Committee on the Peaceful Uses of Outer Space

Legal Subcommittee

Script

840th Meeting
Monday, 19 March 2012, 3 p.m.
Vienna

Chairman: Mr. Tare Brisibe *(Nigeria)*

The meeting was called to order at 3.00 p.m.

The CHAIRMAN Good afternoon distinguished delegates, I now declare open the 840th meeting of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space.

This afternoon we have reconvened for the Symposium on the theme "Transfer of Ownership of Space Objects: Issues of Responsibility, Liability and Registration", organized by the International Institute of Space Law and the European Centre for Space Law.

Immediately after the Symposium this afternoon at 6.00 p.m., all delegates are invited to attend a reception hosted by International Institute of Space Law and the European Centre for Space Law, in the Mozart Room at the Vienna International Centre Restaurant, which is located on the Ground Floor of the 'F' Building.

Distinguished delegates, I will shortly adjourn this meeting of the Subcommittee. Before doing so, I would like to inform delegates of our schedule of work for tomorrow morning.

We will meet promptly at 10.00 a.m. At that time, we will continue our consideration of agenda item 4, General Exchange of Views.

We will begin our consideration of agenda items 5, Status and Application of the Five United Nations Treaties on the Outer Space, and item 6, Information on the Activities of International Intergovernmental Organizations and Non-Governmental Organizations Relating to Space Law.

There will be one technical presentation tomorrow morning by a representative of the European Space Agency, alongside the European Centre for Space Law, which will be entitled "Presentation of a Website of the European Centre for Space Law".

I would also like to remind delegations to provide the Secretariat with any additional requests for technical presentations by tomorrow, Tuesday, 20 March, at close of business.

I would also remind delegations that speaking notes for technical presentations should be provided to facilitate simultaneous interpretation.

Are there any questions or comments on this proposed schedule?

I see none.

Technical presentation

I would now like to invite Madam Tanja Masson-Zwaan and Mr. Sergio Marchisio of the European Centre for Space Law to chair the Symposium on the Transfer of Ownership of Space Objects: Issues of Responsibility, Liability and Registration.

The meeting is adjourned until 10.00 a.m. tomorrow morning.

Thank you distinguished delegates.

The meeting adjourned at 10.05 a.m.?

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Good afternoon ladies and gentlemen, it is a pleasure for Professor Marchisio and myself to welcome you to this Symposium for the delegates of the Legal Subcommittee on Space Law. We have been doing this for many years and it is always a pleasure to draft a programme for you to discuss some space law issues of practical relevance in depth.

The topic that we have selected this year, ECSL and IISL deals with the transfer of ownership of space objects, which is a topic that is increasingly important and we have decided to focus this question on issues of responsibility, liability and registration

which all have, of course, provisions in the outer space treaties as we know them.

It is a topic that is also on the agenda of the Working Group on the Status and Application of the Five United Nations Space Treaties on Outer Space, which has issued last year a questionnaire with several questions sent to the member States of COPUOS. And one of these three questions on this questionnaire, question number three, deals with issues related to registration of space objects and notably in the case of transfer of space objects in orbit and related possible legal solution for the States involved. This question had then three sub-questions about the, for instance, whether or what would be the legal basis of transfer of registration of an object during its in-orbit operation, how could a transfer of activities or ownership be handled, if it happens, and what are the registration, the jurisdiction and control issues, pardon me, of space objects if they are registered by inter-governmental organizations. So this shows that the topic is also important for the members of COPUOS and we hope that this Symposium would be able to contribute a little bit to the solution of the many complicated answers and to be practical. So the programme that we have designed with the help of Ms. Mildred Trögeler from ESPE who has been very active in coordinating the Symposium has speakers from Europe and from South America and from the Asia-Pacific Region. We will have a Rapporteur, a young student, Hannes Mayer, from the University of Graz, who will be making a report and we will also be publishing papers and presentations on the various websites, of course.

I would like to give also the floor to my colleague, Professor Marchisio, for a brief opening word before we move to the presentations. Thank you.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much Madam President. If I may, I would like to add one point more to the points that you presented to justify the relevance of this topic of transfer of ownership of space objects.

One of the documents that is under consideration for this session of the Legal Subcommittee, namely document A/AC.105/C.2/L.286, contains the draft set of conclusions of the Working Group, chaired by Professor Marboe, on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space. And in this paragraph, it is said that continuing supervision of non-governmental space activities should be ensured in the event of a transfer of ownership, or control of a space object in orbit. In other words, such a transfer should not cause a lack of supervision or control of a space object in orbit.

Paragraph 26 continues by saying that national regulation may provide for authorization requirements or obligations for the submission of information on the changes status of the operation of a space object. This is a very general paragraph but I think that our Workshop today, our Symposium, will contribute to the discussion that next week will fully take place on this document.

And so said, I wish once again on behalf of the European Centre for Space Law, a successful Symposium, and as agreed up with Tanja, I give the floor to the first speaker, who is Professor Armel Kerrest, Professor at the universities of France, teaching at the Universities of Brittany(?) and Paris, and the Vice-Chairman of the European Centre for Space Law. So, Professor Kerrest, you have the floor.

Mr. A. KERREST (*European Centre for Space Law*) Thank you Mr. Chairman, thank you Madam Chairwoman. I am quite pleased to be here to speak about this issue which I find is quite interesting and I think it would be interesting to have a look to this very practical, very pragmatic issue of transfer of ownership¸ even if I am an academic, I like also to try to have practical consideration in order to avoid some too theoretical issues.

This question of transfer of ownership is quite important because it is very often, now it may be quite often used because of the necessity the companies have to adapt their fleet of satellites to the change and to the markets. Also because a company may be transferred and its satellites with it to another State, given the general international market of the satellites. And the third reason is that satellites may be used as a security for investments, as we have discussed within in relation with the UNIDRIOIT Protocol, and in that case, of course, the satellite may have to be transferred and then it might be quite interesting to point out the difficulties of this possible transfer.

Transfer of ownership will be considered. We added at the advice of one member of the Board of ECSL, our friend and colleague from the Belgian delegation, the well-known Jean-François Mayence, we added, not only transfer of ownership but also transfer of control and transfer of activities. If you remember in the 2007 resolution, it was transfer of supervision and then issue was to look at the whole problem which is transfer of ownership but also transfer of other means of control over the satellites.

This transfer poses some difficulties, some questions. For instance, if they are telecommunication

satellites, then, of course, the transfer may be an issue for transferring the orbital position or the frequencies used by the satellites.

Another issue may be the facts of transferring a satellite is also transferring a very sensitive device and some other regulation may apply.

Today, I will not consider these points. I will only consider the question of transfer of ownership or control, as far as space law is concerned, and this transfer, in fact, shows that there are three main articles, or provisions, which are involved in this transfer.

The first is Article 6 of the Outer Space Treaty. I have to look at my presentation. We have to do so many things together that it is a difficulty but it the consequence of modern … yes, OK. Then there are three points which is, first of all, my presentation will have three points. The first is current legal framework. The second is difficulties of transfer of ownership and the third is practical solutions. This is the way I will organize my presentation.

The first is, of course, interesting which is current legal framework, and still I will focus on the space law issue. The current legal framework has been organized through the Outer Space Treaty and both the Liability and the Registration Conventions. We have, first of all, Article 6 of the Outer Space Treaty. I will, of course, skip quite quickly on these points because everybody knows all that and I will not go very long on these issues but I would just point out the points which are relevant for our current discussion. Article 6 of the Outer Space Treaty, I remind you that it is the case of responsibility for national activities in outer space and it is a quite interesting provision which, in fact, assimilates private or, as they say, non-governmental entities with the activity of States. It is the only example to my knowledge of one of their very rare examples of the fact of a State being responsible for the activity of a private entity.

And this is connected with the nationality because it is a national activity. Then the nationality of the persons, company, most of the time, intervening into outer space make the State of the nationality responsible State according to Article 6.

But here we can notice that this may change. If there is a change of ownership, then it may be a change of the nationality of the owner and then the responsibility according to Article 6 may change during the life in orbit of the satellite.

The second provision which is to be considered is Article 7 of the Outer Space Treaty and the Liability Convention. We are very aware of the fact that this provision was set in order to protect the victim. As we know, the Liability Convention is very much victim-oriented. And the aim of the provision is to protect in every case to be sure that we can have one or more launching State, liable launching State, in order to be sure that in any case, the victim may get a fair compensation for the damage.

Then, Article 7 is related to, and the Liability Convention, are related to the launching States. You remember that a launching State is a State which launches, procures a launch, open facilities or give its territory to the launch. So for criteria are alternatives so a State is a launching State as far as it fits one of these criteria.

The problem is that this launching State is determined at the time of the launch and no more nor afterwards, just at the time of the launch. It is quite useful. It was not the fault, it was a good idea to put the liability on the launching State because, at the time of the launch, the satellite is on Earth and then the territorial jurisdiction of a State may apply and you know that it is much stronger and much more efficient than personal jurisdiction, and then, at the time of the launch, the State may control the activity.

Then we have got registration under Article 8 of the Outer Space Treaty and the Registration Convention. This Article 8 and the Registration Convention makes two different things. The first is to establish a legal link between a State and a satellite. Then it plays a role which is played by the flags, the flags for ships, or registration for the airplanes. It establishes a link. And for that reason, and this link gives jurisdiction and control over the satellite, like the flag, the State of the flag as jurisdiction control over the ships which fly its flag. And for that reason, there is only one registration for a State which can register.

The over-paying(?) of the registration is to show to victims, or to potential victims, one launching State by this registration. To register a satellite is to say I am a launching State that, according to Article 2 of the Registration Convention, and it is there connected with the Liability Convention. If we say in the Liability Convention that the launching States are liable then we need to know the launching State and it is a way, one other way, to have the indication of at least one launching State.

Then if we see that, let us have a look to what happens when there is a transfer of ownership. I will

first consider the legal aspect of transfer by itself, trying to make some distinctions.

The first point. The question of the ownership of the satellite, I say satellite but it is the ownership of any space object. According to Article 8, the ownership is not modified on a ship or a spacecraft or space object in outer space is not modified by the fact for this space object to be in outer space. Does it mean that? It means that it is not modified so it is related to the ownership on Earth and then it may be changed as the company may sell or bought a satellite in orbit, according to Article 8 of the Outer Space Treaty. So it may be sold and both, it is a first point.

Then the second question is, can we have a change of registration? And the answer is, yes, we can have a change of registration. Nothing private a change of registration between two States and we have got a very interesting example which is the case of two satellites, ASIA-SAT 1 and 2. In the case of ASIA-Sat 1 and 2, the satellites had been changed from the United Kingdom, because it was a Hong Kong satellite, and they were changed from the United Kingdom Registry to the Chinese Registry and it was, of course, quite interesting because then we see that this change made China the State of registration and then the State had its jurisdiction and control over the satellite and no more United Kingdom. Of course, the United Kingdom and China are still launching States, both are liable and I would be interested to know if there is an agreement between the United Kingdom and China on this satellite, but I do not know exactly for the time being.

You see that it is possible to at least change but only if both States are launching States according to Article 2 of the Registration Convention. In that case, the solution is quite good. Let us have a look to the consequences of this change. First, the property is transferred. Property means the right, obligation which are connected with property in every legal system. Then the responsibility for national activity, according to Article 6, the responsibility is transferred because national activity, it is no more the United Kingdom activity, it is a Chinese national activity. Then China is responsible for this activity as a national activity and as to authorize and continuously this activity.

Then the liability. The liability of the launching State is not changed because it cannot change and then the United Kingdom and China are both launching States because the United Kingdom was procuring the launch for this satellite from Hong Kong when Hong Kong was related to the United Kingdom and then, as far as the satellite had been launched by China from the Chinese territory, China is also a launching State for this satellite. Then both are still launching States and liable for the possible damage caused by the satellite. And then the State of the new owner, which is in this case China, can register because it was a launching and they can have jurisdiction and control over the satellites.

So we see that, first, it is possible to change the ownership, and secondly, it is possible to change registration. Of course, there is a condition to change the registration and the condition is that the State is a launching State. If it is not the case, then we have a problem. It is that the original launching State stays liable even if it cannot in practice have any control over the satellites because it is a launching State forever. If we take the example of a satellite which would be from France and Germany, a French satellite sold to a German company, and then France and, Germany not being a launching State at first, then France will still be a launching State forever, which, of course, is a difficult. And the consequence of that is that France will certainly put a limit to the possibility to transfer the satellites. It is what we did in the French law. It is what Belgium did when they wrote the law and in the French, when we discuss the French law, we were inspired by the Belgian case and we also put a regulation and authorization for transferring the satellite or control of satellites. And I learned this morning that you did it in the Austrian law too. For that reason, that the State is liable.

But then, in the case of the satellite being sold to a State which is not a launching State, then the State of the national activity changes. It means in my example the satellite sold from France to Germany, France is a launching but Germany is a State of the national activity. It is no more France. And so the satellite, there are some difficulties between both because we cannot transfer registration.

Let us try to have a solution. First of all, I would like to draw your attention to the difficulties. The difficulties are, I am sorry it is a little bit short but can you read it, I am not quite sure, then, of course, you will get the text off my presentation and the text of the PowerPoint on the website.

The first point is the interests of every victim. We remember that the Liability and Registration Conventions are very much victim-oriented so we have to consider the rights and interests, not only the rights, also the interests of the victim, and not to find a solution which may at any level impede or modify the rights of the potential victims.

The second interest is the interest of the original launching State. I call it original launching State, the launching State. If the space object is transferred, we should find a solution to protect this State and find a solution to try to get an indication(?) and the final obligation should be transferred. Of course, I am quite aware that the State is still a launching State and forever, but then perhaps it will not have to pay in final. I see that my text is not quite clear on that subject so I would like to precise it.

And then we have also to consider the interests of the new State, of the State which had both the satellite of whose companies had both the satellites. Then the State is responsible for national activity but has no jurisdiction and control because they cannot transfer the registration. Then we have also difficulties for this State is also a difficulty, not only for the launching State, but also for the new State.

Then, given this interest, is there a solution? The solution, I am aware of the fact that it is not so easy to find a real solution because of the provision of Article 2 of the Registration Convention which makes that only a launching State can register a satellite.

There are two steps for this proposed solution.

The first is to have an agreement between original and new States. These agreements are those which are referred to, or which are the same kind of agreements that we find in Article 5 of the Liability Convention. In Article 5 of the Liability Convention, it is an agreement between launching States. Here it is not agreement between launching States but it is an agreement concerning or related to liability between two States and then I think that it would be very useful to have these kind of agreements. Of course, these agreements may be drawn in any case, and I think they would, they should be quite interesting in any case, whether they are transferred for registration or not. It would be very wise to have these kind of agreements in order to ease the transfer of ownership. But this agreement is not sufficient to enable the transfer of registration and first to have transfer of jurisdiction and control.

And then it is the more precise point I would like to make is that we could use the United Nations General Assembly resolution asking the Secretary-General to accept the transfer of registration and their precise condition. According to the United Nations system, I think it may be possible to ask the Secretary-General, which is, in fact, for us OOSA, to accept the registration, if we have this transfer of ownership.

I have been advised that I speak too slowly or too long and then I will just draw your attention to the effects of this solution to States.

The first effect is that the victim is better protected because there is one State, one more State, which is able to pay for the damage, which is a new State. If the new State accepts the obligation as if it were a launching State, then we have another State which may be liable.

The second effect to the State is that the original launching State is protected by these agreements. It does not change anything about the fact that it is still a launching State, of course, for the victim there is no change, but for what the State which at the end has to pay, it may change a lot because they may have an agreement to guarantee in case of damage.

And also I draw your attention to an effective of the liability which is preventive effect. If a State is in charge of the activity, is liable, then it will have an interest to be very strict, very prudent, and then it is useful to have the liability for the State which can do something. The original launching State cannot do anything else.

And then positive effect to private operators. This would ease and lower the obligation for State to control the satellite operators, as I told you, in many laws, there is such a control, and not only a control but authorization for the satellites to be sold. The State, having no more the burden of the risk, the original launching State may ease the transfer of ownership, which is interesting for the company, in the market of the second-hand satellite if you cannot sell the second-hand satellite, the price is, of course, falling down, and then the possibility, as I am sure we will consider this point later, for the UNIDROIT Protocol, it would be quite interesting to have this changed.

And then, if I may, I would like to make my conclusions.

I think that it may be through this system, it may be possible to ease the implementation of the treaties, then to take into consideration the development of private activities in outer space. And I think it would be quite interesting. As I had the opportunity to say many time, I think that the States which wrote the treaties did extremely good work. And if we want to follow on with this work, to keep it in mind the interest of all countries and the fact that outer space should stay a common province of mankind so that we will not modify, or not too much modify the responsibility and liability system in order to have

something very strong that we need to have to ease in a way the process in order to have a more precise and more well-organized liability and responsibility.

Thank you for your attention.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you very much Professor Kerrest for brushing the landscape, so to say, and putting this whole issue in the context of mainly Articles 6, 7 and 8 of the Outer Space Treaty and their related implementing conventions.

We will now move to our second speaker, Ms. Mildred Trögeler from ESPE and Ana Galhego Rosa from Leiden University. We always have the practice of having one young speaker on the panel and I am very happy that Mildred will be speaking about the practice of States, how it is actually being implemented and what is the practicality of this programme.

Mildred, if you are ready, you have the floor.

Ms. M. TRÖGELER (*European Space Policy Institute*) Thank you Ms. Chairperson. I am very pleased to be invited today to give a presentation on the practice of States and international organizations in registering the transfer of ownership of space objects.

So due to the ongoing process of commercialization and privatization of space activities, the practice of transferring space objects, especially in the case of sales of satellites, is becoming more and more common. At present, there is no specific provision in the current space treaties that addresses the issue of transfer of ownership.

So to set the scene, in 2004, the Legal Subcommittee started a Work Plan on the Practice of States and International Organizations in Registering Space Objects. So States and international organizations reported on their practices.

In April 2005, the Legal Subcommittee established a Working Group on this specific topic. The Working Group started its work with the examinations of these reports and turned in 2006 to the indemnification of common practices and based on that, began to draft recommendations for enhancing adherence to the Registration Convention.

In 2007, the resulting report was presented to the United Nations COPUOS and the United Nations General Assembly adopted a resolution on recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects.

Within the concept of transfer of ownership, three different scenarios have to be differentiated. The transfer of ownership within a launching State, the transfer of ownership between launching States and the transfer of ownership to a non-launching State.

The first two cases do not raise relevant problems with respect to registration, since both States are launching States in the sense of Article 1A of the Registration Convention. They may agree upon the State of Registry in accordance with Article 2, paragraph 2 of the Registration Convention.

Simultaneously, the same Article provides the State may agree also upon the State which can exercise its jurisdiction and control. Accordingly, an agreement can settle the issue of registration. However, problems will arise when the satellite is sold to the State which is not the original launching State in the sense of Article 1A of the Registration Convention.

This is third scenario. The problem lies in the fact that Article 2, paragraph 2 of the Registration Convention does not apply to non-launching States. The consequence is that several difficulties occur. Firstly, only the launching States are allowed to be the State of Registry. Secondly, according to Article 8, the State of Registry will keep the object under its jurisdiction and control, *de facto*, it has no more capacity to do because in most cases, the operation and control has been transferred to the new State, including tracking and command system. And thirdly, only launching States, be a liability under the Liability Convention and the Outer Space Treaty.

So, finally, the original launching States are liable for damages caused by the space objects which they have no ability to prevent and this might cause unfair situations and practice.

So, examples of instances where the transfer of ownership of space objects between launching States has been communicated to the United Nations are the transfer from the United Kingdom to China, as Professor Kerrest already mentioned. In this case, the communication satellites, ASIASAT-1, ASIASAT-2 and APSTAR-1 and APSTAR-1A were transferred from the United Kingdom to China.

It is important to note that this a special case because it was part of the negotiations leading to the return of Hong Kong to China. The United Kingdom, in this case, informed the United Nations that the

object had been removed its National Registry while the United Kingdom informed the United Nations that the same object had been added to its National Registry.

This United Kingdom-China transfer is also visible as a general remark on the registration document form China regarding registration data on space objects, launched by China, in the period from 1970 to 2003.

An example for the registration of the transfer of ownership of the space object to a non-launching State is the following case. BSB-1A, a broadcasting satellite of the British Broadcasting, was launched from Cape Canaveral in 1989 and entered the United Kingdom Registry in 1990. In the same year, the United Kingdom submitted registration information on the satellite to the United Nations. Subsequently, in 1996, the satellite was bought by a Swedish company and entered the Swedish Registry with a new name, SIRIUS-1. Sweden included SIRIUS-1 in its notification to the United Nations submitting information on the status of the Swedish Registry. The footnote on this SIRIUS-1 notification said "bought in orbit in 1996". So Sweden sent another notification in 2000, providing the United Nations with more detailed information on the satellite. The United States was recorded as the launching State for SIRIUS-1 in the second notification.

BSB-1A has not been removed from the United Kingdom Registry in contrast to the United Kingdom-China case, so BSB-1A is still in the United Kingdom Registry with the explanation that the title and control of the satellite had been transferred to a Swedish national and that the satellite is now operated under the name SIRIUS-1 and carried on Swedish Registry.

As judged from the British and Swedish registration information on BSB-1A and SIRIUS-1, Sweden does not seem to have been involved in the launching of these satellites. That is correct. Sweden cannot be considered as a launching State in respect to BSB-1A and SIRIUS-1 and, therefore, cannot be State of Registry in the sense of the Registration Convention because Article 1C of the Registration Convention defines the term "State of Registry" as the launching State on those registries space object is carried in accordance with Article 2.

The transfer of ownership during the operation of a satellite has to be clearly distinguished from an on-orbit delivery. The Dutch Government stated in its report to the United Nations COPUOS in 2004 that eight space objects have been operated under the jurisdiction and control of these eight space objects, two satellites and a sixth and a seventh were delivered in orbit to New Sky Satellites, a company incorporated in the Netherlands. After they were launched and positioned in orbit by persons were not subject to the control and jurisdiction of the Netherlands. Further, four satellites were transferred in orbit to New Sky Satellites from the previous owner, INTELSAT. The Dutch Government stated in its two notes in 2003 and 2004 to the United Nations that the Netherlands does not consider itself the State of Registry, the launching State or the launching authority for the space object bought in orbit to New Sky Satellites and for the space objects that were transferred in orbit to New Sky Satellites from their previous owner INTELSAT.

The Netherlands has informed the United Nations as well that it does bear responsibility for the operation in accordance with Article 6 and has jurisdiction and control in accordance with Article 8 of the Outer Space Treaty.

According to these notes, in this case, the Netherlands seem to have a restricted view on the concept of launching States and accordingly on the State of Registry. This is because the Netherlands does not consider itself as a launching State in respect of the satellites delivered in orbit. The Netherlands is arguing in this case that NSS-VII and NSS-VI were delivered in orbit to New Sky Satellites after they were launched by persons that were not subject to the jurisdiction and control of the Netherlands. Such a view stretched far enough would lead to a position of denying one of the four criteria of the concept of launching State, namely the procurement of the launch.

However, Article 7 allows for an interpretation that an on-orbit delivery would be covered by the procuring of the launch in Article 7 because the launch would have not taken place if the customer, here New Sky Satellites, had not ordered the satellite.

So, in conclusion, the transfer of ownership is a modern practice in the field of space activities that creates obviously dogmatic problems to the interpretation of the space treaties. An amendment of the space treaties would be most efficient but such an amendment would not appear realistic at present. Therefore, the most simple and practicable solution would be an extensive and sensitive interpretation of the space law treaties in the light of the recent commercial developments.

At international level, the space treaties do not provide for a transfer of the status of the State of

Registry and, therefore, of liability unless the transferee State is also a launching State. The joint liability of launching States continues but inter-Party agreements, as Professor Kerrest already mentioned on indemnification are indispensable, first of all to provide legal certainty and also to allow for a smooth transfer of ownership. Although the space treaties have foreseen the probability of several launching States cooperating in respect of the launch of the single space object, they do not mention the possibility of the non-launching States being the registering the State of the space object.

In addition, the role of national legislation should not be underestimated. The legal problems in respect of the transfer of ownership could be dealt with through domestic legislation. States procedures for authorization and continuing supervision of private space activities should provide appropriate measures to ensure continuing supervision in the case of transfer of ownership of the space object in orbit.

At the national level, States should also ensure that they are always in the possession of updated information, even if it concerns changes of ownership between companies that are all under one jurisdiction. States should then promptly submit more accurate and updated information to the United Nations whenever there is a change in ownership of a space object found in their Registry.

I thank you for your attention.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much Mildred for this very interesting and informative presentation. And now we move to the next speaker and she is Professor Setsuko Aoki from Keio University, Japan, and is a well-known space lawyer and she always brings fresh insights to complex problems. So you have the floor.

Ms. S. AOKI (*Keio University, Japan*) Thank you very much Professor Marchisio. This is a very kind introduction.

I will make a presentation on the issue of the transfer of ownership of a satellite and the liability of the launching State.

This is the table of contents. First, I would like to show the issue from the perspective of the United Nations treaties on outer space then I would like to introduce some real examples of the on-orbit ownership transfers of satellites and finally I will try to present some possible solutions.

First of all, it has to be reconfirmed that the transfer of ownership of a satellite does not affect the liability regime, for liability is incurred by the launching States jointly and severely and the actual State of the owner of a satellite is irrelevant under the United Nations treaties regime.

There are three cases with respect to the transfer of ownership of a satellite. Please have a look at the slide. Slide A is a State from the facility of B as space object is launched, C, D and E are sovereign States and X and Y are private satellite operators.

The first case is the transfer of a State-owned satellite among the launching States. In this case, State C becomes a launching State which procures a launching by the active and substantial participation in the launching and, therefore, territorial State A, facility State B, and procuring State C, are jointly and severely liable even if a satellite ownership is transferred from C to A to B or C to B to A.

Case two is a satellite owned by a private company and is sold to a sovereign State and further sold to another State. In case two, the point is if State D, whose national procures a foreign launch, should be deemed to be a launching State where not during. State practice seems to answer in the affirmative, answer the question in the affirmative for in the majority of cases, D becomes the State of Registry.

But a different practice is also noticed _____(?) areas of State is unclear and the scholars doctrine are diversing contents.

These three represent the pure commercial transaction between company X and Y. Here these are launching States based on registration. The issue in this case is if State E shall be regarded as a launching State provided that the transfer of registration takes place from D to E because State E is not physically involved with the active launching.

In sum, the issue of liability is concerned with how to identify a launching State and arguably the registration is the key to find a launching State by procuring. However, the answer is not a uniform _____(?) and doctrine with respect to the procuring State so just go for launching State is, after all, unclear with or without the transfer of ownership of a satellite.

In Section 2 of this presentation, I would like to introduce several types of real examples of satellite ownership transfers.

The first type is the on-orbit purchase of a satellite, followed by the transfer of registration. It was already introduced. This is a relatively well-known case. A dialect broadcasting satellite owned by a United Kingdom company, placed into orbit from the United States territory in 1989, was registered by the United Kingdom without mentioning the name of a launching State. That satellite was sold on-orbit to a Swedish company in 1996 and renamed as SIRIUS-1. The solution was also transferred from the United Kingdom to Sweden. The issue here is if Sweden shall be regarded as a launching State in addition to the United Kingdom and the United States, a prior agreement between the United Kingdom and Sweden concerning the accomplishment(?) of obligations of the respective nationals, would probably address the future liability issues. But it is a purely commercial transaction and it is unlikely that a government-to-government agreement was adopted.

Under the type 2, on-orbit purchase of a satellite not followed by the change of control, I am going to introduce two examples. First is the purchase of a Koreasat-2 of the KT Corporation of Korea. Koreasat-2 was made by a United States company and launched in 1996 from the United States territory. Korea registered this satellite. Then a Chinese satellite operator, Hong Kong –based Asia Broadcast Satellite, ABS, announced the sale of a Koreasat-2 to be renamed as ABS-1A, pending the necessary approval of the United States.

KT Corporation continues to provide the telemetry interacting and control, or TT&C, to ABS-1A after the transfer of ownership.

Ten months later, ABS then bought Koreasat-3 off KT Corporation with Korea on-orbit and renamed it as ABS-7, pending the approval of the United States. Koreasat-3 was made by a United States company and launched from the Guyana Space Centre in 1999. Koreasat-3 has not been found in the United Nations Registry. KT Corporation also continues to provide TT&C to ABS-7.

China is not a launching State in both cases. Concerning the sale of a Koreasat-2, Korea and the United States are launching States. Regarding the sale of a Koreasat-3, one, it is clear that France is one of the launching States. It is not clear if Korea shall be deemed as a launching State without registration. There may be contracts between KT Corporation and ABS about the third party liability but private arrangements can never be opposable to the third party claim to a clearly identified launching State.

The next two cases are the transfer of ownership by the acquisition of a company. The first is the acquisition of the owner-operator, Lockheed Martin Space and Communications Venture, LMSCV, by a newly-established Asia Broadcast Satellite in China. Actually, ABS was set up by this transaction. The satellite owned by LMSCV, LMI-1, had, therefore, become a satellite of ABS renamed as ABS-1. LMI-1 was not registered at the time of acquisition where Russian furnished information to the United Nation Secretary-General specifying that the United States Telecommunications Satellite, LMI-1, was placed in orbit by a Russian rocket. In this case, the clear launching States are Russia and Kazakhstan and the United States will not provide, will probably be deemed a launching State and China is not a launching State.

ABS also bought Mabhay Satellite Corporation Philippines in 2009. This acquisition brought about the on-orbit transfer of ownership of a satellite, Agila-2, made by a United States company launched in China and registered by the Philippines. After the acquisition, no transfer registration was made and the Subic Space Centre continues to provide TT&C to ABS-5 that is renamed from Agila-2.

In this case, the national State of the owner of a satellite, China, happens to be a territorial launching State, along with the Philippines.

Type 4 is the transfer of ownership by the change of the legal status of an entity. In this case, an international organization has become a private company of the United Kingdom as a new owner of the eight Inmarsat satellite. The United Kingdom took an action not to be a launching State as it was not originally involved with the launching. The United Kingdom furnished information to the United Nations Secretary-General in accordance with Article 11 of the Outer Space Treaty and Article 4 of the Registration Convention emphasizing that the United Kingdom is not a launching State, State of Registry or a launching authority. Now this case is also introduced.

Type 5 is the marginal case if it can be called then on-orbit ownership transfer. It may be said that it is only procuring a launch. NSS-6 and NSS-7, both of which belong to a Dutch company but were made by a United States company and launched from the Guyana Space Centre, France, the Netherlands registered two satellites but furnished information and relaying that the Netherlands is not a launching State nor State of Registry because those satellites were bought in orbit to New Sky Satellites after they were launched and positioned in orbit by persons not subject to the

jurisdiction and control of the Netherlands. Or in the transfer in orbit of ownership of the space object to New Skies Satellite, the Netherlands is of the opinion that it bears no international responsibility for the operation in accordance with Article 6 of the Outer Space Treaty.

Six years later, in 2009, the Netherlands furnished information about the establishment of two kinds of registry, the United Nations Sub-Registry, which will be used when the Netherlands is a State of Registry, and the National Sub-Registry, that is used when the Netherlands is not a launching State or State or Registry.

Type 6 is a case where the owner of a satellite which procures a fully launch is a national of the State concerned and as such the company is under the authorization and supervision of that State but that company has a substantial connection with the company of one other State. This case can be categorized as a flag of convenience.

In the case of SIRIUS-4, the United Kingdom furnished information to the United Nations Secretary General and Sweden registered it specifying that it is a launching State.

The last is a case of States succession and the United Kingdom and China withdrew their registration and registered three satellites respectively on the same day.

Section 3, what is the solution? The identification of a launching State is a key to solve the questions of liability in respect of the on-orbit transfer of ownership of a satellite. However, it has to be reconfirmed that the scope of the launching State cannot be clear in the near future, mainly because there is not the internationally established rule about the two questions. The first is, if a State whose national owns a satellite launched from outside its territory shall be regarded as a launching State, and the second is if a State of Registry, not concerned with the actual launching, shall be regarded as a launching State.

While registration is irrelevant to the liability, it is useful to find a launching State especially when the procuring State specifies its name as the name of a launching State. However, considering State practice, making a formula of finding a launching State based on the registration would not be possible. Then, it has to be noted that it is the assured protection of potential victims, not the identification of a launching State itself that counts. Taking note of that prerequisite, it has to be underlined that furnishing information about the launch and the change of on-orbit operations as useful as registration in order to identify the situation concerning a satellite as shown by the Supplementary Registry or and the National Sub-Registry of Space Objects of the United Kingdom and the Netherlands.

It seems to me that the practice of both States can be one type of model to help to identify the contents of multilateral transactions including the on-orbit satellite ownership transfers.

Helped by the various kinds of information provided, governments can ensure that its national will assume third party liability through national legislation in line with the United Nations treaties on outer space as well as the 2004 Application of the Concept of the Launching State and the 2007 Recommendation on Enhancing Registering Space Objects. Information provision concerning the multilateral transaction and national legislation will be the solution with respect to the on-orbit transfer of a satellite.

I think this Legal Subcommittee has worked in the right direction up until now in this regard and the present task will be how better to gather information on orbit private space activity.

Thank you very much for your kind attention.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you very much Setsuko for your excellent and very practical presentation identifying many different cases of possible ownership changes in orbit and identifying some solutions.

Our next speaker is Dr. Martin Stanford from UNIDROIT in Rome and I think that we can all congratulate him on making a major achievement a few weeks ago in Berlin with the adoption of the Space Protocol to the Cape Town Convention on the Protection of Mobile Assets and it is a big pleasure to have him here with us after this success and to enlighten us on what the Cape Town Protocol might be doing for the case currently under discussion in this Symposium.

Martin, you have the floor.

Mr. M. STANFORD (*International Institution for the Unification of Private Law*) Madam Chairman, Mr. Chairman, distinguished colleagues, distinguished representatives attending the Legal Subcommittee session, distinguished observers, friends, friends, romans, countrymen, it is wonderful to be here and, as the Chairman just mentioned, it is only 10 days ago that in Berlin we, after many years of

work, concluded the preparation of the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets. This was possibly at the end of a Diplomatic Conference convened with remarkable resources and generosity by the Government of Germany in Berlin. We still had a little bit of trouble on the way to adoption of the Protocol and for governments at the beginning of the Conference indicated that they still did not believe the Protocol was ready for finalization. But the vast majority of the governments taking part disagreed and felt that the Protocol should certainly be finalized. They tended to believe, first and foremost, that the Protocol had a number of quite significant potential benefits for developing countries and emerging markets, in particular, and also that the Protocol was likely to open up market conditions for smaller operators and start-up companies in general.

This is, I think you probably remember what we specifically … that is the wrong one, thank you. I must point out that I had one of these things, these buttons, I think it was about a year ago and I got to the end of the thing without even realizing I had forgotten to press the button. It was the very same slide at the very end, so I do apologize.

That is the actual final Act of the Protocol, as I said it was signed 10 days ago on 9 March, but it reminded me when I just mentioned who have seen as potential beneficiaries of the Protocol, the discussions we had in this room about 10 years ago I think it was, a paper prepared by the United Nations Office for Outer Space Affairs, which in those days, in fact, reckoned that the smaller operators and the start-up companies would largely be the first and principle beneficiaries of the proposed Protocol, and this, in fact, was the overriding impression of the governments which backed the Protocol at the Berlin Conference.

It is worth noting that of the 40 States who participated in the Diplomatic Conference, 40 States that is, a considerable proportion hailed from the developing and emerging worlds and three governments signed the Protocol at the closing ceremony, that is to say, Burkina Faso, Saudi Arabia and Zimbabwe.

UNIDROIT itself is designated Depositary of the Protocol which will remain open for signature in Rome at the headquarters of UNIDROIT until it enters into force. Its entry into force will be triggered by either the depositing of the tenth instrument of ratification or the certification by the Supervisory Authority of the future International Registry for Space Assets. The future Registry is fully operational.

The nature of the problem which the Space Protocol sets out to deal with, the possibility of the transfer of possession of all control over a secured asset from one party to another, is a fundamental characteristic of the special type of financing dealt with in the Convention on International Interests in Mobile Equipment to the Cape Town Convention, that is to say, asset-based financing. The key factor of this type of financing is that the creditor must be able to exercise its default remedies over the specific asset in the event of default by the debtor.

The creditor must, in particular, under Article 81A of the Cape Town Convention be able to take possession or control of the relevant asset. Note though here, that we are talking about possession or control not ownership. The Space Protocol does not purport to deal with issues of ownership directly. It talks rather about possession or control, although obviously, people say that possession is nine tenths or position pour titre, but just to make quite clear, that we do talk about possession and control, not about ownership.

However, the taking of possession or control of assets of a type, regularly moving across national boundaries such as aircraft or beyond such frontiers, in the case of space assets, can be extremely complicated in the case of assets which might be subject to a whole range of jurisdictions, and this, of course, can create problems for the financing because of the uncertainty as to the very good rules in the event of default. This increases the risks faced by creditors contemplating the financing of such assets and consequently raises the cost of such financing for perspective space entrepreneurs. And this cost will be even higher for entrepreneurs located in those parts of the world where laws regarding financing are not as well defined as those in more developed markets.

In implementing the default remedies of the Convention for Space Assets, the authors of the Space Protocol have always been careful not to interfere in any way with the sovereign right of States to affect the transfer of licences and authorizations necessary to complete the effective transfer of ownership in such assets. They have, in this way, acknowledged the limitations of the regime that they have put in place. Again, I think that it was in this room, I think that it was Professor van Fenemer(?) once even suggested that we might consider trying to get the Diplomatic Conference adopt a resolution encouraging States to facilitate the transfer of licences necessary to complete the effectiveness of the default remedies of the Convention for Space Assets.

That would facilitate the transfer of ownership of space assets under the Convention while simultaneously respecting the existing national and international rules that apply to the ownership and operation of such assets.

So the next bit is the key structural elements of the Cape Town regime, the Protocols and the Registries. The Convention aims in particular to provide increased transparency and predictability for the taking, perfecting and enforcement of international interests in high-valued mobile assets. The principle way in which it seeks to do this is through the Electronic International Registry, to be established pursuant to each of the Protocols implementing the Convention for specific classes of asset.

These Registries are designed to ensure the priority of such interest, once registered, and are capable of being searched by parties the world over, 24 hours a day, seven days a week.

The new regime introduced by the Cape Town Convention consists in a two-instrument approach with the Convention being done for general rules, governing the taking of security in all classes of a high-value mobile asset, and equipment-specific protocols adapting these general rules to the particular needs of each class of such asset, the relevant Protocol prevailing over the Convention where any consistencies might arise.

This reflects the fact that the different categories of asset contemplated by the new regime, will require differently tailored provisions to reflect the differing pattern of asset-based financing relating to each class of asset.

Before the Berlin Conference, there were two Protocols, that is to say, the Protocol to the Cape Town Convention on Aircraft Equipment, and the Protocol to the Cape Town Convention on Railway Rolling Stock. The Aircraft Protocol was adopted at the same time as the Cape Town Convention itself in 2001 and already counts something like 45 Contracting Parties. The Protocol to the Convention on Railway Rolling Stock is not yet in force but significantly recently the European Union signed the Protocol.

The Space Protocol seeks to extend the benefits of the Cape Town Convention which, as has been seen by the overwhelming success of the Aircraft Protocol, are significant to space assets.

I now turn to look at a number of the ways in which the Space Protocol aids to adapt the provisions of the Convention to the pattern of commercial space financing, and the first of these is that of debtors rights. It was during the initial stages of the development of the Protocol that certain representatives of the space industry first raised the concern that it would be necessary for the Convention, through the future Protocol, to apply to those intangible rights granted by contract or by a State authority, such as the right to the income generated by the satellite which would be necessary for the profitable operation of a space asset.

These rights, it was argued, would need to be covered if a creditor were to be capable of enforcing its international interest in a space asset to the taking of control or possession of the relevant satellite and the enjoyment of the commercial benefits deriving therefrom, i.e., the classic remedies to be expected on an asset-based financing system.

This was viewed as especially important since, in the case of assets that have already been launched into space, it would be economically impracticable physically to retrieve a space asset from orbit in order to take possession of or to change the established function of such an asset. In the words of one expert working on the Protocol, obtaining a security interest in an orbiting satellite clearly does not benefit a creditor if, upon default, the creditor is limited to physical of the structured possession of the satellite. At the time, though, the view was that it would not be appropriate for the Convention to contemplate other than the physical asset and its associated rights, all the more so, given the existence of the 2001 United Nations Convention on the Assignment of Receivables International Trade. To cite the official commentary on the Convention and the Aircraft Protocol, the Convention is concerned with international interests, not with assignments of receivables as such, so the Convention does not cover assignments detached through related international interest.

At the first session of the Committee of Governmental Experts, though, in December 2003, it was tentatively agreed that consideration would need to be given to the inclusion of debtors rights in the future Space Protocol, although only so far such debtors rights were inextricably tied to an interest in the asset itself. This last point was especially important, given the asset-based nature of the Convention regime and the international registration system in particular.

The Convention is designed essentially to cover tangible, uniquely identifiable assets rather than receivables and it was argued, it was agreed though that the feasibility of such an extension of the

Convention regime in respect of space assets, should be carefully considered at the following session.

The definition of debtors rights, tentatively agreed at the first session, was expressed to cover all rights to performance or payment due to a debtor by any person with respect to a space asset, the inclusion of which would enable the creditor to enforce an interest over the revenue generated by a space asset in the event of default and facilitate the transfer of the economic incidents of possession of or control over a space asset from one party to another.

While the drafting of this definition and the case for the inclusion of the concept in the Protocol were only finally agreed upon some time later, namely at the third session of Governmental Experts held in December 2009, the concept of debtors rights were proved to be a lasting feature of the Protocol. States, though, would continue to have the final say over the transferability of the licences inclusive of these rights. In particular, it is States which, under the United Nations outer space treaties, bear the burden of liability for the activities of commercial entities, defines of debtors rights is accordingly made subject under the Space Protocol to the applicable law, namely the Law of the Contracting State under the authority of which the debtors operating the space asset.

The next way in which it was envisaged adapting the regime of the Convention to the realities of commercial space financing was that of related rights and for a long time, indeed, right up until the fourth session of Governmental Experts in May 2010, the Preliminary Draft Protocol was designed also to extend the said application of the Convention to related rights, namely any permit, licence, authorization, concession or equivalent instrument that enabled a party to manufacture, launch, control and use or operate a space asset, albeit only to the extent that such rights were capable of being transferred or signed under the applicable law.

Limitation of the extension of the sphere of application of the Convention, as this asset proposed by reference to the applicable law, reflected the fact that such rights were granted by national, intergovernmental or international authorities and that it was not, therefore, reasonable to expect a transfer of such rights through the creation of such an international interest being allowed, in particular for reasons of national policy and security.

At a certain stage, though, it was recognized that even this proposed inter-creditor(?) extension of a sphere of application of the Convention is applied to space assets, was not going to work, insofar as such transfers were completely prohibited under certain national laws. Furthermore, it was acknowledged that even where financial institutions might provisionally enquire of a government regarding the transferability of a related right regarding a particular asset, there is no guarantee that authorization for such a transfer would be granted once formally requested.

During the work on the Protocol that took place between the second session held in Rome in October 2004, and the third, a proposal was put forward to replace the references to related rights by a definition of licences, based on a definition of related rights, along with a provision imposing the duty on a defaulting debtor-assignor to cooperate to the fullest extent possible in either the transfer of the relevant licence to a creditor or an assignee or, where this was not permitted, by a national or international law, the termination of its own licence and the procuring of a new licence for a creditor or assignee.

It was felt that this approach would ensure the facilitation of the transfer of possession or control from a debtor to a creditor without presuming to impose obligations on a government to grant or transfer licences.

While this view was generally endorsed, significant concerns were nevertheless voiced that the solution would create more regulatory problems for governments and satellite operators, that it would resolve. And, in the light of the understanding that regulatory and contractual practices already existed in the international commercial space field, to deal with the issue on licences and permits for new operators, it was agreed at the fourth session of the Committee held in May 2010 that this provision should be deleted and left to be dealt with by inter-creditor agreements and the applicable law.

So the third element through which the Protocol seeks to adapt the Convention is that of the permitting the placement of data and materials for the third party.

In an effort to find ways to facilitate commercial space financing, the Committee of Governmental Experts introduced a new article designed to permit the placing of command codes and other materials with a third party in order to give a creditor the opportunity to take possession of or control over the space asset in question.

This was seen as an incentive to creditors as a means of ensuring their ability to control the relevant

space asset in the event of default by the debtor. But, while being an attractive feature of the future Protocol, this proposal, much like the one regarding related rights, arose core concerns having to do with already applicable national laws, this time connected with the fact that such a placement might not take account of the strictness of national export control regulations which did not usually accommodate the placement in escrow or information such as satellite command codes.

And while the desirability that the inclusion of such a provision was never questioned, the means of ensuring simultaneous respect for national laws and policies regarding the transfer of sensitive information, led to the article relating to the issue in the Space Protocol being prefaced by the proviso "subject to Article 26", being a reference to the provisions of the Protocol dealing with the preservation of the powers of Contracting States, one particular relevance for the issue of the transfer and ownership of a space asset.

And this is the fourth way in which the Protocol specifically implements the Convention in the context of space assets, the preservation of the powers of Contracting States.

At the Berlin Diplomatic Conference, the question of the transfer of ownership rights was one of the principle issues on which certain States expressed concern. These States in particular drew attention to the need to consider the issue of State responsibility under Article 6 of the Outer Space Treaty indicating that it was felt to be imperative that the Draft Protocol take into account existing regulations and practices regarding space debris mitigation and export control of sensitive technology.

Furthermore, it was proposed that more precise wording was needed with regard to the transfer of licences, notably in respect of the requisite State consent.

In this context, a number of articles were referred for examination to an informal working group of the Conference, and these articles included, *inter alia*, the one on placement of data of materials and the one on limitation of remedies. The results was a mechanism embodied in the new Article 26 of the Protocol. Under this provision, it spelled out that the Space Protocol does not affect a Contracting State's ability to exercise its authority over space assets in accordance with its domestic laws and policies, in particular, in respect of the granting of licences, approvals, permits or authorizations for the launch or operation of space assets.

In particular, this Article states that nothing in the Protocol shall be construed so as to require a Contracting State to recognize or enforce an international interest in a space asset when such interest would conflict with its laws or regulations concerning (a) the export of controlled goods, technology data and services, or (b) national security.

The adoption of this new Article in Berlin clarifies the limited circumstances in which transfer of possession or control over a space asset may be expected to be authorized, at least at the present time. It leaves you in no doubt the stark fact that Contracting States retain the final say on whether or not a commercial transaction involving goods, which are of a sensitive nature, in particular of concern to national security, is to be permitted at all.

Conclusions then. As I have already indicated, it was never the intention of the authors of the Space Protocol to interfere with the sovereign right of States to control the transferring of licences. This was the clear limitation of scope of the project from the very outset. The extent to which such transfers were contemplated by the then Preliminary Draft Protocol was always delimited by reference to the applicable law. If such transfers were not possible under the applicable law, then that was that. This is a limitation that affects all forms of commercial space financing and rather than being seen as a hindrance to implementation of the Space Protocol, should, I would submit, be seen as constituting a realistic approach to the question of the extent to which the default remedies of the Convention, as applied to space assets, may achieve their full effect.

It is an approach that is a necessary concomitant of prerogatives of States in determining their own policies on issues involving national security, the use of orbits, the exporting of controlled goods and the predictability required by perspective creditors.

In this context, the Space Protocol assures States that ratification will in no way limit their control over those commercial space activities for which they are responsible, but rather will create a mechanism whereby creditors and Contracting States can be surer of their financial footing even in outer space.

It has, above all, to be recognized that the Space Protocol is the first international space law treaty in three decades and, therefore, all its imperfections and limitations, it nevertheless represents a most important first building block in the construction of that regime governing the commercialization of outer space. But again, I recall from meetings in this room,

or rather not this room, this building, one member of the United Nations Committee on the Peaceful Uses of Outer Space proposed as a new project for the agenda of COPUOS, already quite a few years ago. Just like Philip, two aircraft financing given by adoption of the Aircraft Protocol. We expect that the Space Protocol will lead to greater access to investment capital for wider ranged players in the commercial space sector leading to increased competition amongst operators which will, in turn, lead to an increase in the quality of services, while simultaneously dragging down the costs of those services for the public all over the world.

Thank you Madam Chairman.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much Martin for this presentation concerning the Berlin Space Assets Protocol and for having focused on one of the main concerns that were raised and namely that the Protocol would cause a huge amount of transfer of ownership of space assets. I think that you made it very clear that this is not the truth.

The next speaker is Professor Franz von der Dunk. He is _____(?) and permanent alumni and also a Professor of Space Law, University of Nebraska-Lincoln, College of Law. Thank you for coming and I give you the floor.

Mr. F. VON DER DUNK (*University of Nebraska-Lincoln*) Thank you Mr. Chairman. As you can see from the title of my talk, I was supposed to address the issue of flags of convenience and you may notice the question mark behind that title. Actually it is a two-stage question which I am trying to address here. One is, of course, could there be ever something like flags of convenience in space? Is that a realistic possibility? And the second follow on question, supposing the answer is not a resounding no, it is, of course, are we then supposed to do something about that?

And by way of an introduction, we should realize that the background is to be found in the Law of the Sea where this term was closely related to the issue of registration of ships which gave those ships their nationality and, as a consequence, the State of nationality was entitled to exercise its sovereign right of jurisdiction over that ship which was, at the time, originally for sure partly limited by any international agreement.

The application of jurisdiction was originally perhaps considered to be for criminal law purposes but as time went on, also safety issues became very important and that the State of Registry, the State of nationality was supposed to develop standards related to the safety of the ship's operation, including licences for crews, the conditions for employment, social security for the marine crew on board, etc.

What then happens was that the increasing registration of ships with States, not because the ship or ship owner or the company had a substantial link with that State, but, let us say, because of convenience, because of lower standards, cheaper standards in terms of those safety requirements and crew licences and social security standards, the so-called flags of convenience. So there was this issue of licence shopping which increasingly started to worry the international community, the concerns with cheap and untrained labour which was sometimes part of that paradigm and, as the environment increasingly became an issue on the international agenda, the threat to environmental issues also became a very important element thereof.

This concern was translated in legal contexts into another concept of the so-called "genuine link". In the 1958 Geneva Convention on the High Sea, and I have sorted of copied the whole text of the Article for your purposes. By the way, there is a full version of my paper available at the back of the room for you to read over those articles at leisure, if you are interested. But in 1958, for the first time, this customary concept was codified in an effort to address this issue of potential lack of safety standards and requirements. And the key word in there is, of course, right in the middle, the words "genuine link" and it was simply hoped that by calling for a genuine link by imposing a genuine link between the State of Registration and the ship owners, there would also arise a genuine concern of that State for the safety of the ship, full safety operations which would then translate into applicable safety standards. So the idea is if we impose this requirement of a genuine link on the nationality provision, in that way we enhance the general safety of international shipping.

As time went on, this issue became more and more important and 24 years later in the next major Law of the Sea Convention of 1982, it was actually extended into even more provisions, I will not quote them for you, but again they are in the paper for you to have a look at. And the end result is nevertheless that, in spite of these legal provisions, we still have problems with flags of convenience, we still have a number of ships sailing under flags to which they do not have much more than a link than in terms of the registration as such which often pose problems in terms

of safety of shipping and security issues, and environmental security issues, I should point out.

Now, of course, this is all about shipping. What is the relevance of this whole context for outer space? The first thing to note is that we do obviously have a registration system on outer space, the Registration Convention, it has been mentioned before, but it is not very substantial in providing for any requirements related to safety. It just provides a sort of very basic set of parameters which registration States have to provide to the United Nations and have to incorporate into the National Register.

Another issue which could have helped in enhancing the safety of spacecraft, at least from the theoretical level, is that of certification of space hardware. Now, on the international level, we have no clause dealing with that whatsoever. The only thing which remotely refers to this issue is Article 9 of the Outer Space Treaty which calls for the general need of States to concern to take into consideration the safety and the interests of other space activities by other States in outer space, but it does not call for a certified hardware as the only way to go into outer space.

There are two national laws who have provided some details on that, those of Russia and the Ukraine, but that is about it.

So in terms of space, the whole issue of safety has been mainly translated into that of liability. If we provide an extensive liability regime calling for liability for damage caused by space activities, hopefully that will have, as a side effect, the enhancement of the safety and, of course, the liability issue, it has been dealt with before today as well, is very much linked to the launch, it is actually triggered by the launch and the launching State which is defined by the Liability Convention for States are potentially liable and I am sure that you are all familiar with those, either the State which launches or the State which procures or the State whose territory's respective facility is used for that. And then these States are liable without limit and I am going to come back to that in a second.

Because of this system of State liability also for private operators in outer space, obviously the next step for individual States which have a concern in this area, is to develop national regimes handling those private operators, read national space legislation including in-licensing and authorization system. And while we can address many more countries by way of a comparison and while the paper itself already extends to research a little bit, I have focused essentially on the issue of national derogation, vis-à-vis, these private operators. So if we deal with safety as an issue of flags of convenience, we have to look at the extent to which national space laws have dealt with the derogation of the State obligations to pay towards the private operator, which in a given situation may be actually liable for the damage, or at least responsible.

And there are two policy choices here. One is about the reimbursement proper. Are we going to limit that on a national level or do we leave it unlimited? If we translate the unlimited liability on the State level, one-on-one to the private context of the operator, then we will not find many private parties willing or able to undertake such activities.

If you, however, limit it on the governmental level, obviously it means that the States, *de facto*, access a kind of partial re-insurer of any liability above whatever the limit is going to be.

The second policy choice is, are you going to back that up with an insurance requirement for the private operator or are you just going to hope that he is going to be able to actually pay if something bad happens? This is obligatory, and if it is obligatory, is it going to be to a limit, regardless of whether the liability itself may be limited or only limited on the national level because obviously in the Liability Convention, it remains unlimited, or do you allow the operator to bet the company by not fundamentally requiring any insurance to be had for these third party liability issues?

What I did in the paper again goes much more into detail but obviously if we are going to determine whether flags of convenience is an issue in outer space, key issues regard the fact to which there may be a divergence in practice. The national laws on liability and caps, and I have given you here some figures, have indeed some variation in how they address this issue. In the United States, there is a very complex system calculating a maximum probable loss. In the end, however, that will not necessarily be the amount quoted as the cap in the licence. There are other maxima applying the maximum, the maximum is US$500 million, and I have given you some of the actual figures. The figure for Delta, by the way, the US$261 million is the highest insurance amount which has actually been imposed in order to cover the same amount of potential liability to the United States Government in terms of international liability.

Australia has adopted a similar approach. The amount of A$750 million, I think by now, is something like US$800 million. France has adopted an amount,

obviously in Euros, and 60 million Euros translate into something like US$80 million. Austria has specified the same maximum amount. South Korea talks in national space legislation about 200 billion SK Won which is roughly at today's exchange rate, something like US$75 million. The United Kingdom formerly has no limit to the reimbursement liability but has limited the insurance required to cover that and, whereas before, that amounted to something like £100 million. Very recently, it has been almost half to arrive at this amount of 60 million which is, therefore, sort of in a line with the growing European practice of focusing that amount of a maximum.

The others, and there are several others, the Netherlands, Belgium, France, I mentioned, Brazil, I should mention, Sweden, they do not have any specific reference to an amount and some suggest limitations and others do not. Some suggest the obligation to take out insurance and others do not.

Is there a need for action in view of this divergence in practice? You can come up with some ideas against. The first argument is that different from the Law of the Sea in terms of space activities, a launch is most threatening to the launching State itself so that launching State has a very solid incentive in trying to make sure that everything launched from its territory is not going to be subject to standards which are not considered rather serious or strict. That may not always work, by the way, because you can always become a launching State without being the territory from which the launch takes place because there are the other criteria.

Secondly, one could argue that the practice so far seems to be relatively coherent and there is enough margin in all these laws, enough flexibility in all these laws to arrive at a similar level of actual limitation of liability and derogation to private operators.

And finally, of course, there is the beauty of the Liability Convention, which is to say, that States are liable for private operators. The benefits of any strong regulations in terms of safety for space launches does not only apply to the victim, it also applies directly to the State itself because he can then feel more secure and more certain that his liability will not be called into question.

So those arguments could serve to say, well, we do not really need to do anything about any threat of a flag of convenience in outer space. On the other hand, I do see more divergence at a secondary level, I pointed out this issue of insurance, the paper gives some more feedback on particular issues in there. Divergence grows, the more and more States become involved, the more States start to think about national space legislation, the more these national space legislations may drift apart, may diverge rather than converge, and before you know it, there may be one State which will be tempted to provide really low standards in order to get as much business as possible. Competition may drive down the standards and overall, I would actually say that arguments against could also be arguments in favour of doing something now. If we take this carefully, step-by-step, we, after all, the fact that there is not so much divergence yet, can also make it so much more easier to come to an actual agreement on this before we have a flag of convenience and certainly all the space-faring nations of today have a vested interest in ensuring that nobody else is going to undercut those standards. Now it is relatively simple to arrive at an agreement if we wait until the first flags of convenience actually arrive, then we have a risk that vested interest will drive this into a proper political fight.

The risk of launching overseas grows with the exchange of technology and the growing possibilities to launch from anywhere, the fact that the launching State is the first to be hit if a launch is not appropriately secured and safe. It is going to be less and less. And obviously, finally, the issue of space debris is now prominently on the international agenda. One major way of handling that is trying to guarantee the safety of launches to the maximum as possible, and again, I do not think it is a good thing if we allow that to be undercut by flags of convenience. And, of course, all these safety measures essentially take place through a national licensing regime.

I do feel that now is the time to start considering one way or another to include a genuine link requirement in the legal system to prevent future flags from every arising because once they are there, they may be terribly difficult to get away with, which is what the experience of the maritime area certainly shows us.

I am not going to prejudice the way in which such a legal requirement should be introduced in the system. Obviously, it could be by treaty amendment, it could be by protocols, it could be by resolution, but I dare to give it a first shot by firstly, largely taking the phrasing of the Law of the Sea Convention saying that each State shall fix the conditions for the grounds of it registration to space objects. There must exist a genuine link between the State and the space object, in particular the State must effectively exercise its jurisdiction and control over space objects registered by it.

I think this is essentially a copy of the Law of the Sea provisions and I think that this might be very helpful and I even dare to add a last part to it. In doing so, the State shall, in particular, ensure due compliance by the operator of the registered space object, preferably by means of a system of authorization, licensing and supervision, with the applicable rules of international space law.

After all, I think it is better to prevent than to cure.

Thank you very much.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you very much Franz for an excellent presentation and also constructive elements for trying to solve this problem and with that, we are arriving at our last speaker today, after which we will have some time for discussion. The last speaker is Olavo de Bittencourt Neto from Brazil, the University of São Paulo, and he will speak about some regulatory options for dealing with the transfer of ownership.

Olavo, you have the floor.

Mr. O. DE BITTENCOURT NETO (*University of São Paulo*) Thank you very much for the opportunity to discuss such an interesting topic. Let us see if the presentation has happened. My presentation is entitled "Regulatory Options for Dealing With the Transfer of Ownership in Relation to Space Objects in Orbit". There is no need to repeat what has been so perfectly stated by my distinguished colleagues, but it is important to stress one basic fact that the transfer of ownership of space objects in orbit has not been specifically addressed by relevant space treaties, as has been noticed by working groups of this very Legal Subcommittee, and that includes the Outer Space Treaty, the Rescue Agreement, the Liability Convention and the Registration Convention.

Of course, at the time those treaties were drafted, it was not possible to foresee problems of law related to the transfer of ownership of space objects in orbit but right now, nowadays, due to the current practice, especially in relation to geostationary communication satellites, there is a need for the international community to address problems related to the transfer of ownership, especially whenever you have a transfer to a non-launching State.

The solution for dealing with such lacuna in the law would be two-fold. Foremost, we could provide an extensive interpretation of those treaties or we could try to draft new rules of international law in order to deal with those questions.

After carefully considering all the relevant alternatives and trying to support the formulation of a proposal based on a clear new provision, that is, any State or international organization that acquires a space object in orbit shall be regarded as a launching State, as far as international responsibility, liability and registration is concerned, that is irrespective of the level of participation of the new owner in the original launching. But realizing that such transfer of ownership would imply necessarily the change of the respective appropriate State responsible for all national space activities, both governmental or non-governmental, as provided by Article 6 of the Space Treaty.

Such a proposal is based on two considerations. First, once a launching State, always a launching State, that is, the eventual transfer of ownership of a space object in orbit does not affect the liability of the original launching State or States.

Second, the ownership shall imply not only responsibility but also liability, that is, the new owner of a space object shall be internationally liable for damage to third parties in accordance specifically with the regime provided by the Liability Convention.

I believe that such a proposal could indeed lead to the development of this _____(?) practice of flags of convenience, as explained by Professor von der Dunk. But an important question remains. How the international community should implement such a proposal? And there is a need to contemplate alternatives as far as the regulatory framework is concerned. That is, we must evaluate the most appropriate source of international law for implementation of this rule and a source of international law are meaning, to which a mechanism of creation or manifestation of international law, such international rules could be better contemplated in order for it to be deemed effective.

It seems there are several regulatory alternatives available and a decision must be based on evaluation of pros and cons of each alternative.

Let us consider three possible venues.

First, by a Unilateral Act, second by a treaty and third by a United Nations General Assembly resolution.

First, in relation to a Unilateral Act, it has been recognized by publicists, as well as by

international courts, that, as provided by Malcolm Shaw, and I quote "in certain circumstances, the Unilateral Act of States, including statements made by relevant State officials, may give rise to international obligations", that it will reflect of the well-known fragmented nature of the international legal system. Therefore, the new owner of the space object in question should provide an official public declaration to the United Nations Office for Outer Space Affairs, both accepting liability as a launching State and requiring the registration of the relevant space object on its behalf.

Such unilateral declarations could also be offered by international organizations whenever applicable.

Additionally, those acts could be backed by national legislation or even by a bilateral agreement between the old and the new owner, as suggested by Professor Kerrest earlier on. And those agreements, the national organization of this agreement between the old owner and the new owner, could pass a procedure as well as the legal consequences regarding such an unilateral declaration. Reference to unilateral declarations in international law and in space law is nothing new. It can be found in relation, for instance, to the Registration of Space Objects, performed in accordance with the General Assembly resolution 1721B of 1961.

In fact, such a declaration could also be presented to the Office for Outer Space Affairs as an optional example of additional information concerning change of control of space objects already registered in accordance with the General Assembly resolution 62/101 of 2008.

But it is important to weigh their pros included in the alternatives, as well as the cons.

First, the pros. Due to its unilateral and straightforward nature, such a unilateral declaration could be implemented immediately whenever a case of transfer of ownership could be identified.

Also, a simple public statement should suffice as long as unequivocal(?) and would be effective in relation to third parties, that is binded(?) (bound?) to the State or international organization that offered it.

But it is important to verify the cons related to such alternatives.

The lack of a standard procedure for a declaration may eventually give rise to conflicts of interpretation, conflicts of opinion and international disputes in relation to the extent of this unilateral declaration.

The second option that I envisage is exactly the use of a law-making treaty, that is, as observed by Ian Brownlie, and I quote "law-making treaties create general norms for the future conduct of the parties in terms of legal propositions and obligations are basically the same to all parties".

In the drafting of a new multilateral law-making treaty provision could implement the referred proposal, would constitute a clear and binding statute applicable to all its parties.

Nevertheless, it would be reckoned that such new treaty rules for proper implementation would require amendments to several other law-making treaties of space law as part of an overwhelming revision endeavour that seems rather difficult to be accomplished nowadays.

In reality, for such alternatives to be reasonably successful, it would be better to create a new law-making treaty, superseding all the other space law treaties, whilst by no means represents a new challenge for the international community.

Anyhow, if that were to be the case, a window of opportunity would be opened to consider other relevant pending problems in space law not only related to the registration of space objects, as noted by the Working Group on the Practice of States and International Organizations in Registering Space Objects in 2007, but also in relation to questions regarding the concept of launching State, as it was identified by the Working Group regarding the Review of the Concept of Launching State in 2005.

Once again, I want you to reflect on the benefits of this alternative. And among the pros, it must not(?) be included that through a clear and binding text, greater legal security could be achieved in relation to the proposal offered.

Also, an opportunity would be opened for the drafting of a comprehensive regulation in that regard.

And finally, a stated procedure regarding registration of transfer of ownership of space objects in orbit could allow maximum affectivity in relation to States Parties. But, once again, we must assess the cons of that alternative. It is no easy task to gather enough political will to back the drafting of a new comprehensive space law treaty in that regard. It may

not even be realistic. Additionally, such alternatives may eventually affect important rules provided by prior space law treaties, putting in jeopardy questions on the futures of an undeniably interesting international law regime that was conceived for the benefit of all mankind.

As a final option that I envisage, I would like to discuss the possibility of a United Nations General Assembly resolution.

As it was observed by Bin Cheng and I quote again "rules of international law are binding because the States consider themselves bound by them. The fact that they have been identified and enunciated by a General Assembly resolution cannot undermine their binding force".

This final option, in fact, represents an intermediate alternative contemplating clear rules in relation to the transfer of ownership of a space object, respective registration procedures before the Office for Outer Space Affairs and applicable legal consequences. Even though, such a United Nations General Assembly resolution would not be binding by its origin.

It is such an instrument, even though being brief and pragmatic, could even institute a new registration procedure in case of transfer of ownership of space objects in orbit, legally authorizing the change of State of registry before the United Nations user.

But it must be recalled, and it is really important that such an alternative as it is the case in relation to all General Assembly resolutions, would not be binding, *per se*, that is ex prop regulatory.

But eventually this example of the so-called soft law phenomena, we can gather, the opinion here is necessary for approval such instrument before the General Assembly of the United Nations connected with and later constituted by States, that is, practice with the consideration of the regulatory nature of those rules, a new set of customary rules could be provided.

And as far as space law is concerned, such practice could be assessed based on a rather brief period of time, as explained and defended by Bin Cheng.

Much shall remain but those customary rules would be just as binding as any treaty would. But, once again, we need to weigh the pros and cons of this alternative.

The Legal Subcommittee, considering the unique characteristics of space activities, could, through the referred non-binding resolution, lead the way for the further development of customs or even for a possible future treaty in that regard.

But it is important to note the cons on that alternative. That is, that a United Nations General Assembly resolution, as an example of soft law, would eventually prove afterwards, prove not to be effective.

So weighing all the pros and cons in the options that I had envisaged, I came to some important conclusions.

First of all, it must be realized that a comprehensive solution of the problems related to the transfer of ownership of space objects in orbit rests indeed in the best interests of all nations, both space-faring or not. Also considering all the alternatives presented, the intermediate alternative of a United Nations General Assembly resolution is hereby favoured to solve the question by contemplating the proposal offered. Such a General Assembly resolution, that would represent an intermediate alternative, if approved, should encompass a detailed and clear registration procedure and also clarify legal consequences regarding such transfer of ownership, thus opening a clear space for the consolidation of international customary rules and even, maybe, constitute in the cornerstone for a future treaty in that regard.

I would like to end this presentation by saying that a solution for this problem should preferably be examined multilaterally and envisioned through the proper guidance of this Legal Subcommittee that has such a remarkable record, not only for debating international law, but most importantly for developing international law.

Thank you very much.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much Olavo de Bittencourt Neto. Your presentation was very, very interesting and it closed very well our panel.

Now that six presentations were presented, I think that we can open time for questions and discussion.

Are there any delegation? Yes, I recognize China.

Mr. Y. XU (*China*) Thank you Mr. President. First, please allow me to thank the ECSL and IISL for organizing this Symposium. And our thanks also go to all the speakers for their sharing with their ideas on this very important issue. Before I go to the essence, may I venture a small suggestion on the arrangement of this Symposium, since we have a very important topic which has strong practical implications which has a very complicated legal reasoning. If we have the opportunity for the next Symposium, may I suggest that after one or two presentations, may we have a short time for comments or questions. My worry that, although after all the presentations, we get a whole picture of the issue but we might have lost the context to venture other ideas or comments. We do have four questions.

The first one is a preliminary question. It will lend the term of private international law or conflict of international is an issue of classification, whether transfer of ownership can be classified as a space activity or not. I think this issue was partly addressed by the last speaker because the solution, Professor Kerrest(?), any State that has acquired a space object should be regarded as a launching State.

My question is quite generally, whether transfer of the ownership of the space activity or acquire ownership of space objects can be classified or characterized as space activities, which was covered by the Outer Space Treaty, Article 6, any State shall be responsible for those national space activities. That is the first question.

The second one is concerning the registration. I think, according to Professor Kerrest(?) that registration indeed create a legal link between the space object as well as the registered State. But also according to Professor Aoki that if we talk about liability, the registration is irrelevant. So to some extent, I agree with Professor Aoki that we have to know to what extent registration is not relevant because we are talking about the launching State shall be liable for those activities.

And also, I think on the presentation on the flags of convenience, the Professor mentioned that a genuine link, whether the registration is qualified under the genuine link or not. I think we should work on that, whether there should be other elements to be considered to constitute a genuine link.

The third question is on the nationality issues. During the presentation, I think many professors mentioned nationalities but sometimes it is referred to as the nationality of the space objects, others though, referred to nationality of the space activities as well as nationality of the space operators. So does that make a difference because the nationality is not so clearly defined in each of those treaties or conventions.

The last question is on the interpretation. I appreciate the second speaker. We should have the extensive and sensitive interpretation on those treaties. In that regard, I think we have to look at to the General Assembly resolution on the launching State, decide that the joint launches also should mention the cooperation programmes if we adopt extensive interpretation, whether we can cover the transfer of ownership within the operation programmes. If we look at to the State practice, if we adopt a very flexible approach to the interpretation of those languages.

After saying that, we do appreciate all your ideas and your solutions to dealing with this issue but my concern is that whether we take those issues in concrete criteria or we should deal with these different issues. If we look at the Registration Convention, we look to the chapeau of this Convention that the registration do have a multi-faceted purpose for registration, whether we should give those legal bid(?) to the registration or not or we have to tailor those registration implications according to a different scenario. It is a very complicated issue and we will work on that. Thank you.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) So that is a lot of questions and I fully support your point of making it perhaps more practical by allowing questions after each presentation but I hope that all the speakers have identified themselves with some of your questions. Your first question was rather generic whether a transfer should be seen as a space activity or not. Is there anyone who would like to volunteer to help? Professor Kerrest?

Mr. A. KERREST (*European Centre for Space Law*) Thank you. In fact, I think it is by itself a transfer of space activity, the transfer itself is not a space activity, but what is transferred is the space activity. Space activity of satellites, as Asiasat, formerly before the return to China for Hong Kong, it was a space activity of the United Kingdom and then it turned to be a Chinese space activity. And then under Article 6 it is a national activity of Britain first and then China. So my answer is by itself, the transfer of ownership is not a space activity, a space activity is the activity itself, in one case and the other, if I may.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you. The second question, I think, also goes to you, Professor Kerrest,

as well as to perhaps Professor Aoki, which was what is the actual relevance of registration, as we know registration is not directly related to the identification of the liable State, it is mainly intended as an identification procedure but, of course, as Professor Aoki said, it is also a way to identify who could be the liable State. The question was to what extent is registration relevant in that respect. Would you also like to comment and then Professor Aoki perhaps?

Mr. A. KERREST (*European Centre for Space Law*) OK, thank you. Yes, I think we have little or no position with what I said and what Professor Aoki said. The registration has no relevance as far as liability is concerned. It does not change a liability, it just shows the liability of one of the launching States, but does not change the liability. So in that sense, it is certain quite good to say that registration has no relevance to liability. Just to remark, I would say that it has no legal relevance but it has a very important practical relevance because it would be much easier to prove that the State which has registered is a launching State because itself says I am the launching State so it is a little bit easier.

What I mean by the legal link was what we have got for the flags, for instance, and it is a question of jurisdiction and control. This legal link, which is connected from one State to a device which is mobile and then it is not nationality because nationality should be reserved to persons, I think. It is some kind, we have always a problem for flags in the Law of the Sea to know if there is a nationality. If the flag is a nationality. I think it is very disputable because nationality is for persons, either legal or physical person. This link is not exactly a nationality but it is a legal link between the State and the device, something, a ship, a car or a spacecraft. Thank you.

Ms. S. AOKI (*Keio University, Japan*) Thank you very much for your question. I say though ownership is relevant about the liability not the registration. The registration is not so useful in finding the launching State. Of course, to be a procuring launching State, registration is necessary but without registration, it is unclear if a State whose national procures a satellite is a launching State or not. The registration is useful but is very limited so that is why the national laws and agreements between countries are useful but still it is unlikely that governments always adopt agreements about the private transactions. It should not be expected. That is why I think some nationals have registered of the Netherlands and supplement(?) a registry with the United Kingdom are useful. They are not registration but they show the actual situation in orbit and knowing that States and the private companies can take preventive measures in the future. Thank you very much.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you Professor Aoki. I believe there was also a question to Professor von der Dunk regarding the genuine link and the flags of convenience and what kind of elements could be useful in that respect. Would you elaborate?

Mr. F. VON DER DUNK (*University of Nebraska-Lincoln*) Thank you very much. I think that is an excellent question and a very important one and as soon as there would be a general understanding that it is necessary to address the issue, then I think we can find already some support in fairly general terms in the Law of the Sea. I put that article in my paper as well but Article 94 of the UNCLOS Convention, for example, provides that each State shall assume jurisdiction under its internal law over each ship flying its flag and its master, and, of course, flag and master is not really applicable to outer space but we can transform that into specific space terms, in respect of administrative, technical and social matters concerning the ship. It is still very broad but already raising the level. There has to be an implementation of the general link by means of the exercise of jurisdiction.

Every State, paragraph 3, shall take such measures for ships flying its flags as are necessary to ensure safety at sea, read in space, with regard, *inter alia*, to the construction and seaworthiness of ships, read space objects. So we could imagine that certification would become an in-built part of such a national regime, but obviously that is at the discretion of the individual sovereign States.

And finally, it is provided that each State is required to conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance.

And one interesting example, thereof, is the ongoing discussion, and I would say, convergence on the international guidelines regarding space debris, which are, if they arrive at the status of customary international law, for example, are part of the international regulations and could be translated in the context of the genuine link by the State exercising jurisdiction as a launching/registration State. But obviously these are just ideas to start the discussion going.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you. I hope that I have

written down all the questions. There was also a question about nationality issues, I believe, Professor Kerrest has briefly touched on that and has said that it would be mainly the nationality of the actors that would be relevant unless somebody else would like to comment on that.

I have also written down, I think, a question for Mildred Trögeler on the resolution of the launching State's relevance and joint launches and perhaps a brief comment to finalize that by Olavo about the extensive interpretation of the treaties to possibly reduce conflicts of interpretation. So Mildred, would you like to go first and then Olavo?

Ms. M. TRÖGELER (*European Space Policy Institute*) Yes, thank you for drawing again the attention to the extensive interpretation of the current space treaties. I think what it is important to consider that it is very time-consuming to amend the current treaties so that the next step to tackle the issue of transfer of ownership will be certainly to work on the interpretation whether this should concern the definition of launching State or the State of Registry has to be determined then.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Olavo?

Mr. O. DE BITTENCOURT NETO (*University of São Paulo*) Thank you for the question. It is really interesting and I consider that an extensive interpretation would be physical, it would be possible to be pursued but then again, we could have the possibility of different interpretations in the long haul that would impair the constitution of a clear customary rule in an easy way. So, of course, we think to consider the possibility of providing a new treaty in that regard. We could have stronger legal security but it is not an easy possibility without this since we would need to reconsider quite a lot of important features of the international legal system in relation to space activities and eventually put some of them in jeopardy. That is exactly why I believe that an extensive interpretation, even though it is a possibility, would then again open a way for different interpretations and different discussions in relation to that and a United Nations General Assembly resolution could open the way for the provision of customary rules and even to serve as a cornerstone for a future treaty and in a much more effective way as a broad and extensive interpretation of the current legal rules in effect.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you. We have another request for the floor and it is from the delegation of Venezuela.

Mr. M. CASTILLO (*Venezuela interpretation from Spanish)*: Thank you very much. We would like to thank you for having organized this Symposium. We are also grateful to the panellists for their presentations.

Having listened to the presentations, we believe that because of the complexity of the subject matter, it is important to regularize and streamline legal instruments governing space activities in a very precise and specific way. We have frequently heard the words "liability" or "responsibility". We would like to hear one of the panellists explain a little further with regard to satellites carrying nuclear power sources. Where is the liability or the responsibility of States there? Does it prevail in those cases? The States or the government's responsibility? And the various ownership transfers, hypothetical scenarios of the transfer of ownership in satellites carrying nuclear power sources. How does that affect liability of States? Thank you.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much for your question. Does Professor Kerrest want to reply?

Mr. A. KERREST (*European Centre for Space Law*) If I may, I would be pleased to. As far as liability and responsibility is concerned, there is no difference between whether it has nuclear power sources on board or not and then the State is liable for any damage, the launching State is liable for any damage which is caused by the nuclear power source if there is a damage on Earth. Even in that case, and I draw your attention to in my conclusion on the interest and the quality of the Convention, we have here a very good example of the very high level of responsibility and liability. I draw your attention that it is the only case where you have got a State which had accepted the liability without any limits, either in a month or in time for an activity and this activity may cause damage, if the damage is on Earth, which is, as in the example of nuclear power sources, it is relevant, and then the obligation only metered. Remember that it is not the case even in the Convention on Liability for nuclear activities where the operator which is liable. Here it is the State, the State is liable. It is a very good example and your question is very good because it shows how good the Liability Convention is.

And to come to the transfer of ownership, I would first of all say that if there is a transfer of ownership then I must say that the State which allows this transfer of ownership would be really at risk, but if there is a transfer of ownership, then the victim will not be at risk, not to have a launching State liable. Of

course, it is not the transferred State but the former, the original launching State will be liable without any limit and I draw your attention to that. The damage may be high. I would say that it is the only case where the damage may be very high and that it may be and then the Liability Convention do very well apply or do its work protecting the victim. I think it is quite important.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you Professor Kerrest. And now I give the floor to France. France, you have the floor.

Mr. M. HUCTEAU (*France interpretation from French*) Thank you Mr. Chairman. We would like to thank all the speakers. Indeed, this is a highly important subject and particularly for my country, France. As you know, France is very concerned about everything pertaining to the launching State. We know about the launch pad in French Guyana and just recently a group, a constellation of satellites has been launched and, in fact, there has been a series of launches since 1979. I am in charge of the National Registry for France so I am particularly involved in these matters.

Before even the issue of the transfer of ownership arose, we already had problems in terms of the launch phase and the problems that arose with the launch. As a launching State, we provide to the United Nations, here in Vienna, the Office here in Vienna, the necessary information. Every year we make a declaration. And each satellite that is launched into orbit, the minute it is launched already affects a number of States and creates certain liability-related issues, the launch operator, in this case a French corporation, of a private company already enters into a certain relationship with the State and their questions regarding liability here and there are international and regional organizations and that also become a part of that equation. The country of where a certain regional international organization has headquarters has a role to play and so forth. So it is very complex.

About 3,600 satellites were launched over the years, some are not registered to date and France, as a launching State, and I mentioned that last year in my presentation, itself has launched more than 80 satellites from French Guyana Launching Facility that have not been registered to date.

I am not going to take too much of your time but with regard to transfer of ownership obviously it is a very important subject. Transfer of jurisdiction of control, at least under French legislation, we have taken this on board. We have addressed these issues and also streamlined the registration procedures to take that into account.

We would like to achieve a situation we are in, if a French operator, acting under French jurisdiction, sells a satellite, then we wish to see a situation where the private company and the State where that private company is located or headquartered, register the satellite and if a French operator purchases a satellite from another country, and another company, in another country, then again it becomes part of the French jurisdiction and if everything has been done correctly, all the procedures have been followed, which are they called the registration. It is not something very simple, not at all, because it involves private companies, the private sector and the associated State. The question arise whether or not the State in question has ratified the 1965 Convention. So not a simple situation at all.

One word of clarification regarding the notion of victim. When we hear the word “victim”, one is under the impression that someone on whose head a satellite has fallen, for example. I think it goes well beyond that concept.

I do not know if there is a need for clarification but collision in space is an interesting concept. When two satellites, two space objects collide in space, is this operator of a satellite that has been damaged a victim? Can that operator be considered a victim? I think so, yes. These are very important issues. Discussions continue to date in the Scientific and Technical Subcommittee under the agenda item, Long-Term Sustainability of Outer Space Activities, for example, and I think it was important to address these issues, however, briefly. Thank you very much.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much for your intervention and I pass the question to the speaker that several times mentioned the issue of the character victim-oriented of the Liability Convention. If I am not wrong, it is Professor Kerrest.

Mr. A. KERREST (*European Centre for Space Law*) Nothing too precise. The word “victim” is just very wide. Of course, it may be a physical person but usually it is also some kind of other victim. I use the word “victim” in a very large way and just somebody having damage and so on. It is not necessary if some physical person. Thank you.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you. Canada. Canada, you have the floor.

Mr. C. SCHMEICHEL (*Canada*) Thank you. Perhaps just to expand upon the response that was given to the distinguished representative of Venezuela regarding nuclear power sources and how liability and responsibility is affected by those issues. The Liability Convention has been used in the past to deal with damage resulting from a nuclear power sourced spacecraft and I would say that it worked fairly well in that case. At least there was a resolution that was satisfactory to both parties. And perhaps it is also relevant to this question of victim or definition of victim. Our distinguished representative from France mentioned the situation of a satellite falling on someone's head. That is an obvious victim right there, but there can be damage to the environment as well and that kind of damage also has to be remediated and can be done through the functioning of the Liability Convention. Thank you.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much Canada for your intervention and comment.

Is there any other delegation wishing to take the floor? I recognize Saudi Arabia. You have the floor.

Mr. M. TARABZOUNI (*Saudi Arabia*) Thank you very much for this Symposium and I am really thankful to all the speakers. But I am confused because in the launch of a satellite, after the launch it is actually the problem we have to look into, the owner of the satellite, there is somebody who is controlling that satellite and what are the responsibilities of the controller of the satellite, not the launcher. The launcher, his duty takes it from A to B and finish and then it is actually, it is there we have to look into. If I ride a train and I took it to another city and after that I left the city, left the train and I died in somewhere, what is the responsibility of the train?

We really have to look into this in more detail. Just only the launching and the transfer of satellite and things like this because sometimes, I remember this is a case with Arabsat(?) and Canada. It is Arabsat, they bought a satellite from Canada. They directed to the site of Arabsat and then it is actually, the launcher was the United States of America and the satellite it was being used by Canada for many years and the transferred over to Saudi Arabia, the site of Saudi Arabia and the administration is Saudi Arabia for Arabsat. And then the satellite it is being a different owner. It is called Arabsat. It is not in Canada. So how are we going to look into these kind of problems. Thank you very much for this.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you very much distinguished delegate from Saudi Arabia. You raised the important issues but unfortunately we are not in a position to deal with them because we still have a few minutes for this meeting. We took them for further consideration if you allow us. I would like to give the floor to two more speakers very quickly before finishing and closing our workshop. And this is the European Space Policy Institute.

Mr. P. HULSROJ (*European Space Policy Institute*) Thank you very much Mr. Chairman. I think we should look again, as it has been said many times here, at the practicalities of this and in my very simple view, there are evidentiary issues and there are substantive issues.

From a substantive perspective, I think that a State which actually entertains or allows activities to be entertained even if it's for satellites that have been transferred and so on, there is a liability situation by virtue of the Outer Space Treaty, by virtue of normal responsibility rules. So I am not sure that I see my friend France's point about flags of convenience so much because I am not sure that one can really escape so easily. We know it from the Law of the Sea but nevertheless there is here a very strong substantive linking between activity, allowing activity and liability. I think what we are really discussing more is the question of evidence and there I think we have some real issues on the Registration Convention and so on. But on substantive liability, I am not so sure.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you Peter for this intervention. And now the last speaker is Professor Brünner. You asked for the floor.

Mr. C. BRÜNNER (*University of Graz*) Thank you Mr. Chairman. My question goes primarily to Professor Kerrest.

I would like to refer to the case if the ownership is transferred to a State which is not a launching State and which refuses to carry the object on its registry and, therefore, refuses to be responsible for jurisdiction and control. My question is, which State is then responsible for jurisdiction and control over this transfer of object? Thank you.

Mr. S. MARCHISIO (*European Centre for Space Law*) We should give now the floor to Professor von der Dunk to react to the position of Peter Hulsroj.

Mr. F. VON DER DUNK (*University of Nebraska-Lincoln*) Very briefly. Of course, I fully underwrite the practicality argument and part of what I said is that probably today there is no clear need but there might be something in the future. It is probably looking a little bit into a crystal ball. I do agree with you and I mentioned the beauty of the Liability Convention which is going into what you are saying that there are strong incentives for States to be serious about that. However, taking it as the Devil's Advocate, I could also at least potentially see a risk for it going elsewhere and by way of a final note, not many people are aware of this perhaps, but to a certain extent, the issue has already cracked into the space law area. If you recall that the company Sea Launch had to make use of ships registered in Liberia which is one of the areas which we are talking about. You may understand that this may in theory raise some issues regarding the practicability of getting your damage compensated. Now, luckily in the case of Sea Launch, there were other States who also qualified as launching States, and you can call that the beautiful Liability Convention, but it is simply a warning sign and loans(?) it to everyone to determine to what extent is serious enough to take it up right now.

Mr. S. MARCHISIO (*European Centre for Space Law*) Thank you. Would the Professor Kerrest very briefly because we have to give the floor also to the Chairman of the Legal Subcommittee.

Mr. A. KERREST (*European Centre for Space Law*) Thank you. Just to say that I would advise you to have a look to my papers so that you will see that, in fact, you are perfectly right that it is quite an important problem because if there is the change of ownership, then it is still the first State which is liable and for registration, you cannot have registration because the State is not a launching State and then jurisdiction is controlled according to Article 8 that registration cannot change. Still, according to Article 6, the authorization and supervision must be done by the new State and that is a real problem that is caused by the transfer of ownership.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you for that concise answer.

May I please request the Chairman of the Legal Subcommittee, Dr. Tare Brisibe, to give a few concluding remarks? Yes, if you want to come here please.

Perhaps I may quickly add one congratulation on behalf of both IISL and ECSL on your chairmanship, Mr. Chairman.

The CHAIRMAN Thank you very much co-Chairs of this very thought-provoking Symposium and thank you also for your very kind words of congratulations. I should clearly express my very deep satisfaction and appreciation for the most exemplary assembly of speakers what we have heard and the intriguing presentations that have been delivered in the last couple of hours.

I believe that if we were clairvoyant and we both want to anticipate the questions and interventions that have arisen since the presentations were delivered, perhaps even the title of the Symposium would have changed because clearly we are looking at a range of issues that go beyond registration. We are looking at the transfer of ownership, including activities, perhaps in the context of supervision, jurisdiction, control and the only change of a notifying administration pursuant to the Radio Regulations of the ITU, which constitute a treaty in their own right.

Interestingly, we have also heard in the course of the presentations, reference being made to various instruments by which we could arrive at, regulations that are binding, beyond treaties, beyond principles, which, in my opening statement this morning, I did highlight constitute the foundation of international space law today.

Distinguished delegates, in addition to, as I indicated earlier, the very thought-provoking questions that have been raised by the presentations so far, I should also recall the opening statements from the co-Chairperson, referring specifically to one of our work items on the revised draft set of conclusions in the context of the Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space, especially at paragraph 26.

In that context, I should also refer to the questionnaire which has been prepared ably by the Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, particularly the third set of questions which are pertinent to the topic of this Symposium. What it all indicates is that there are already items that we, as a Subcommittee, are discussing and there are clearly additional issues that it would be interesting to include in our deliberations, for instance, in the context of debris remediation. So inasmuch as we have considered and looked into, transfer of ownership and even questions relating to activities, perhaps we could

also consider, and this would be a question, whether there would be issues pertaining to control and jurisdiction in the event that an entity is looking at remediating a space object, for instance.

In all, I think we have had a most interesting Symposium and, once again, I would like to thank the organizers of this Symposium, the International Institute for Space Law, alongside the European Centre for Space Law, for providing us with this opportunity. Thank you.

Ms. T. MASSON-ZWAAN (*European Centre for Space Law*) Thank you very much Dr. Brisibe for your encouraging words and with that, I would like to also thank the United Nations Committee on the Peaceful Uses of Outer Space for inviting us to organize these symposia, which is always a true pleasure.

We would like to invite you all for a drink the Mozart Room downstairs. We hope you will join us and we will look forward to continuing the exchange of ideas and we are, I think, all happy to have a nice afternoon and I hope that you also learned some new elements into these many problems that we have still to solve.

Professor Marchisio, would you like to add something. No?

Then I herewith close the Symposium. Thank you very much for your attention and your contributions and also, of course, to all the speakers who have made an excellent presentation today. Thank you.

The Symposium closed at ????