Article I 2 (a) of the Protocol.

[22] See Hermann Ersfeld: "Industry Views on National Space Legislation" p. 46, in: "Project 2001 – Needs and Prospects for National Space Legislation", Munich, 5/6th December 2000

[23] See Michael Gerhard's proposal for a German Space Act: "Nationale Weltraumgesetzgebung – Völkerrechtliche Voraussetzungen und Handlungserfordernisse", in: Studies in Air and Space Law, founded by Karl-Heinz Böckstiegel, edited by Stephan Hobe, p.101/103

[24] See CISG e.g. Article 95, UNTS. 3, 19

commercial needs and legal implications. Due to the regulatory limitations for this paper as regards pages and time for presentation, the following examples do not represent the entirety of the opt-in and opt–outs contained in the Protocol.

3.3.1 Article VIII Protocol - Choice of Law:

Article VIII generally applies unless a contracting State declares at the time of ratification to the contrary and constitutes the only opt-out provision of the Protocol.[25] According to Article VIII the parties to an agreement may agree which law and to what extent it shall govern their contractual rights and obligations. However, certain jurisdictions, in particular Arabian countries, do not accept such clauses and generally apply the domestic law.[26] Since choice of law clauses are internationally widely used and the German law recognises such clauses, a German declaration as regards the non-applicability of Article VIII is not recommended.

3.3.2 Article XI Protocol - Remedies on Insolvency:

The value of the remedies as provided by the Convention depends to a great extent on the enforceability in the insolvency of the debtor. The importance of insolvency provisions has found its expression in Article XI of the Protocol. The applicability of Article XI requires a declaration pursuant to Article XXVI (4) (opt-in).[27] This is due to the sensitivity of states towards interventions into their legal insolvency systems. The declaration according to Article XXVI (4) shall also specify whether a State will apply alternative A or B of Article XI.

3.3.2.1 Alternative A:

The text of alternative A is strongly influenced by title 11 of the United States of America Bankruptcy Code (U.S.C.). In particular section 1110 enables secured creditors, lessors and conditional sellers to take possession of secured aircraft equipment. The rule provided by alternative A introduces an equivalent right of possession for secured space assets in case of the debtor's default. In particular the strict periods of time[28] in combination with the inability of national courts to interfere with the creditor's right of possession, once a state has opted for alternative A, make this alternative a "hard" option.

From a German point of view the legal, lack of judicial control in combination with the fact that the creditor is not obliged to prove his "bona fidae" raise the question of whether such a self-help remedy is compatible with German constitutional law.[29] Self-help in German law is rarely seen; an example may be § 559 BGB where the owner of real estate may claim the tenant's interior as compensation for unpaid rent. In the present case of alternative A of the Protocol however, where highly valuable space assets are involved, the lack of judicial control seems incompatible with the German concept of the Constitutional State ("Rechts-staatsprinzip"), which grants the protection of property to its citizens and the right to take a case to the domestic courts in cases of disputes.[30] Bearing the aforementioned conflicts in mind, an opt-in for alternative A cannot be recommended from a German perspective.

[25] See Article VIII (1) in connection with Article XXVI (1) (a) of the Protocol

[26] See Rosener in: Münchener Vertragshandbuch, Band 2, III.1 Nr. 85

[27] See Article XI (1) of the Protocol

[28] According to Article XI Alternative A (3) the waiting period has to be specified by the contracting State

[29] Article 14 of the German Constitution grants citizens property rights

[30] See Hans Prütting: "Verfassungsrechtlich garantierte Verfahrensgrundsätze, I. Rechtsstaats-prinzip, p. 224-226 and III. Der Anspruch auf rechtliches Gehör, p. 228-231", in: Kölner Schrift zur Insolvenzordnung

3.3.2.2 Alternative B:
During the sessions of the informal insolvency working group the "hard" self-help approach of Article XI of the Protocol was criticised for making it impossible for several governments to ratify the Convention/Protocol. As a result of this discussion Article XI, which to that time did not contain alternatives and was originally based on the text of the now existing Alternative A. Alternative B has been introduced on initiative of the French delegation. This initiative led to the split of the former uniform rule in two alternatives A and B, as contained in the present Protocol.

Alternative B, similar to Alternative A, provides that the debtor or insolvency administrator shall give possession or control and operation over the space asset.[31] This deviates in so far from German insolvency law as the domestic law strictly distinguishes between the case of a conditional seller under simple retention of title and a secured creditor.[32]

A conditional seller under a simple retention of title agreement may claim the separation of the space asset from the bankrupt's estate according to § 47 of the German Insolvency Code (Insolvenzordnung), hereinafter referred to as InsO, in connection with § 985 BGB. According to § 103 InsO the insolvency administrator may still be entitled to possession when he decides to perform all obligations under the sale contract. Only when the insolvency administrator decides to terminate the sale contract, the seller may take possession of the asset.[33] In so far the rule of alternative B to give possession to the creditor is consistent with § 47 InsO. The same applies to the choice of the insolvency administrator to opt either to cure the actual default with the result that he may keep the space asset or to give possession of the space asset. This approach is the equivalent of the aforementioned § 103 InsO.[34]

Under German law the precedent position of a conditional seller under simple retention of title has to be distinguished from a creditor under a security agreement. According to § 50 in connection with § 51 No. 1 InsO a creditor under a security agreement is not entitled to take possession of the secured asset, he is rather entitled to be satisfied out of the value of the asset. The realisation of the asset value however is effected through the insolvency administrator, provided he has possession of the asset, and not through the creditor.[35] In addition, the insolvency administrator is entitled to deduct 9 % of the realised value of the asset, which will be added to the bankrupt's estate.[36] In so far the rule provided by Alternative B (2) (b) of the Protocol, i.e. to give possession of the space asset, deviates from the German rule as regards secured creditors.

Nevertheless German law is capable to accommodate the Protocol's provisions on insolvency. The UNIDROIT rules on insolvency are generally not inconsistent with the German law system. Moreover, they would constitute merely an exception within the domestic insolvency law and grant conditional sellers under simple retention of title as much as lessors and creditors under security agreements a uniform right of separation of the secured space asset from the entirety of the insolvency estate. As a result of this, German Courts in case of a German opt-in would have to apply § 47 InsO also to

[31] See Article XI Alternative A (2) and Alternative B (2) (b) of the Protocol
[32] See Peter Gottwald/Jens Adolphsen: "Die Rechtsstellung dinglich gesicherter Gläubiger in der Insolvenzordnung, IV. Unterschiedliche Behandlung von Sicherungseigentum und Eigentumsvorbehalt" at p. 1053-1056, in: Kölner Schrift zur Insolvenzordnung
[33] See § 103 in connection with § 107 II InsO
[34] See Article XI Alternative B (2) (a) and (c) of the Protocol
[35] See § 166 InsO
[36] See § 170 in connection with 171 InsO

secured creditors and lessors conclusively.[37]

In contrast to Alternative A, no constitutional infringements can be identified within the text of Alternative B. Moreover, judicial control is granted by the formulation that possession of the space asset may be given "...in accordance with the applicable law."[38] Further judicial control is provided by Alternative B (3) and (5) which enable domestic courts to take additional steps as regards the transfer of possession. Another distinctive feature is the creditor's obligation to provide evidence of his "bona fidae".[39] The entirety of the aforementioned distinctive features characterizes Alternative B as a soft option in comparison to Alternative A.

Even though certain conflicts as regards secured creditors could be identified, German Law is perfectly able to accommodate the insolvency rules of Alternative B. The advantages of such strong creditor rights promise an increased financial involvement of banks at lower costs and subsequently better conditions for debtors in the space industry. Considering that Alternative B offers a balanced approach between strong creditor rights and judicial control, a German opt-in may be recommended.

4. CONCLUSION:

The Convention and the Protocol do not contain any substantial inconstancies with German law. The major points of deviation are the rules on components and on insolvency. However, the German law system is perfectly capable to accommodate the UNIDROIT rules as an exception to the general rules. The ratification of the UNIDROIT Convention and the Protocol is essential for an increased involvement of banks and sets the foundation for a further commercialisation of space activities. One of the major issues for the success of the Convention and the Protocol is a wide acceptance of the different provisions, which are subject to opt-in and opt-out declarations. States that will not accept interferences through international law may make use of the various opt-ins and outs to protect the integrity of their legal system. However, creditors will focus on those States where strong security rights are granted.[40] In the long run this may lead to a limited circle of nations "forum states", where the entirety of the Convention and the Protocol with all its "hard" opt-ins are accepted and the financing of space assets is undertaken.

Although the practical applicability of the Convention/Protocol today is limited to satellites and transponders as space assets, the Protocol will unfold its full potential with the technical evolution of the space industry when production in space and permanent space transport through reusable launch vehicles at reasonable costs can be technically achieved. Then, the Convention/Protocol may also provide the legal basis for commercial space stations and modules or components thereof.

[37] See Eva-Maria Kieninger: "Effects in Insolvency: a German perspective, in: Uniform Law Review 1999-2, p. 405.

[38] See Article XI Alternative B (2) (b) of the Protocol

[39] See Article XI Alternative B (3) of the Protocol

[40] This view was also expressed by Mr. Robert W. Gordon, representative of the Boeing Capital Corporation and member of the Space Working Group, in his speech "The Fundamentals of Asset-based Financing from the Perspective of the Lender" on the occasion of the UNIDROIT Colloquium on the Preliminary Draft Space Assets Protocol held at the Head Office of the European Space Agency (E.S.A.) in Paris on 5th September 2003.

Bibliography

Arbeitskreis für Insolvenz- und Schiedsgerichtswesen e.V., Köln (Editor)	Kölner Schrift zur Insolvenordung – Das neue Insolvenrecht in Praxis, 2. erweiteterte und aktualisierte Auflage, Verlag für die Rechts-und Anwaltspraxis, Herne/Berlin 2000
Bollweg, Hans-Georg/ Gerhard, Michael	Sicherungsrechte an Luftfahrtausrüstung und Weltraumeigentum – Die Entwürfe einer UNIDROIT/ICAO – Konvention über internationale Sicherungsrechte an beweglicher Ausrüstung und der Protokolle über Luftfahrtausrüstung und Weltraumeigentum, Zeitschrift für Luft- und Raumfahrtrecht, 50. Jg., 3/2001, p. 373-396
Ersfeld, Hermann	Industry Views on National Space Legislation, in: Project 2001 – Needs and Prospects for National Space Legislation, Munich, 5/6th December 2000, p. 39-51
Euroconsult	Satellite Communications & Broadcasting Markets Survey- Worldwide Prospects to 2010, A Euroconsult Research Report, Paris, January 2002
Gerhard, Michael	Comments on the Preliminary Draft Protocol on Matters Specific to Space Assets on the occasion of the Rome Meeting of the Space Working Group (30/31 January 2002), UNIDROIT W.P. 2, Rome, January 2002
	Nationale Weltraumgesetzgebung – Völkerrechtliche Voraussetzungen und Handlungserfordernisse, Studies in Air and Space Law, founded by Karl-Heinz Böckstiegel, Edited by Stephan Hobe, Volume 19, Carl Heymanns Verlag, Cologne 2002
Gordon, Robert W.	The Fundamentals of Asset-based Financing from the Perspective of the Lender, on the occasion of the UNIDROIT Colloquium on the Preliminary Draft Space Assets Protocol held at the Head Office of the European Space Agency (E.S.A.) in Paris on 5th September 2003
Kieninger, Eva-Maria	Effects in Insolvency of the International Interest in Mobile Equipment: a German Perspective, Uniform Law Review 1999-2, p. 397-408
Noll, Alfons	Contribution to UNIDROIT's Paris 2003 Colloquium on its Preliminary Draft Space Protocol", Geneva, August 2003

Palandt, Otto (founded by)	Bürgerliches Gesetzbuch, Kommentar,Verlag C.H. Beck, 62. Auflage, München 2003
Panahy, Dara A.	The Preliminary Draft Protocol on Matters specific to Space Assets: An Overview of its Objectives and Key Provisions, UNIDROIT 2003, C.G.E. Space Pr./1/W.P.5 Rome, July 2003
	Prospective UNIDROIT Convention on International Interests in Mobile Equipment as Applied to Space Assets, International Business Lawyer, December 2001, p. 505-511
Panahy, Dara A./ Mittal, Raman	Prospective UNIDROIT Convention on International Interests in Mobile Equipment as Applied to Space Property, Uniform Law Review 1999-2, p. 303-312
Saunders, Anthony Walter, Ingo	Proposed UNIDROIT Convention on International Interests in Mobile Equipment as applicable to Aircraft Equipment through the Aircraft Equipment Protocol: Economic Impact Assessment, A Study Prepared Under the Auspices of INSEAD and the New York University Salomon Center, September 1998
Schütze, Rolf A (Editor).	Müchener Vertragshandbuch, 2. Band, Handels- und Wirtschaftsrecht, Beck Verlag, München 1997
Stanford, Martin J.	A broader or a narrower view band of beneficiaries for the proposed new international regimen?: Some reflections on the merits of the Convention / Protocol structure in facilitating the former, Uniform Law Review 1999-2, p. 242-251
UNIDROIT	Report of the Space Working Group Session held in Seal Beach, California, 23/24 April 2001 UNIDROIT 2001, Study LXXIII – Doc. 5
	Report of the Space Working Group Session held in Évry Coucouronnes, 3/4 September 2001 UNIDROIT 2001, Study LXXIII – Doc. 8
	Report of the Space Working Group Session held in Rome, 3/4 February 2002 UNIDROIT 2001, Study LXXIII – Doc. 10