INTERNATIONAL INSTITUTE FOR THE UNIFICATION OF PRIVATE LAW
INSTITUT INTERNATIONAL POUR L'UNIFICATION DU DROIT PRIVE

UNIDROIT COMMITTEE OF GOVERNMENTAL EXPERTS FOR THE PREPARATION OF A DRAFT PROTOCOL TO THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT ON MATTERS SPECIFIC TO SPACE ASSETS: SUB-COMMITTEE TO EXAMINE CERTAIN ASPECTS OF THE FUTURE INTERNATIONAL REGISTRATION SYSTEM FOR SPACE ASSETS
First meeting
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Preliminary summary of the responses received as of 19 October 2009 to the questionnaire on suitable identification criteria for the new categories of space asset referred to in Article I(2)(k) of the alternative text of the preliminary draft Space Protocol implementing the policy recommendations of the UNIDROIT Steering Committee, prepared by Professor Sir Roy Goode (United Kingdom) and Mr J.M. Deschamps (Canada)

(prepared by the UNIDROIT Secretariat)

I. INTRODUCTION

(1) Establishment of the Sub-committee

At its second session, held in Rome from 26 to 28 October 2004, the UNIDROIT Committee of governmental experts for the preparation of a draft Protocol to the Convention on International Interests in Mobile Equipment on Matters specific to Space Assets (hereinafter referred to as the *Committee of governmental experts*) established a Sub-committee to develop proposals on issues relating to the future international registration system for space assets (hereinafter referred to as the *Sub-committee*). [1] It was agreed that the Sub-committee should deal with, first, identification criteria for space assets and related matters, secondly, the practical operation of the future International Registry for space assets and, thirdly, the role of the future Supervisory Authority and that the UNIDROIT Secretariat should report back to the Committee of governmental experts at its following session on the work accomplished by the Sub-committee. The Committee of governmental experts decided that the Sub-committee should conduct its work via electronic communication, using a web forum kindly placed at the disposal of the Sub-committee by the International Telecommunication Union (I.T.U.). Immediately following the second session of the Committee of governmental experts the Secretariat both formally reminded the Governments and Organisations, including the Space Working Group (S.W.G.), participating in its work of the decision to establish the Sub-committee and invited them to indicate whether they wished to participate in the work of the Sub-committee.

[1] Cf. C.G.E./Space Pr./2/Report, § 51.

Unfortunately, only two of those having officially notified the Secretariat of their wish to participate in the work of the Sub-committee (the Governments of the Czech Republic and of the United Kingdom) posted comments on the I.T.U. web forum. [2]

(2) Steps taken by the UNIDROIT Secretariat to compensate for the Sub-committee's inactivity

It was with a view to overcoming the resultant impasse that the Secretariat took the initiative - following a Government/industry forum, organised by UNIDROIT and the S.W.G. and hosted by the Royal Bank of Scotland in London on 24 April 2006, that was essentially designed to take stock of the progress made on the key outstanding issues to be dealt with in intersessional work – of seeking to advance thinking on - arguably, the single most important issue facing the Sub-committee - the identification criteria to be used in respect of space assets for the purpose of their registration in the future International Registry for space assets, by sending out a questionnaire among those representatives of the international commercial space and financial communities having participated in the London forum.

On the basis of the responses that it received to this questionnaire, together with the comments posted on the I.T.U. web forum, the Secretariat prepared an Interim report for discussion at a second Government/industry forum, again organised by UNIDROIT and the S.W.G. and hosted by Milbank, Tweed, Hadley & McCloy, LLP in New York on 19 and 20 June 2007 (hereinafter referred to as the *New York meeting*). [3] In the light of the conclusions reached in the Interim report, there was general agreement at the New York meeting as to the desirability of narrowing the sphere of application of the preliminary draft Protocol to the Convention on International Interests on Matters specific to Space Assets (hereinafter referred to as the *preliminary draft Protocol*) in such a way as to concentrate, essentially, on the satellite in its entirety, notably because this category of asset represented 80% of asset-based transactions that were the subject of the type of financing contemplated by the preliminary draft Protocol. [4]

(3) Consideration of the question of identification criteria by the Steering Committee

(a) Recommendation of a new definition of "space asset"

The issue of identification criteria was further considered at the first meeting of the UNIDROIT Steering Committee to build consensus around the provisional conclusions reached at the New York meeting (hereinafter referred to as the *Steering Committee*), held in Berlin from 7 to 9 May 2008. One of the recommendations that came out of the meeting was that a new definition of space asset should be prepared, to contain a list of the distinct categories of asset to be covered by the preliminary draft Protocol. [5] As amended by the Steering Committee at its second meeting, held in Paris on 14 and 15 May 2009, [6] this new definition read as follows:

> ""space asset" means any man-made uniquely identifiable satellite, satellite bus, satellite transponder, payload, space station, space vehicle, reusable launch vehicle, reusable space capsule or any module or other object, in each case only where capable of being independently owned, used or controlled, in or intended to be launched in or into space or used or intended to be used as a launch vehicle, including any such asset in course of manufacture or assembly, together with all modules and other installed, incorporated or

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[2] Cf. C.G.E./SpacePr./S.C.I.R.S./W.P. 2, p.2.

[3] The Interim report on identification criteria for the identification of space assets to be employed in the preliminary draft Protocol to the Convention on International Interests on Matters specific to Space Assets (hereinafter referred to as the *Interim report*) is reproduced as Appendix I to the present document.

[4] Cf. Study LXXIIJ - Doc. 14, p. 3.

[5] Cf. Study LXXIIJ - Doc. 14, p. 10.

[6] Cf. Study LXXIIJ - Doc. 17, p. 8.

attached accessories, parts and equipment and all data, manuals and records relating thereto." [7]

(b) Recommendation to look at identification criteria for two distinct purposes

At its first meeting, the Steering Committee also recommended following the approach to the issue of identification criteria reflected in Article V of the Protocol to the Convention on International Interests on Matters specific to Railway Rolling Stock (hereinafter referred to as the *Luxembourg Protocol*). [8] Under that approach, a distinction was made between identification criteria for the purpose of the creation of an international interest – for which purpose an asset, as also any subsequently acquired asset, would simply need to be capable of being identified as falling within the scope of an agreement between a creditor and a debtor, making a detailed description of the asset unnecessary – and identification criteria for the purposes of registration in the future International Registry – for which a unique form of identification of the asset would be required, so as to permit third parties to search the International Registry for pre-existing interests in that asset. [9]

As regards identification criteria for registration purposes, the Steering Committee recommended that some such basic criteria should be spelled out in the preliminary draft Protocol, to be supplemented, where necessary, in the regulations to be promulgated by the Supervisory Authority pursuant to the future Space Protocol. [10] For satellites it was suggested that the preliminary draft Protocol should, at least, require the giving of a description of the satellite, containing the name of the manufacturer, the model, the launch site, the launch date, the orbital parameters (including inclination, nodal period, apogee and perigee), and the general function of the satellite; for each other category of space asset similar basic criteria would need to be set out. [11]

II. NEW CATEGORIES OF SPACE ASSET LISTED IN ALTERNATIVE TEXT: POSSIBLE IDENTIFICATION CRITERIA

(1) Secretariat's sending out of a further questionnaire

With a view to facilitating the work of the Sub-committee, as also that of the Committee of governmental experts at its third session, to be held in Rome from 7 to 11 December 2009, in particular in considering the proposed new definition of "space asset" set forth in the alternative text, the Secretariat on 8 September 2009 sent out a further questionnaire asking representatives of the international commercial space, financial and insurance communities who had participated in the intersessional work to give any suggestions, based on their experience and current practice, on criteria that might be used to identify those new categories of space asset listed in the proposed new definition of space asset. [12]

As of 19 October 2009 the Secretariat had received responses from the Government of Germany and the German Space Agency, Mr D.J. Den Herder, Senior Counsel, Space Exploration Technologies (SpaceX), Mr R.W. Gordon, Vice President, Space & Defense, the Boeing Capital Corporation, Mr S. Kozuka, Professor of Law, Sophia University, Tokyo and Mr S.D. Weiss, Managing Director, Corporate

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7 This definition appears in Article I(2)(k) of the alternative text drawn up by the co-chairmen of the Drafting Committee of the Committee of governmental experts, Professor Sir Roy Goode (United Kingdom) and Mr J.M. Deschamps (Canada), to reflect the recommendations of the Steering Committee on those policy issues referred to intersessional work (C.G.E./Space Pr./3/W.P. 5 rev.) (hereinafter referred to as the *alternative text*).

8 Cf. Study LXXIIJ - Doc. 14, pp. 18-19.

9 Cf. Article XVI of the alternative text.

10 Cf. Study LXXIIJ - Doc. 14, p. 18-19.

11 Cf. Article XVI (3) and (4) of the alternative text.

12 A copy of the questionnaire is reproduced as Appendix II to the present document.

Finance, Global Banking & Markets, ABN AMRO Bank N.V., Hong Kong. With a view to facilitating the work of the Sub-committee at its forthcoming meeting, the Secretariat has prepared a preliminary summary of these responses: a number of those to whom the questionnaire was addressed have indicated that their responses have been delayed and it is, therefore, intended that, should such additional responses materialise, an updated summary will be prepared, for submission to the Committee of governmental experts at its third session.

(2) Preliminary summary of the responses to the questionnaire received to date

The responses received to the Secretariat's questionnaire looked at the issue raised from two perspectives: suggestions on criteria that might be used to identify certain of the new categories of space asset listed in Article I(2)(k) of the alternative text were matched by the raising of queries as to the appropriateness of certain of these categories being encompassed by the future Protocol at all. It will be noted that, in this respect, the questionnaire, therefore, resulted in much the same questioning of the categories of space asset best covered by the future Protocol that characterised the Secretariat's earlier questionnaire, the results of which were analysed in the Interim report. [13]

This document, therefore, summarises the responses to the questionnaire in two stages, first, looking at those responses which raised question-marks as to the appropriateness of certain of the new categories of space asset being encompassed by the future Protocol and, secondly, considering those responses which rather focussed on possible identification criteria for certain of the new categories.

(a) Appropriateness of including certain categories of space asset

(i) General comments

One respondent saw the main advantage of the preliminary draft Protocol lying in the way in which it dealt with the question of jurisdiction in an environment where, at present, none existed, a circumstance which made it difficult for creditors of space assets to predict the likelihood of their recovering an asset once it was in space.

This respondent recommended that the preliminary draft Protocol be kept as simple as possible, even if such an approach meant not resolving every possible contingency.

One respondent found that the new definition of space asset, despite the effort thereby to limit the scope of the space assets registrable, vague and limited. He suggested excluding components or modules that were incapable of serving "any independent function from the scope of [the] space asset for the sake of financing under the [preliminary draft] Protocol", proposing the following new wording:

> "'"space asset" means any man-made uniquely identifiable satellite or spacecraft, satellite bus, satellite payload (including satellite transponder), space station, orbital transfer vehicle, reusable launch vehicle (including reusable re-entry vehicle), re-entry capsule (including re-usable re-entry capsule) or any module or other object, in each case only where capable of serving an independent function, in or intended to be launched into space … "

(ii) Comments relating to specific categories of space asset

(α) satellite

One respondent recommended that the preliminary draft Protocol treat satellites as a whole, in much the same way as a bank viewed an "automobile". He added that satellite components were rarely financed separately and, owing to that rarity, could be dealt with in a "bespoke fashion".

[13] Cf. Interim report, § 13.

(β) satellite bus

No response queried whether this specific category of space asset should be covered.

(γ) satellite transponder

No response queried whether this specific category of space asset should be covered, although one should recall the comment regarding satellite components in general referred to above, *sub* satellite.

(δ) payload

One respondent noted that the inclusion of the term payload was "elegant because it is inclusive of several concepts". In the context of a commercial launch service provider, the term "payload", as distinguishable from a launch vehicle, was seen as referring to the totality of the customer's property that was due to be launched into space, including any satellite bus, transponder, satellite adapter, separation system or any other mission-specific equipment affixed thereto. However, in the context of a satellite manufacturer, the term "payload" typically referred to the mission-specific equipment that was attached to the satellite bus, whether it were a transponder, an Earth-observation camera or any other communication device.

Another respondent, however, expressed concern as to the multiple meanings that could be given to the term.

(ε) space station

No response queried whether this specific category of space asset should be covered.

(ζ) space vehicle

One respondent expressed concern as to the multiple meanings that could be given to the term "space vehicle"

(η) reusable (and expendable) launch vehicle

A majority of the respondents expressed concern as to the case for including launch vehicles in the definition of space asset, for the reason that such a vehicle, whether reusable or expendable, was never "sold": it was rather the launch *service* that was sold, most commonly for the placing of a satellite into a specific orbit.

In particular, one respondent noted that, owing to "multinational and national measures enacted to control the proliferation of 'missile' technology", a commercial launch service provider could only sell a service and not the vehicle because, by law, the launch service provider had, at all times, to retain all rights, title and interest in the launch vehicles it manufactured. Therefore, in so far as no rights, title or interest in a launch vehicle could be transferred, it would be impossible for an international interest to be taken in such a vehicle.

Another respondent, however, pointed out that, with the emergence of commercial launch service providers, new forms of contracting or ownership might emerge that might make the financing of launch vehicles possible in future. He did not, though, believe that this justified the developing of identification criteria for launch vehicles in the preliminary draft Protocol.

The exclusion of launch vehicles from the preliminary draft Protocol was supported by another respondent, who noted that, owing to geopolitical sensitivities on the issue of the proliferation of "missile"

technology, reference to launch vehicles as space assets within the preliminary draft Protocol might actually hinder the building of consensus within the Committee of governmental experts.

A further respondent also recommended that the focus of the preliminary draft Protocol should be concentrated on assets in space and that launch vehicles should not be included, because they could be covered adequately by local laws.

(θ) reusable space capsule

One respondent expressed concern at the use of the term "reusable" in respect of a space capsule, as it might limit the applicability of the preliminary draft Protocol. As an example, he noted that certain space capsules had been developed which contained a pressurised reusable segment and an expendable unpressurised trunk segment that was designed to be jettisoned immediately prior to re-entry into the Earth's atmosphere.

(ι) any module

No response queried whether this specific category of space asset should be covered.

(κ) other object

No response queried whether this specific category of space asset should be covered.

(Λ) Assets" intended to be launched in or into space … including any .. asset in course of manufacture or assembly"

One respondent suggested that the inclusion of assets that were "intended to be launched in or into space" was not consistent with current market practice, notably as regards assets "in course of manufacture or assembly". He pointed out that the period during which a satellite was manufactured, following the signing of an agreement between a debtor and a manufacturer, was made up of four stages and that it was impossible or impractical for any part of, or all the future satellite to be given as security during this entire period.

The first stage in the manufacturing process consisted in the design of the satellite. During this time the manufacturer's engineers would draw up designs for the contemplated satellite and all its components. The second stage involved the manufacture of parts and sub-systems (*inter alia*, solar arrays, heating and cooling systems and guidance systems) of the satellite. The third stage involved the actual manufacture of the satellite as a whole and the fourth stage the launching and placing into orbit of the satellite and the testing of its functional capacity.

Ownership of the satellite would, typically, be retained by the manufacturer until after it had been successfully launched. Satellite designs would be considered proprietary information which belonged exclusively to a manufacturer and could not, therefore, be given as collateral. Satellite parts and components would also be uniquely design for a specific satellite and would, consequently, have little or no value for any purpose other than being incorporated in the intended satellite. In addition, while still in the possession of the manufacturer and its sub-contractors, those satellite parts and components would not belong to a debtor who had ordered the satellite, regardless of his having made any payments toward the satellite in question. For this reason, despite being "intended to be launched into space", such satellite parts cannot be given as collateral either. While the physical asset might have some potential value once it had been fully assembled, it would, because of customer-specific licencing conditions put in place by the applicable domestic laws or policies, be very difficult for a creditor to assess the value of an asset before ownership had been fully transferred to the debtor. Such a transfer would, typically, only

occur on a predetermined date or event, for example 30 days before launch, following the intentional ignition of the launch vehicle or after in-orbit delivery and testing.

The respondent in question considered that an asset "intended to be launched in or into space" or that was "in course of manufacture or assembly," therefore, had very little value for a creditor, since in the event of default by the debtor, such a creditor would have no recourse against the space asset until ownership of that asset had been transferred from the manufacturer to the debtor.

It was suggested by another respondent that, for the present, the preliminary draft Protocol should leave assets in the course of manufacture or assembly to be dealt with by domestic law, as to include them might create significant complications in the building of consensus and, therefore, hinder its timeous completion. He, moreover, confirmed the conclusion reached at the New York meeting that assets manufactured in space should also be excluded for the time being, as their inclusion was also liable to result in significant delay.

(b) Identification criteria to be envisaged for certain of the new categories of space asset

(i) General responses

While noting that he was in agreement with the proposed distinction between identification criteria for the purpose of the creation of an international interest in a given asset and identification criteria for the purposes of the registration of that asset in the future International Registry, one respondent pointed out, though, that this meant that, if a detailed description of a space asset were to be considered unnecessary for the purpose of the creation of an international interest in that asset, the identification criteria for a specific asset could be as broad or specific as the parties agreed. In this context, he recalled his remark that an asset only became a space asset upon a predetermined event defined by the parties to a contract. Given that specific criteria for the identification of a space asset were dependent on the type of that asset and could only be defined in an agreement between a debtor and a manufacturer, he felt that it would be "virtually impossible" to predict identification criteria for space assets for the purposes of registration in the future International Registry under the preliminary draft Protocol.

Another respondent drew a distinction between the identification of a space asset at the time when an international interest was created – the purpose of which was to ensure that the creditor and the debtor had agreed on the same asset in which the interest was to be created – and its identification at the time when the international interest was to be enforced – the purpose of which was to ensure that the debtor had transferred ownership of the agreed unique asset; he noted that it was likely that the asset would be on Earth at the time of creation of the international interest but be in outer space at the time of enforcement.

He accordingly proposed a two-part process for determining identification criteria for space assets.

During the first part of this process, corresponding to the time of the creation of the international interest, he suggested that serial numbers be used. He pointed out that such unique numbers were usually assigned by satellite manufacturers, which would mean that a description containing the satellite/bus model type and serial number and the name of the manufacturer and the date of production of the satellite/bus would be sufficient identification for that asset. He added that serial numbers were also assigned to significant components, so that it was likely that payloads, transponders, modules and any other space asset would also be capable of identification by serial number and the name of the manufacturer. He noted that the co-operation of manufacturers would be necessary in order to acquire such serial numbers which, while not being trade secrets, were not always transmitted to the operator of a space asset.

On the other hand, for the second part of this process, corresponding to the time of enforcement, he reported the common understanding of industry experts as being that space assets in orbit were best identified by an international designator, assigned either by the National Space Science Data Center (N.S.S.D.C.) or by the Committee on Space Research (C.O.S.P.A.R.), noting that even the North American Aerospace Defense Command (Norad) used such designators. He also pointed to the registration criteria provided under the United Nations Convention on Registration of Objects Launched into Outer Space as a potential guide. He acknowledged that the use of such designators could give rise to problems in the case of components, as they were not assigned designators but, in this event, he suggested that unique designators be created and assigned to components and any other space asset that was not yet covered by existing criteria.

On a similar tack, another respondent suggested that, because an international interest could already have been taken in a space asset while that asset was still on the ground, a reference to serial numbers would be adequate to identify a space asset at that time. However, additional identification criteria would need to be found for the identification of space assets that could no longer be visually identified.

It accordingly suggested the following minimum identification criteria, divided into three categories, for use for the purposes of registration in the International Registry:

- the name and address of the owner;
- the type of satellite by serial number;

- the positioning of the asset in orbit, orbital parameters (for example, its perigee; its apogee; its inclination (in degrees), its period (minutes));
- the frequencies used by the asset as registered on the Master Registry of the I.T.U.;
- the authorised Control Centre and the Tracking, Telemetry & Control manager;

- the Registration Code used by the I.T.U. Master Register;
- the Registration Code used by the United Nations Register;
- the Registration Code used by C.O.S.P.A.R.

In this way, it suggested that, even if an asset were moved to a different orbit, the asset could still be identified by using any of the additional criteria. This solution, while applicable to most categories of space asset, would not, admittedly, work for components.

As an alternative solution, it offered the following optional identification criteria, divided into two categories:

- the name and address of the manufacturer;
- technical details of the satellite;

- the launch vehicle;
- the launch site;
- the launch date.

It noted that the I.T.U. only worked at the governmental level, with the relevant national administrations, and that the Master Register might, therefore, lack information relating to commercial owners/operators.

It also noted that both the United Nations and the C.O.S.P.A.R. Registers might be incomplete, as not all satellites might be registered thereon.

(ii) Responses in respect of specific categories of space asset

(α) satellite

One respondent stated that he did not know how the task of developing standard identification criteria for space assets or even the pre-identification of those space assets could be accomplished, given the wide range of satellite technology, designs and purposes. In particular, he noted that geosynchronous communication satellites, satellites broadcasting high definition television and low-Earth orbiting imaging satellites were all significantly different. He further noted that satellites carrying transponders were very different from those that used spot-beam technology and that satellites transmitting to a fixed Earth station were also very different from those transmitting to a mobile device. For these reasons, he feared lest the listing of specific criteria to identify the different types of asset would be a cumbersome task.

(β) satellite bus

No response was provided regarding this category of space asset.

(γ) satellite transponder

No response was provided regarding this category of space asset.

(δ) payload

One respondent noted that, in the light of the emergence of Earth-observation satellites as viable commercial projects, it would be good if the preliminary draft Protocol could cover such assets and, in that case, hoped that the meaning of the term "payload" would be sufficiently broad to cover such assets. He would defer, though, to experts in Earth-observation technology on suitable identification criteria for such assets. At the same time, he could see no reason why this category of asset needed to be explicitly enumerated and, time being of the essence at this stage, he would suggest not complicating matters.

He also expressed concern as to the term "payload" and wondered whether the term would be sufficiently broad to cover the individually owned and uniquely identifiable commercial payloads that were carried on board a space capsule. These payloads included a wide variety of scientific equipment, which could all be uniquely designed for a multitude of scientific purposes. Whilst he would not yet speculate as to the best criteria for the unique identification of such equipment, he did express hope that the preliminary draft Protocol would be drafted in such a way as to "accommodate the asset-based financing of such recoverable commercial payloads … when, in the future, appropriate identification criteria for such payloads can be determined".

(ε) space station

Recognising that a space station might one day be privately owned and noting that the current International Space Station was owned by a group of sixteen Governments and governed by a complex ownership agreement, one respondent, nevertheless, stated that he was unable to suggest identification criteria for an asset that was, as yet, theoretical. He further noted that developing such criteria would be further complicated by the presence of uniquely identifiable modules and structures on board a space station which would themselves contain separately identifiable high-value components.

(ζ) space vehicle

No response was provided regarding this category of space asset.

(η) reusable (and expendable) launch vehicle

No response was provided regarding this category of space asset.

(θ) reusable space capsule

No response was provided regarding this category of space asset.

(ι) any module

No response was provided regarding this category of space asset.

(κ) other object

No response was provided regarding this category of space asset.

III. CONCLUSIONS

While the Secretariat would not seek to draw any specific conclusions from the comments and responses received to date, it would submit that they provide an excellent basis for discussion of the issue of identification criteria at the Sub-committee meeting. It is true that there was no unanimity among these responses but, at the risk of being selective, there were a number of points that cropped up in the responses of more than one respondent.

First, a majority of those responding suggested that launch vehicles were best excluded from the preliminary draft Protocol, essentially because it was not the vehicle that was sold but rather the service, making the granting of an international interest in a launch vehicle, whether reusable or expendable, highly impracticable. These respondents, moreover, suggested that excluding launch vehicles would simplify the preliminary draft Protocol and thus facilitate the reaching of consensus.

Secondly, a majority of those responding suggested that assets "intended to be launched in or into space" and those "in course of manufacture or assembly" should also be excluded, as local laws could deal with such assets adequately. It was, moreover, felt that including such assets would not be in line with current market practice for the financing and manufacture of a space asset.

Thirdly, two respondents expressed their satisfaction at the proposal to borrow the two-pronged approach for identification criteria enshrined in the Luxembourg Protocol, namely distinguishing between identification criteria for the purpose of creating an international interest in a space asset and such criteria for the purposes of that interest's registration in the International Registry. However, there was some concern regarding whether the unique identification of the wide variety of specialised technology involved in each of the categories of space asset listed in Article I(2)(k) of the alternative text would be feasible.

Fourthly, two respondents, nevertheless, favoured the using of serial numbers for the identification of space assets while they remained on Earth. However, once placed in orbit, these respondents suggested using the criteria set out by a number of international and intergovernmental Organisations that had already developed methods for tracking satellites in orbit. These respondents noted, however, that this approach would not cover components on board another asset.

S W G

International Institute for the Unification of Private Law

Space Working Group

THE VIEWS OF INDUSTRY AND GOVERNMENT ON HOW BEST TO FINALISE AN EXPANSION OF THE CAPE TOWN CONVENTION TO COVER SPACE ASSETS

A special joint meeting of Government and industry representatives, hosted by Milbank, Tweed, Hadley & McCloy, LLP, to consider the outstanding key issues remaining to be dealt with in respect of the planned Space Assets Protocol to the Cape Town Convention on International Interests in Mobile Equipment and the most appropriate means of bringing said Protocol to timeous completion

(New York, 19/20 June 2007)

INTERIM REPORT

ON THE CRITERIA FOR THE IDENTIFICATION OF SPACE ASSETS
TO BE EMPLOYED IN THE PRELIMINARY DRAFT PROTOCOL
TO THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT
ON MATTERS SPECIFIC TO SPACE ASSETS

(prepared by the UNIDROIT Secretariat)

I. INTRODUCTION

1. At its second session, held in Rome from 26 to 28 October 2004, the UNIDROIT Committee of governmental experts for the preparation of a draft Protocol to the Convention on International Interests in Mobile Equipment on Matters specific to Space Assets (hereinafter referred to as the *Committee*) set up a sub-committee to develop proposals, to be submitted to the Committee at its following session, related to the international registration system to be established under the future Protocol (hereinafter referred to as the *Sub-committee)*. The Sub-committee was asked to work by electronic means, with the UNIDROIT Secretariat acting as co-ordinator of its work. Very few comments having been posted on the web forum set up by the International Telecommunication Union (I.T.U.) to facilitate the work of the Sub-committee, the UNIDROIT Secretariat has, in the light of the conclusions reached at the special Government/industry Forum hosted by the Royal Bank of Scotland (RBS) in London on 24 April 2006, to take stock of the key outstanding issues to be dealt with in respect of the preliminary draft Protocol to the Cape Town Convention on Matters specific to Space Assets (hereinafter referred to as the *preliminary draft Protocol)*, deemed it appropriate itself to seek to take forward work designed to advance consideration of one of the issues referred to the Sub-committee, namely the identification of space assets and related matters.

2. As a starting point, it is appropriate to note the questions set out on the I.T.U. web forum in this regard by the Secretariat. The questions are asked, first, which criteria should be employed for the identification of space assets, secondly, how far such criteria should be laid down in the future Protocol at the time of its adoption and how far the future Protocol should provide for them to be laid down by the regulations to be established under the future Protocol, thirdly, whether identification should be prescribed in the future Protocol as a matter fundamental to the application of the Convention in relation to space assets and whether the regulations should be limited to matters concerning the future International Registry for space assets, fourthly, how the Protocol should ensure that any criteria that it may lay down remain accurate and relevant, for example by providing for their updating pursuant to the aforementioned regulations, fifthly, what the criteria should relate to, in particular given that it may not always be possible, with all the different types of space asset covered by the preliminary draft Protocol, to identify criteria of the sort employed in respect of aircraft objects under the Protocol to the Convention on Matters specific to Aircraft Equipment, namely criteria relating to the asset in a finished state, in that, under the sphere of application of the preliminary draft Protocol as currently drawn, registration may need to be effected, first, against assets that are still in the process of being manufactured and, secondly, against a large number of component parts of a single asset, the registration of each of which may be considered to be unduly onerous, expensive and impractical, and, sixthly, whether the criteria to be employed should not only be asset-related but may also include elements of a debtor-based system, recalling that the Space Working Group, at its fifth session, held in Rome on 30 and 31 January 2002, noted that the inclusion of multiple search criteria would increase the reliability of searches.

3. The question of the identification of space assets is currently dealt with in Article VII (Identification of space assets), which provides that "A description of a space asset that satisfies the requirements established in the regulations is necessary and sufficient to identify the space asset for the purposes of Article 7(c) of the Convention and Article V(1)(c) of this Protocol." A footnote to the word "identify" indicates that "'[i]dentifiability is a crucial requirement because the registration system is asset-based'; cf. Sir Roy Goode, *Official Commentary on the Convention on International Interests in Mobile Equipment and Protocol thereto on Matters specific to Aircraft Equipment*, at 12. The concept of identifiability is to be understood in the context of the 'notice filing' registration system envisaged under the Convention, that is a system based on 'the filing of particulars which give notice to third parties of the existence of a registration, leaving them to make enquiries of the registrant for further information, as opposed to a system which requires presentation and/or filing of agreements or other contract documents or copies' (cf. *idem* at 88).

II. COMMENTS POSTED BY GOVERNMENTS

4. Only two responses to these questions have to date been posted on the I.T.U. web forum. [1] One respondent, in answer to the first three questions, indicated his preference for general identification criteria being laid down in the future Protocol and the task of developing identification criteria to be employed solely for the purpose of registration being left to the Supervisory Authority of the future International Registry for space assets, for promulgation in the regulations to be established under the future Protocol. Responding to the fourth question, this respondent recognised that identification criteria might have to be updated in order to remain accurate and relevant and proposed that the manner of such updating should be left to the regulations. On the fifth question, he suggested that the most practical means of finding the most appropriate criteria would be to look, as with aircraft objects under Article XX of the Aircraft Protocol, to the asset in a

[1] By the Governments of the Czech Republic and the United Kingdom.

finished state, leaving it to the parties to the transaction to specify the appropriate moment for the registration of a given asset. He felt that the suggestion of the Space Working Group (hereinafter referred to as the *S.W.G.)*, reflected in the sixth question, required further consideration and asked for clarification from the S.W.G., as the author of this idea.

5. The other respondent suggested that one approach to the difficulties inherent in finding appropriate identification criteria for all the different types of asset caught by the preliminary draft Protocol's sphere of application was to ask oneself whether this was not drawn too widely. He noted that the preliminary draft Protocol covered *anything* that was intended to be launched in space or was launched in space. He submitted that this extended the preliminary draft Protocol's sphere of application far beyond the original sphere of application of the Cape Town Convention (hereinafter referred to as the *Convention)* itself, which was delimited only by reference to high-value objects. He noted, for instance, that the preliminary draft Protocol applied to all components of a space asset. Thus, once a component could be identified as a space asset, the Convention would apply and a creditor with an international interest in that component would need to register his interest in the future International Registry if he did not wish to lose priority to a creditor having registered another interest.

6. Thus, this respondent pointed out, the protection given under the preliminary draft Protocol to a supplier of a component by a reservation of title clause might be lost to a creditor of a manufacturer who had registered an interest in the space asset of that manufacturer, with the result that manufacturers of components would need to protect their interests in relatively low-value items by registration. As regards such low-value items, he took the view that allowing the Convention system to override national secured transactions law needed firm justification and clarity so that those with interests capable of being protected knew that this was the case. The reason for this was that the Convention had legal effects on interests that were *not registered*. It was his view that Contracting States were entitled to expect certainty and clarity as to the limits of the jurisdiction that they were ceding to the Convention system. And there could be no doubt as to the application of the Convention system and the need for registration to protect the interests of creditors where high-value objects such as airframes, aircraft engines and complete satellites were concerned.

7. His conclusion was that the certainty that there ought to be as regards the assets to which the preliminary draft Protocol applied was currently lacking. The existing definition of space assets did not, to his mind, satisfy this test. First, the scope of what was caught was in some cases subjective (the intention to launch) rather than objective. Secondly, space assets might be of low value. Thirdly, assets assembled or manufactured in space, even after being brought down to earth, will, as the preliminary draft Protocol is currently drafted, remain subject to the Convention system indefinitely, even though it has been conceived for assets that are in space.

8. This, in his opinion, highlighted both the unjustified extent of the transfer of jurisdiction from national legal systems to the Convention system under the preliminary draft Protocol and the considerable uncertainty that the latter would create for the suppliers of components and their creditors, for example, as to how to protect their interests.

9. As a possible solution to the problem raised, this respondent noted that there was clearly a need to build flexibility into the future Protocol with a view to accommodating likely future developments in respect of space assets. Treaties normally being a long time in the making and in entering into force, he suggested that thought be given to restricting the preliminary draft Protocol to a specific number of high-value space assets capable of being defined as objects to which the Convention ought to apply, such as satellites, transponders, space stations and re-usable launch

vehicles, and providing for a simplified fast-track procedure for covering additional categories of space assets. He referred in this context to the proposal for a fast-track procedure for adding new categories of asset to the Convention system without the need for convening a full diplomatic Conference developed during the preparation of the Convention. [2] While he recalled that this procedure was not acceptable to States as a means of adding wholly new categories of object to the Convention system, he suggested that it might be acceptable for the more limited purpose of adding new kinds of high-value space asset. He suggested that such a procedure could be triggered by a proposal made to UNIDROIT by a Contracting State to the future Space Protocol, requesting that an additional object be brought under that Protocol, after which it would be for UNIDROIT to circulate a draft amendment amongst other Contracting States for comment within a fixed period of time, after which UNIDROIT would circulate a final text among States, taking account of the comments submitted, for acceptance and subsequent ratification by Contracting States to that Protocol.

10. He submitted that this solution had the merit of cutting the sphere of application of the preliminary draft Protocol back to those categories of high-value object originally intended to be covered by the Convention while providing a system for extending its sphere of application by agreement without the need for a diplomatic Conference. He hoped that, in this way, the problems he had identified could be overcome and the problems implicit in the identification of space assets could be greatly reduced.

III. STEPS TAKEN BY THE UNIDROIT SECRETARIAT TO ADDRESS THE PAUCITY OF COMMENTS POSTED

11. Faced by the failure of more than two Governments to contribute to the work of the Sub-committee, the UNIDROIT Secretariat, in the wake of the RBS Forum, took it upon itself to seek to move matters forward in relation to, in some ways, the most important of the questions referred to the Sub-committee, namely the identification of space assets for the purpose of the registering of international interests in space assets under the future Protocol. It prepared a questionnaire, [3] which it circulated among satellite manufacturers, launch service providers and financial institutions, designed to seek their opinion, first, as to, in their experience, the most appropriate identification criteria to be employed in respect of the four classes of space asset listed in Article I(2)(g) of the preliminary draft Protocol, [4] secondly, if there were any unique identification criteria for these classes of asset and, if not, which alternatives might work for the class of asset in question, in particular in the light of the function that such criteria were intended to have under the future international registration system, and, thirdly, whether these criteria could be considered "necessary and sufficient" to identify the particular asset for the purposes of that system.

IV. RESPONSES TO THE UNIDROIT SECRETARIAT'S QUESTIONNAIRE

12. Again, the quantity of responses received by the UNIDROIT Secretariat to its questionnaire was not particularly high, although, at seven, it might be considered acceptable as the basis for drawing

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[2] Cf. in particular preliminary draft UNIDROIT Convention on International Interests in Mobile Equipment: discussion paper on the legal relationship between the preliminary draft Convention and its equipment-specific Protocols (prepared by Ms C. Chinkin and Ms C. Kessedjian) (Study LXXII – Doc. 47) and UNIDROIT CGE/Int.Int./3-Report ICAO Ref. LSC/ME/3-Report, §§ 30-32.

[3] A copy of this questionnaire is reproduced in Annex I to this report.

[4] Assets intended to be launched and placed in space or that are in space, assets assembled or manufactured in space, expendable launch vehicles or launch vehicles that can be re-used to transport persons or goods to and from space and a component forming a part of one of these assets or attached to or contained within such an asset.

tentative conclusions, given that this represents better than a one-in-five response ratio to the number of questionnaires sent out. [5]

13. The responses received focussed primarily on, first, the policy question as to whether the difficulties involved in finding suitable identification criteria for some of the categories of space asset at present covered by the preliminary draft Protocol should not be seen as raising a question-mark as to the appropriateness of their inclusion in the sphere of application of the preliminary draft Protocol and, secondly, the possible criteria to be employed in respect of those categories of space asset to be covered. The only respondent who addressed the issue as to whether identification criteria should be established in the future Protocol or might rather be left to be specified by the future Supervisory Authority, in regulations, considered that it would be more effective to do this in the future Protocol itself.

(a) Appropriateness or otherwise of including all categories of asset currently covered

14. The essential point to be made right away in respect of three out of the seven responses is that they would seem to support the point of view expressed by the aforementioned Government respondent, namely that there must be some question as to the appropriateness of seeking to cover classes of space asset other than the satellite in its entirety in the preliminary draft Protocol. The basic question to be asked in determining whether any of the other assets currently encompassed by the sphere of application of the preliminary draft Protocol should be so covered was, it was suggested by one respondent, whether it was an asset typically moving across national frontiers and, as a result, exposed to the risk of the application of the rules of various legal systems, depending on its actual location, since it was with the enhancing of legal certainty in respect of precisely such assets that the preliminary draft Protocol was concerned.

15. Another respondent noted that he was in favour of keeping the preliminary draft Protocol as simple and unambiguous as possible, whilst ensuring that the end-product was a tool that the capital markets would actually consider useful but that to achieve both simplicity and usefulness required constant balancing. He took the view that the class of assets to be covered by the sphere of application of the preliminary draft Protocol should be limited, cover the greatest amount of monetary value being invested by the commercial space industry and be of immediate value to the capital markets. For that reason, he would favour assets which were to-day of limited monetary value, limited commercial application and of limited benefit to the capital markets being excluded from the sphere of application of the preliminary draft Protocol. He considered that the future Protocol needed to be capable of having an immediate impact for both the space industry and the capital markets and took the view that, while the evolution of the commercial space industry would doubtless, with time, require changes to the future Protocol, it was important at present to deal with to-day's reality and leave tomorrow's possibilities to a process to be agreed for amendments to the future Protocol.

(i) Satellites

16. All respondents were agreed as to the appropriateness of the preliminary draft Protocol covering the satellite in its entirety. There was no dissenting opinion as to the appropriateness of treating the communications satellite as the primary focus of the preliminary draft Protocol; it was

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[5] Responses came in from Mr D. Arlettaz (Commerzbank), Ms F. Bessis (Arianespace), Mr R.W. Gordon (Boeing Capital Corporation), Mr S.Kozuka and Ms S. Aoki (on behalf of Mitsubishi Electric Corp., NEC Toshiba Space Systems, Inc., Mitsubishi Heavy Industries, Ltd, Ishikawajima-Harima Heavy Industries Co. Ltd and IHI Aerospace Co. Ltd.), Mr F. Julien (BNP Paribas), Mr B. Schmidt-Tedd and Mr M. Gerhard (German Space Agency) and Mr A. Stevignon (Alcatel Alenia Space France).

noted that this would include Low Earth Orbit (LEO's), Medium Earth Orbit (MEO's) and Geosynchronous Orbit (GEO's) satellites and the broadest variety of business activity, such as voice, data, imaging, radio and television. In this way, the future Protocol would, it was suggested, cover any non-governmental man-made object placed into earth orbit for commercial purposes.

(ii) Assets intended to be launched and placed in space

17. As regards those other assets currently encompassed by the sphere of application of the preliminary draft Protocol, opinions differed as to the appropriateness of covering assets intended to be launched and placed in space, namely satellites under construction. One satellite manufacturer respondent was basically against their inclusion in the preliminary draft Protocol, noting that, in asset-based financing terms, covering such assets in the preliminary draft Protocol would mean, in effect, covering interests taken in assets on earth, assets that some might, therefore, believe should rather be subject to municipal law. He pointed out that to understand the true realisable collateral value of a satellite during the construction process required an analysis of fungible value throughout the process. Equally importantly, it required an analysis of the alternative uses of the various parts which made up a satellite, many of which had limited or no other uses. Very little collateral value was built up during the first one-third of the contract; a growing but minimal value was built up in the second-third of the process and some value in the last stages of manufacturing. In any event, the lender was largely dependent upon the manufacturer to estimate the value to be realised from parts of a satellite. [6]

18. A financial institution respondent, on the other hand, noted that for financial institutions the important question was to know whether a satellite would be re-usable. In principle, they were not re-usable but during the first half of their construction they were adaptable and could, therefore, be resold to another customer, whereas, once launched, they were not re-usable. For banks a satellite under construction was, therefore, only really interesting during the first half of its manufacture.

19. A third respondent noted that the municipal law applicable to such assets was moreover capable of being known in advance – the place of manufacture, the place of launch and the places which might be passed through during its transport to the launch pad were all eminently knowable in advance – so that the objective of providing legal certainty where it would not otherwise exist underpinning the preliminary draft Protocol did not arise in respect of such assets.

(iii) Assets assembled or manufactured in space

20. All the three respondents who addressed the issue as to whether the coverage of certain of the categories of asset currently covered by the preliminary draft Protocol was warranted felt that assets assembled or manufactured in space should not be covered. The point was made that they raised complex issues of intellectual property rights in space and that the practical need for asset-based financing in respect of such assets over the next decade had to be viewed as limited; it was noted that the day would, however, come when manufacturing processes in space would require financing but that to spend time on such assets at the present time was a distraction that was not

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[6] He recognised, though, that a satellite operator would probably require financing during the construction process. He suggested, though, that this was not the unsolvable conundrum that it appeared to be, the answer lying in the development of a structure which included both pre-launch and post-launch financing (cf. *Satellite financing timeline* reproduced as Annex II to this report). He assumed for these purposes that a space asset being constructed on earth was capable of being identified (via the manufacturer's contract number), that there was some amount of value which could be relied on, and that a pre-arranged post-launch financing commitment had to be available at delivery to enable construction financing to begin.

likely to produce significant benefits. Moreover, so long as such assets, for example crystals, were intended to be brought down to earth, it was suggested that protection might not be necessary. It was added that such assets might be protected by the existing municipal law of the State of the launch pad or the State of the launching ground.

(iv) Expendable launch vehicles

21. All three respondents who addressed the issue as to whether the coverage of certain of the categories of asset currently covered by the preliminary draft Protocol was warranted recommended excluding expendable launch vehicles (hereinafter referred to as *E.L.V.'s)* from the sphere of application of the latter. One of these respondents noted that E.L.V.'s were not directly financeable, in that they were never "sold". It was pointed out that an operator requiring the orbital insertion of a new satellite would contract with a launch provider for a service but that the operator would not be allowed to buy the E.L.V. The only asset available for asset-based financing, it was further pointed out, would be the contract itself and in almost all cases this contract would have no value unless supported by the launching company, and then only if the latter had a robust backlog which made it obvious that the launch service could be shifted to a new customer willing to pay cash. The other respondent who questioned the justification for including E.L.V.'s queried the financial benefit of securing expendable launch vehicles once they were in space, since up until that time they would have been on earth and, to that extent, the need for providing legal certainty in respect of such assets would not arise.

(v) Re-usable launch vehicles

22. Two of the three respondents who addressed the issue as to whether the coverage of certain of the categories of asset currently covered by the preliminary draft Protocol was warranted favoured the exclusion of re-usable launch vehicles (hereinafter referred to as *R.L.V.'s)* from the sphere of application of the latter. One of these two respondents questioned whether, notwithstanding the fact that R.L.V.'s were, in theory, financeable, in the same way as commercial aircraft, their coverage was warranted when they would appear to have only minimal value to the capital markets over the next decade. The other respondent who basically favoured their exclusion noted that, once again, it would be possible to know the municipal law applicable to such assets in advance, thus eliminating the need for the additional legal certainty that the preliminary draft Protocol was designed to bring. On the other hand, a financial institution respondent was more positive about the case for the continued inclusion of R.L.V.'s in the sphere of application of the preliminary draft Protocol, noting that such assets, which looked more like aircraft than anything else, could be seized and were of especial interest to financial institutions, for example in the context of the Galileo project.

(vi) Components

23. Only one of the three respondents who addressed the issue as to whether the coverage of certain of the categories of asset currently covered by the preliminary draft Protocol was warranted, from a satellite manufacturer, recommended their exclusion from the sphere of application of the latter. Noting that the principal component had in mind was the transponder, he felt that it would be prudent to avoid getting into the subject of components when 90% of the value of the future Protocol could be realised by focussing solely on the satellite in its entirety. He recognised that others might disagree with his analysis, in that there were examples of transponder leases as sub-assets of the satellite which had itself attracted financing but pointed out that these were complex structures requiring inter-lessor agreements and that to include sub-

assets in the sphere of application of the preliminary draft Protocol risked drawing out the process considerably.

24. Another respondent, this time from a financial institution, recognised that to exclude components would definitely tend to speed up the remaining process. However, while recognising that manufacturers would naturally have concerns about components, not least on account of the risk of creditors taking them to court in respect of such components, he stressed that there could be no gainsaying the fact that satellites were, after all, made up of components and he did not, therefore, favour components being left out.

(b) Criteria to be employed in respect of space assets

25. One respondent, noting that, first, no serial number or other uniform identification criteria for satellites, payloads or other space assets existed at present, secondly, there was no designator of existing registration systems (for example, the Committee on Space Research (Cospar)) commonly used by technicians and operators, and, thirdly, it was not realistic to seek to create a serial number system for space assets (for example, by E.C.S.S. criteria), concluded that identification criteria in general could only be used as a combination of two elements, orbital parameters (two-line elements) and communication protocols. Two-line elements were catalogued on and accessible via the Internet to a great extent. Communication protocols typically identified the satellite or the satellite identified the right communication protocol (by authentication). This respondent further noted that, in future, an independent identification criterion might be provided by the intellectual property address of an asset. Although such addresses did not exist at the moment, each satellite and payload (that is also the transponder, for example) will receive an independent I.P. address in future.

26. This and another respondent also raised the issue of the need to keep in mind the verification of identification criteria, pointing out that serial numbers or other such physical identification criteria could not be verified while the space asset was in space. Auxiliary criteria (such as Telemetry, Tracking and Command (T.T.&C.) signals, orbital parameters and the source code) could be employed to deal with this case, although they would not be necessary in the case of two-line elements and communication protocols. Referring to the possible use of orbital parameters as an auxiliary criterion, the other respondent noted that, where more than one satellite was placed on the same orbit, additional information would be required, such as an indication of the command code used for each of the satellites. That same respondent also suggested that the information recorded under the 1975 Convention on Registration of Objects Launched into Outer Space might also be useful in this regard.

27. One respondent, representing a financial institution, noted that an important criterion employed in practice that should also be employed under the preliminary draft Protocol, even if the basic intention under the Convention was for the international registration system for the different categories of asset covered thereunder to be asset-based, was the debtor's name. He noted that, before advancing the funds necessary for the financing of an asset, a financial institution had to be sure of being able to go against either the asset itself or the revenue stream from that asset and that the essential condition for its being able to do so was to know who was either the owner or the operator of that asset. From the point of view of a financial institution, it was fundamental, at any given moment, not only to know the identifying features of the asset being financed but also the identity of the person benefitting directly therefrom or that of the person in possession of the asset, as the persons against whom it would have to go in the event of default.

28. All those responding provided suggestions as to the most appropriate criteria to be employed for the identification of each of the specific classes of space asset currently covered by the preliminary draft Protocol, with the exception of assets assembled or manufactured in space, for which no criteria were suggested.

(i) Satellites

29. One satellite manufacturer suggested that an identification grid could be created in the future International Registry for space assets including any or all of the following information: the name of the satellite; its owner and the address of its owner; its purpose; the manufacturer of the satellite; the satellite's North America Aerospace Defense Command (Norad) or National Space Science Data Center (N.S.S.D.C.) number; its Cospar number; the date of its launch; its launch site; its launch vehicle; its type of orbit; its perigee; its apogee; its inclination (in degrees); its period (minutes); its launch mass; its dry mass; its expected lifetime; its T.T.&C. manager and its primary ground stations.

30. Another satellite manufacturer indicated that, in his experience, the following criteria were used: the name given to the satellite by the buyer; the name under which it was registered by the I.T.U.; the name of the manufacturer; the name of the platform; the name of the anticipated or current control centres; the launcher used or to be used; the anticipated or current delivery orbit; the number of transponders and types thereof (F.S.S., B.S.S., band width, reception band frequency, transmission band frequency) and the dates of deposit and/or publication of the frequencies in respect of the satellite with the I.T.U.

31. A third respondent suggested that the model and serial number of the satellite and the name of the manufacturer and date of production might provide necessary and sufficient identification criteria. While recognising that serial numbers might not exist for satellites manufactured in the past, he pointed out that numbering according to the bus type would be possible. He added that the date of production was important for the sake of preventing fraud, as this information was known only to the manufacturer. In the case of delivery on orbit, the date of delivery could, he suggested, be substituted for the date of production.

(ii) Assets intended to be launched and placed in space

32. One satellite manufacturer respondent suggested use of the manufacturer's contract number, as already mentioned in footnote 6. A financial institution, on the other hand, suggested that the financing contract could be every bit as useful for identification of the satellite. He also suggested that one might also look at such criteria as chassis numbers and plaques, to the extent that they were employed.

(iii) Expendable and re-usable launch vehicles

33. One launch service provider respondent noted that her company did not sell launch vehicles owing to the very specific operations to be performed and the associated risks, which meant that the launch vehicle itself as an asset remained with the launch services agency and was not identified to the customer under the contract. The only asset was, therefore, the launch services contract itself. She suggested that the reference number of this contract would, accordingly, probably be the most appropriate identification criterion in this respect, although she noted that in some cases the satellite to be launched was assigned to a given contract at a later stage.

(iv) Components

34. One respondent noted that in the case of components like a transponder of a communications satellite or a rack in the International Space Station there was already a serial number that could be used.

V. CONCLUSIONS

35. It is not for the Secretariat to presume to draw conclusions from its enquiries as to either the appropriateness of covering this or that category of space asset in the preliminary draft Protocol or which would be the most appropriate criterion to be employed for those categories to be covered. The Secretariat nevertheless considers that the information contained in this report provides sufficient food for thought in itself on both these issues.

36. It is true that only two Governments posted comments on the I.T.U. web forum and it would be invidious to draw any firm conclusions from such a limited response on the part of Governments. However, to the extent that the conclusion drawn by one of the Government respondents as to the desirability of considering a narrowing of the sphere of application of the preliminary draft Protocol was borne out, to a greater or lesser degree, in the responses from three of the respondents from the international commercial space and financial communities, this is definitely a question that calls for due consideration at the New York meeting.

37. As regards possible criteria for the identification of those categories of space asset covered by the present text of the preliminary draft Protocol, the responses received from the international commercial space and financial communities provide rich food for thought indeed, with the notable exception, of course, of assets assembled or manufactured in space.

38. Finally, only one Government respondent and one respondent from the international commercial space and financial communities addressed the issue as to whether the identification criteria to be employed in respect of the different categories of space asset covered by the preliminary draft Protocol should be specified in the future Protocol or rather left to be determined by the Supervisory Authority, through regulations, and these responses were evenly divided in the views expressed so that it is clearly impossible to draw any conclusions therefrom.

ANNEX I

INTERNATIONAL INSTITUTE FOR THE UNIFICATION OF PRIVATE LAW
INSTITUT INTERNATIONAL POUR L'UNIFICATION DU DROIT PRIVE

Our refce.: S72J/ …

Rome, 15 June 2006

Dear …..,

I am working on one of the key issues referred by the Committee of governmental experts preparing the future Space Protocol to a new Sub-committee looking into the basic aspects of the future international registration system for space assets, namely the criteria to be employed for the identification of space assets.

As you know, the current text of the preliminary draft Space Protocol refers the establishment of the criteria to be employed for the identification of space assets to the Supervisory Authority.

However, the original text of the preliminary draft Protocol that went to the Committee of governmental experts embodied a number of specific criteria for this purpose (name and address of debtor and creditor, general description of asset indicating name of manufacturer, its manufacturer's serial number and its model designation as well as its intended location, date and location of launch, and, in the case of a component, a description of such component, the space asset of which it forms a part, to which it is attached or within which it is contained) as well as providing for the possibility of additional criteria being specified in the regulations. And we believe that it is, in particular in the light of the fact that the Cape Town Convention system is predicated on the basis of an asset-based registration system, important to have a clear idea of the different options available in respect of the different classes of space asset covered by the preliminary draft.

Permit me, accordingly, to take a minute or two of your time to enquire as to the criteria that might, on the basis of your practical experience as a manufacturer/financial institution in this field, be employed for the four classes of space asset listed in Article I (2) (g). We are, of course, aware that some of these classes of asset, and in particular satellites under construction at the time when the secured financing is sought, may not have simple identification criteria of the type available, say, for aircraft.

In essence, I should, therefore, be grateful if you would kindly let me know, on the basis of your practical experience, first, whether there are any unique identification criteria for each of the following classes of asset, secondly, if so, what these are and, if not, which alternatives might work

for the class of asset concerned, in particular in the light of the function that such criteria are designed to have under the future international registration system for space assets:

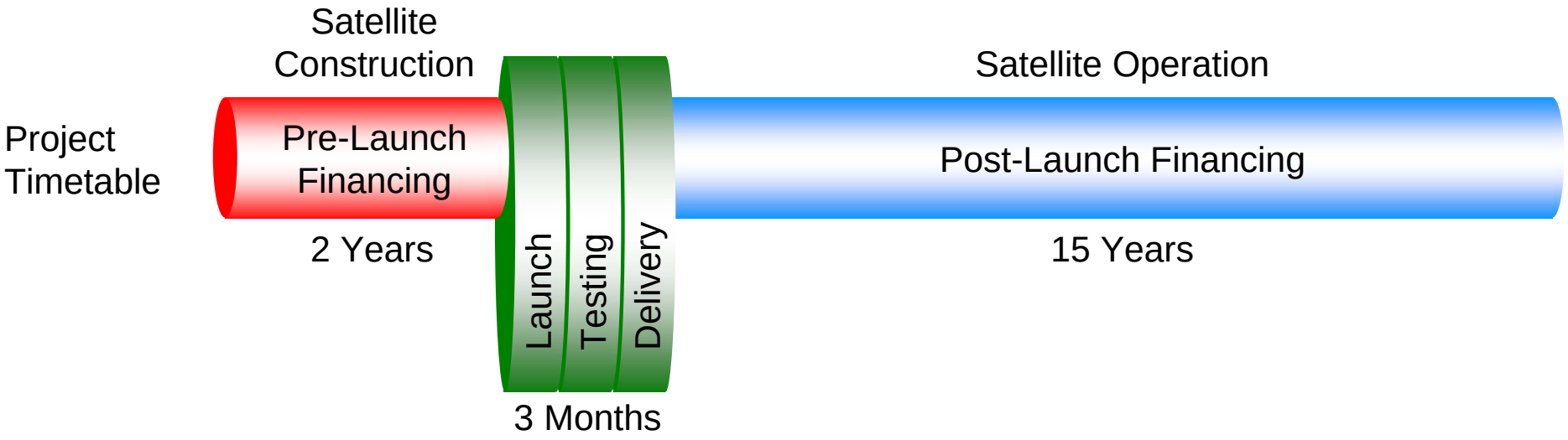
1. an asset intended to be launched and placed in space or that is in space;
2. an asset assembled or manufactured in space;
3. an expendable launch vehicle or one that can be re-used to transport persons or goods to and from space; and
4. a component forming a part of one of the aforementioned assets or attached to or contained within such an asset.

I realise that the first category of assets is going to include both assets that are completely manufactured at the time of financing and assets that will still be under construction. I should be grateful for your thoughts in respect of both.

In providing us with the benefit of your views on the available criteria for use in respect of each of the aforementioned classes of asset, it would furthermore be appreciated if you would also kindly let us know whether you would consider these criteria "necessary and sufficient" to identify the particular class of asset for the purposes of both the Convention and the future Protocol, that is in order to permit their registration in the future international registration system for space assets.

Satellite Financing Timeline

ANNEX I I



Pre-Launch

- Amount based on a % of "fungible" values
- "Remarketing Agreement" with mfg.

Conversion

Criteria for conversion to Post-Launch:

- Take or pay contracts
- Capital structure
- Insurance
- Sound business plan
- Collateral

Post-Launch

Loan secured by:

- All assets of satellite system
- Take or Pay contracts
- Related Rights
- Insurance

APPENDIX II

QUESTIONNAIRE

on identification criteria
as sent out by the Secretariat on 8 September 2009

Dear …,

Re: inquiry regarding suitable identification criteria for the different new classes of space asset referred to in the alternative version of the preliminary draft Space Protocol

As indicated in the Secretariat's Introductory note to the business of the meeting of the Sub-committee of the Committee of governmental experts to examine certain aspects of the future international registration system for space assets (UNIDROIT 2009 C.G.E./SpacePr./S.C.I.R.S./W.P. 2), which we addressed to you, under cover of our invitation to that meeting, on … , one of the issues to be addressed at the forthcoming meeting will be that of the identification criteria to be employed in respect of those categories of space asset to be covered by the future Space Protocol.

As you know, the identification of such criteria for the different categories of space asset covered is crucial for the operation of the International Registry to be established pursuant to the future Protocol, it being intended that this International Registry will be asset-based and that those space assets subject to the future Protocol will, therefore, be capable of being registered in the future Registry by means of unique identification criteria, in line with the Cape Town Convention.

The Secretariat has, of course, already conducted an inquiry into the identification criteria that might be employed for the registration of those categories of space asset covered in the current text of the preliminary draft Space Protocol - that is the text that emerged from the first session of the Committee of governmental experts, held in Rome from 15 to 19 December 2003. The results of that inquiry - reproduced in Appendix I to the aforementioned Introductory note - were brought to the attention of the New York Government/industry meeting, held on 19 and 20 June 2007, and it was largely as a result of those findings that those participating in that meeting came out in favour of a narrowing of the sphere of application of the future Protocol, to concentrate essentially on the satellite as a whole.

Since that time, however, considerable work has been done on the sphere of application provisions of the future Protocol, notably within the Steering Committee. Among the documentation sent to you on … , under cover of our invitation to attend the third session of the Committee of governmental experts, was an alternative version of the preliminary draft Protocol prepared by Professor Sir Roy Goode (United Kingdom) and Mr J.M. Deschamps (Canada) to reflect the prescriptions of the Steering Committee on the various policy issues referred to intersessional work by the Committee of governmental experts at its last session (UNIDROIT 2009 C.G.E./Space Pr./3/W.P. 5 rev.): one of the issues to which the Steering Committee gave particular consideration was that of the sphere of application provisions of the preliminary draft Protocol and this alternative version refers to a number of categories of space asset not referred to in the current text thereof (see Article I(2)(k)).

We do, of course, have a certain amount of information regarding possible identification criteria for those space assets referred to in the current text. This information, reproduced in Appendix I to the Secretariat's aforementioned Introductory note, was supplied in response to our previous inquiry and includes suggested possible identification criteria for satellites, assets intended to be launched and placed in space, expendable and re-usable launch vehicles and components, such as transponders.

With a view to facilitating the work of the Sub-committee, I should be most grateful if you and your colleagues at .. would now kindly help us, on the basis of your experience and current practice, to complete this information by suggesting identification criteria that might be employed for the registration in the future International Registry of the additional categories of space asset referred to in the alternative version, namely the **satellite bus**, a **payload**, a **space station**, a **space vehicle**, a **reusable space capsule** and any **module** or other **object**.

Given the rapidity of development that characterises this sector, permit me also to invite you to take a further look at the criteria suggested - in Appendix I to the Introductory note - for identification of **satellites**, **expendable and reusable launch vehicles** and **transponders**, which still appear as categories of space asset in the alternative version.

I would note that the categories of space asset that are the subject of this inquiry are only those satellites, satellite buses, satellite transponders, payloads, space stations, space vehicles, reusable launch vehicles, reusable space capsules or any modules or other objects that are "**capable of being independently owned, used or controlled, in or intended to be launched in or into space or used or intended to be used as a launch vehicle**" (Article I(2)(k) of the alternative version) and that, under the alternative version, all these categories of space asset are intended to include "**asset[s] in course of manufacture or assembly**" (Article I(2)(k) of the alternative version).

The question as to where the identification criteria ultimately to be selected for the different categories of space asset to be covered by the future Protocol should be set forth is, of course, another matter. This will fall to be discussed by the Sub-committee at its forthcoming meeting and by the Committee of governmental experts in December. It is not, however, part of the present inquiry, which is rather limited to identification of criteria that might, on the basis of current practice, be employed for the identification of those categories of space asset referred to in the alternative version.

As always, time is of the essence and, with the meeting of the Sub-committee due to be held already on 26 and 27 October, I should be grateful if you would kindly let me have any ideas you might have regarding criteria capable of being employed for identification of those categories of space asset referred to in the alternative version, for the purposes of their registration in the future International Registry, if possible **by 6 October 2009**. The idea would be for the Secretariat then to draw up an analysis of the responses received by that date and for that paper to be circulated among those having announced their participation in the forthcoming Sub-committee meeting in time for that meeting.