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Comparative analysis of aircraft, rail and space international registries and their regulatory provisions

Rory McPhillips, Howard Rosen, Souichirou Kozuka and Stuart Kennedy*

This article discusses the common and different aspects of International Registries under the three Protocols to the Cape Town Convention. As matters applicable to all three International Registries, it examines: the basic elements of the International Registry, implications of the Registrar's centre of administration, the role of the Supervisory Authority and liability of the Registrar, as well as common aspects of transactional and operational aspects of the International Registry. It then proceeds to analyse the differences among the International Registries by examining key transactional and operational aspects of each. This article concludes with lessons learnt from designing of the three International Registries and implications for future registries to be set up under additional Protocols to the Cape Town Convention or other instruments.

1. Introduction

The International Registry is the key creation of the Convention on International Interests in Mobile Equipment signed in Cape Town on 16 November 2001 (the '**Convention**'). The

* Rory McPhillips is a partner in the Asset Finance Group of Matheson and has extensive experience in asset finance, leasing, structured cross-border financing and securitisation transactions including the acquisition, financing and leasing of aircraft, helicopters, rolling stock and other equipment.

Howard Rosen is an English solicitor specialising in international asset finance, the principal of Howard Rosen Solicitors, in Zug Switzerland, and is a correspondent of Unidroit and the Chairman of the Rail Working Group, a rail industry association constituted at the request of Unidroit and focused on the adoption of the Luxembourg Rail Protocol.

Souichirou Kozuka is Professor of Law at Gakushuin University (Tokyo, Japan), specialising in teaching and researching commercial law, a correspondent of Unidroit and an associate member of the IACL (International Academy of Comparative Law).

Stuart Kennedy is a partner in the Asset Finance Group of Matheson and has widespread experience in advising international financial institutions, aircraft owners, aircraft lessors and airlines on all aspects of the sale, purchase, financing and leasing of aircraft, aircraft engines, helicopters and parts.

Convention itself was revolutionary in the sense that it sought to introduce legal predictability and certainty for cross-border, multi-jurisdictional transactions in respect of mobile equipment. With such certainty, it is the intention that transactional and financing costs will be substantially reduced for all parties, provided certain declarations are made.

The Convention facilitates the sale, leasing and asset-based financing of high value mobile equipment by establishing an international framework containing a uniform set of rules for the prioritisation, protection and enforcement of rights and interests in such mobile equipment. The International Registry is an integral component of the Convention and this legal framework. It facilitates the registration of various interests held in mobile equipment to establish priority, provide notice to third parties and form a basis for enforcement actions. As a web-based system, it is available for use on a 24 h basis except for limited periods during which it may be closed as necessary for maintenance, technical upgrades or other special circumstances.

The Convention and specific protocols connected therewith provide for basic requirements

that the International Registry must meet. The specific details regarding the operation and running of each International Registry are left to the specific regulations and procedures that the Supervisory Authority (discussed below at 2.3.) for each registry shall promulgate or approve. It is envisaged that a separate registry is established under each of the respective protocols¹ and that each Supervisory Authority shall be assisted by a Commission of Experts in its activities.²

To date, the only International Registry in operation is that in respect of the protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment (the ‘**Aircraft Protocol**’) adopted by the Secretariats of International Civil Aviation Organisation (‘**ICAO**’) and the International Institute for the Unification of Private Law (‘**Unidroit**’), and adopted pursuant to Resolution No. 1 of the Final Act of the Diplomatic Conference to adopt the Convention and the Aviation Protocol under the auspices of ICAO and Unidroit at Cape Town from 29 October 2001 to 16 November 2001. This registry, which is operated by Aviareto Limited³ (hereinafter, ‘**Aviareto**’), has been in operation since March 2006. It is operated according to the Regulations and Procedures for the International Registry (the ‘**Aircraft Regulations**’ and ‘**Aircraft Procedures**’), the most recent version of which is the seventh edition of 2016.⁴ Neither the International Registry under the Luxembourg Protocol to the Convention on International Interests in Mobile Equipment on Matters

Specific to Railway Rolling Stock (the ‘**Luxembourg Rail Protocol**’) nor that under the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets (the ‘**Space Protocol**’) has, to date, been formally established.⁵ For the International Registry under the Luxembourg Rail Protocol, the Preparatory Commission regarding its establishment has published the draft Regulations (the ‘**draft Rail Registry Regulations**’).⁶ The Preparatory Commission for the International Registry under the Space Protocol also finalised the draft Regulations (the ‘**draft Space Registry Regulations**’), which is publicly available as the Appendix to the report of its fourth meeting.⁷ The respective protocols and draft regulations contain some fundamental differences from those of the aircraft international registry, as elaborated in this paper.

In the sections below, we briefly discuss the following issues that are commonly applicable to each of the aircraft, rail and space assets registries:

- (1) Basic Elements of the International Registry
 - (a) Role of the Registrar
 - (b) Use of the International Registry for Registration Purposes
- (2) Implications of the Registrar’s centre of administration (award of damages/orders against the registrar)
- (3) Role of the Supervisory Authority

⁵ Although a registrar, Regulus SA, a Luxembourg subsidiary of SITA has been appointed and will take over the running of the International Registry for railway rolling stock once the Luxembourg Rail Protocol comes into force.

⁶ Draft Rail Registry Regulations have been published and may be found at <http://railworkinggroup.org/wp-content/uploads/docs/r0178.pdf> but these will still go through some changes before the International Registry begins operations, in particular reflecting some of the changes that will be implemented across both the International Aircraft Registry and the International Rail Registry, such as the introduction of the closing room concept.

⁷ <<http://www.unidroit.org/english/documents/2015/depositary/ctc-sp/pcs-04-07rev-e.pdf>>

¹ Article 16 (2) of the Convention.

² Article XVII (4) of the Aircraft Protocol; Article XII (5) of the Luxembourg Rail Protocol; Article XXVIII (3) of the Space Protocol.

³ Aviareto, an Irish incorporated limited liability company having its registered office in Dublin, Ireland, is a joint venture of the Irish government and SITA, a multinational information technology company providing IT and telecommunication services to the air transport industry.

⁴ The Regulations and Procedures for the International Registry for aircraft objects (7th edition, 2016).

- (a) Organisation that assumes the role of the Supervisory Authority
- (b) Legal status of the Supervisory Authority
- (4) Transactional aspects of the International Registry
 - (a) Notice-filing system
 - (b) Identification and definition of objects
 - (c) Registration and recordation other than registration of international interests
- (5) Operational aspects of the International Registry
- (6) Liability of the Registrar

- (d) Innovations of the Aircraft Registry and their importation into other Registries

➤Liability and financial integrity of the Registrar

As the solutions adopted by each respective protocol are best adapted to the features and practices of the relevant industry, the structures of the discussions are not entirely identical: some of the issues are omitted, or some unique issues are examined in further detail.

These discussions will be followed by comparisons of the three International Registries and brief concluding remarks.

The structure reflects our understanding that issues surrounding the International Registry may be divided into two aspects: the *transactional* and *operational* aspects. The former relate to the structure to offer functions to serve the users, while the latter refer to the structure to ensure efficient functioning of the International Registry. For these two aspects [(4) and (5) above], detailed analyses focusing on the features of respective International Registries are useful to highlight the differences among them. Therefore, we proceed to analyse how each of the three Protocols and Regulations (or proposed regulations) regulates its International Registries in the following key issues:

- Overview of the respective International Registry
- Transactional aspects
 - (a) Identification of objects
 - (b) Definition of objects
 - (c) Registration of sales
 - (d) Registration and/or recording of information other than international interests and sales
- Operational aspects
 - (a) Designated entry points
 - (b) Multiple registrations
 - (c) Relationship with (national) registries for regulatory purposes

2. Issues common to all three International Registries

2.1. Basic elements of the International Registry⁸

2.1.1. Role of the Registrar

It is important to note that the Registrar has a purely administrative function. It cannot take a position as between contesting parties or offer judgments as to whether an application for registration that appears on its face to be in order is defective.⁹ The Registrar has no involvement in the registration process for an

⁸ For the overview of the International Registry based on the experiences of the Aircraft Registry, see Rob Cowan & Donal Gallagher, *The International Registry for Aircraft Equipment – Breaking New Ground*, [2012–4] *Uniform Law Review* 579.

⁹ Professor Sir Roy Goode, *Convention on International Interests in Mobile Equipment and Protocol Thereto on Matters Specific to Aircraft Equipment: Official Commentary*, third edition [hereinafter as '**Official Commentary (Air)**'], para. 2.142 (2013). The same description is found in Sir Roy Goode, *Convention on International Interests in Mobile Equipment and Luxembourg Protocol Thereto on Matters Specific to Railway Rolling Stock: Official Commentary*, Second Edition [hereinafter as '**Official Commentary (Rail)**'], para. 2.133 (2014); Sir Roy Goode, *Convention on International Interests in Mobile Equipment and Protocol Thereto on Matters Specific to Space Assets: Official Commentary*, [hereinafter as '**Official Commentary (Space)**'], para. 2.144 (2013).

individual registration other than facilitating the registration. Once a TUE or PUE is approved (discussed in 2.1.2), that user may complete registrations in accordance with the relevant Regulations and Procedures applicable to the relevant protocol. Given that the Registrar has no administrative input in making registrations, the risk of human error on the part of registry officials is eliminated. Furthermore, this ensures greater efficiency for registering parties, as there is no delay in processing registrations once submitted, other than any delay in waiting for another named party to consent to the registration. Once the International Registry receives final consent, registrations are processed and become searchable worldwide. In this respect, the Registrar's role is principally to facilitate access to the International Registry for the purposes of performing searches, making registrations and obtaining priority search certificates.

The Registrar is also responsible for the efficient operation of the International Registry that is to be operated in conformity with the relevant Protocol and the Regulations and Procedures made thereunder. The Registrar must ensure that the International Registry is kept up to date and in good working order. The Registrar does, however, provide technical support to the users of the International Registry. Its registry officials provide guidance to users on inter alia applying for and renewing accounts, requesting authorisation and performing searches. It is important to note that such support does not extend to the provision of any form of legal advice pertaining to registrations or the rights, duties and obligations of any party under the Convention and its respective protocol.¹⁰

The registration system itself lies at the heart of the Convention's system of priorities.¹¹ Registrations are made on a first-to-file basis and give notice to the public of the interests

thereby registered. As a web-based system, it is available for use seven days a week on a twenty-four hour basis,¹² except for limited periods during which it may be closed as necessary for maintenance, technical upgrades or other special circumstances.

The operation of the International Registry for each asset type is or, as the context may require, shall be partly governed by the Convention, the respective Protocol, the Regulations made pursuant to the respective Protocol and the Procedures for effecting registrations and searches thereunder. It is also enshrined in the Convention that no person shall be denied access to the registration and search facilities of the International Registry on any ground other than failure to comply with the Procedures relating thereto.¹³ The principle of open access applies to searches, so that any member of the public may be a 'searching person'.¹⁴ This is, however, not true of matters relating to registrations. Only those authorised to enter data on the International Registry are in a position to do so. In this respect, section 4 of the Aircraft Regulations gives details of the approvals and authorisations required to obtain access to the International Registry. Section 4 of the Draft Regulations for the Rail Registry and Section 4 of the Draft Space Registry Regulations contain equivalent rules. Furthermore, each respective Protocol may provide for a 'Contracting State' to designate an entity in its territory through which registration information shall or may be transmitted to the International Registry.¹⁵

2.1.2 Use of the International Registry for registration purposes

¹² Article XX(4) of the Aircraft Protocol; Article XV (4) of the Luxembourg Rail Protocol; Article XXXII (5) of the Space Protocol.

¹³ Article 26 of the Convention.

¹⁴ Official Commentary (Air), para. 4.168; Official Commentary (Rail), para. 4.167; Official Commentary (Space), para. 4.166.

¹⁵ Article 18(5) of the Convention.

¹⁰ Section 9.5 of the Aircraft Procedures ('The help desk is for technical support only and cannot provide support on other matters, including legal questions.')

¹¹ Official Commentary (Air), *ibid.*, para. 2.116.

Given the electronic web-based system of the International Registry, a prerequisite to the registration of an interest is that each relevant party to the transaction or agreement, giving rise to an interest, must establish some form of account with the International Registry. A legal entity or an individual with an account on the International Registry is referred to as a 'transacting user entity' ('TUE'). Each TUE, when establishing its account, must appoint an 'administrator', who will have authority to initiate and consent to registrations on behalf of its TUE. Furthermore, the administrator of a TUE will also be empowered to authorise another employee of the TUE (referred to as a 'transacting user') or an employee of a 'professional user entity' (a 'PUE') to submit and consent to registrations on behalf of such TUE. A PUE is a firm or other grouping of persons providing professional services to a TUE. A PUE is typically a law firm or other company that assists TUEs in making registrations on the International Registry when authorised to do so. In a similar way to the establishment of a TUE, a prospective PUE must also establish an account with the International Registry in order to act in such capacity and must also appoint an administrator who will have sole authorisation to submit and consent to registrations on behalf of the TUE.

2.2. Implications of the Registrar's centre of administration (award of damages/orders against the Registrar)

2.2.1 Exclusive jurisdiction for award of damages or orders against the Registrar

In accordance with Article 44(1) of the Convention, it is only the courts of the place in which the Registrar has its centre of administration that have exclusive jurisdiction to award damages or make orders against the Registrar. The Official Commentary makes reference to several reasons for excluding the jurisdiction of other courts in making such orders against the Registrar, namely that the Registrar would be outside the territorial jurisdiction and control of such courts; to allow

such orders would be incompatible with the international character of the Registrar's functions; and there would be potential for the Registrar to be exposed to multiple proceedings in different Contracting States.¹⁶

To date, there have only been three cases before the Irish Courts concerning *Aviareto*.¹⁷ All three cases related to registrable non-consensual rights or interests pursuant to Article 40 of the Convention, which were all made without a valid basis under the Convention. The most recent decisions of the Irish Commercial Court to accept jurisdiction, pursuant to Article 44(3) of the Convention, to hear the substantive cause of action in disputes relating to registrations originating entirely outside Ireland under the provisions of the Convention. This approach, coupled with the speedy resolution of such disputes by the Irish Commercial Court, will greatly aid the proper and efficient functioning of the International Registry, and provide comfort to parties seeking to discharge unwarranted registrations that such discharges can be done in a timely, effective and efficient manner.

2.2.2. Misuse and abuse of the system

As has already been pointed out, both the text and the policy behind the Convention are that the Registrar's role is fundamentally an administrative one rather than one that confers on it a degree of discretion, giving it some sort of quasi-judicial function. There is, however, a difficulty with this approach when the system is being either misused or abused. Registrations could be effected fraudulently, individuals acting without authority, authorities to register could be falsified and, inevitably with a totally

¹⁶ Official Commentary (Air), para. 4.298; Official Commentary (Rail), para. 4.296; Official Commentary (Space), para. 4.293.

¹⁷ At the time of writing, a notice of motion and grounding affidavit had been served on *Aviareto* as a second named respondent in an action concerning Article 40 of the Convention. The motion was returnable for mid October 2016.

computer-based system, malicious hackers could purport to give consents to registrations or, more dangerously, deregistrations, on behalf of one of the transactional parties. Even where there is no malicious intent but a conflict of claims, there can be unilateral registrations¹⁸ where there is no provision for debtor consent.

Article 25 of the Convention places obligations on a creditor to discharge an interest 'without due delay' after written demand by the debtor in circumstances where the obligations giving rise to such an interest have been fulfilled or discharged.¹⁹ There are similar provisions in relation to prospective international interest or prospective assignments and in relation to any national interest specified in a registered notice of national interest.²⁰ But the final provision of Article 25 is the most difficult one.

Where a registration ought not to have been made or is incorrect, the person in whose favour the registration was made shall, without undue delay, procure its discharge or amendment after written demand by the debtor delivered to or received at its address stated in the registration.²¹

But what if 'the person in whose favour the registration was made', the creditor, does not comply? What happens if the creditor is untraceable? Professor Sir Roy Goode, in his official commentary, concedes that Article 25 'says nothing about the enforcement of the duty imposed by that article'. However, he continues,

it is clear that a court of competent jurisdiction under the Convention, if applicable, or under national law if the Convention jurisdiction provisions do not apply, can make an order against any person in whose favour a registration has been made to procure its amendment or discharge ...²²

in relation to any interest on the register. He continues that a court can only have jurisdiction *under the Convention* if the parties have so agreed, and the formalities have been complied with under Article 42 of the Convention.²³

Another example of wilful or negligent abuse of the system by a party was in the case *PNC Equipment Finance LLC v Aviareto Limited and Link Aviation LLC*²⁴ where Link sought to block the free disposal of an Aircraft by registering a non-consensual interest under Article 40 of the Convention.

Article 44 of the Convention gives a special jurisdiction to courts 'of the place in which the Registrar has its centre of administration' to award damages or make orders against the Registrar.²⁵ Article 44 goes on to state that if a person 'fails to respond to a demand made under Article 25, and that person has ceased to exist or cannot be found for the purpose of enabling an order to be made against it requiring it to procure discharge of the registration, the courts with the exclusive jurisdiction over the Registrar can, on the application of the debtor or intended debtor make an order directing the Registrar to discharge the registration.'²⁶

The difficulty with this provision is that it is quite narrow. The ability of the court to make a direction refers back to Article 25. So it is not a general authority to make orders as the court may consider just in terms of rectification of the registry. It does not seem to provide for rectification of amendments and does not confer jurisdiction on the court when the creditor can be found but refuses to co-operate.

Moreover, the order can only be made on the application of the 'debtor or intended debtor'. The term 'debtor' is defined as the obligor counterparty under one of the three types of credit agreements covered by the Convention (or seller pursuant to Article III of the Aircraft Protocol) or 'a person whose interest

¹⁸ For example under Article 40 of the Convention.

¹⁹ Article 25 (1) of the Convention.

²⁰ Respectively Article 25 (2) and (3) of the Convention.

²¹ Article 25 (4) of the Convention.

²² Official Commentary (Air), para. 4.165; Official Commentary (Rail), para. 4.164; Official Commentary (Space), para. 4.163.

²³ *Ibid.*

²⁴ Unreported, 19 December 2012.

²⁵ Article 44 (1) of the Convention.

²⁶ Article 44 (2) of the Convention.

in an object is burdened by a registrable non-consensual right or interest'.²⁷ So a person whose interest in an object is burdened by a registrable *consensual* right or interest (essentially an international interest which is not registered pursuant to Article 40 of the Convention) but who is not the direct obligor counterparty under a credit agreement, and therefore not a party that has consented, may not have *locus standi* to make an application. In relation to the International Registry for aircraft, the courts with the exclusive jurisdiction over the Registrar, indeed the Irish courts, have been commendably creative in extending their competence in such matters by developing the concept that an incorrect registration in the International Registry constitutes a slander of title, which is therefore a tort under Irish law. Professor Goode, in his Official Commentary, confirms that 'Contracting States remain free to apply and enforce their rules of criminal law and tort law ...'.²⁸ This permits the courts to effectively assume jurisdiction on the substantive matter, make a determination and then enforce that determination by an order against the Registrar, who will be joined as a third party to the (second) court proceedings. The Irish courts agreed in the *Transfin*²⁹ case that Ireland was the place of publication, for the purpose of determining whether the tort of slander of title could be said to have been committed in Ireland on the basis that the Registrar and the International Registry are located and maintained in Ireland.³⁰

A comprehensive analysis of Articles 25 and 44 is outside the scope of this paper, but the

²⁷ Article 1 (j) of the Convention.

²⁸ Official Commentary (Air), para. 2.9; Official Commentary (Rail), para. 2.8; Official Commentary (Space), para. 2.9.

²⁹ *Transfin-M Limited v. Stream Aero Investments S.C. and Aviareto Limited* [2013] 111 MCA.

³⁰ In the *PNC* case, the Court ordered a respondent to procure discharge of registrations and the Registrar, Aviareto to discharge such registrations. In *Transfin*, the Court accepted that it could itself order procurement of discharge of a registration under its general jurisdiction rules and directed the Registrar accordingly.

approach taken by the courts in the jurisdictions where the Rail Registrar and the Space Registrars will have their centres of administration will be fundamental in terms of how quickly orders can be made procuring the discharge of certain registrations. For the Space Registry, in particular, lessons from the experiences of the Aircraft Registry will be significant. Moreover, as the Registrar has not been selected, nor has its location yet been determined, which court will have jurisdiction under these provisions remains open. To facilitate financing of space assets, it is essential that the court be reliable and efficient in making judgments pursuant to the right interpretation of relevant provisions in an expeditious manner. Given that transactions involving space assets may often have political connotations, it will also be required that the independence and integrity of the court be ensured. This point will deserve due consideration when the Preparatory Commission discusses the Request for Proposal of the Registrar.

2.3. Role of the Supervisory Authority

2.3.1 Organisations that assume the role of the Supervisory Authority

The Supervisory Authority plays a central role regarding its respective registrar. The powers and duties of the Supervisory Authority are set out specifically in Article 17 of the Convention, which range from the establishment of the International Registry to the appointment and dismissal of the Registrar, the publication of regulations pursuant to the respective protocol, the setting of fees, the supervision of the Registrar and the provision of a procedure for dealing with complaints concerning the operation of the Registry.

Like the Registrar, the Supervisory Authority is not permitted to adjudicate on disputes or matters pertaining to particular registrations, which are matters to be determined solely by the courts of the place where the Registrar has its centre of administration.³¹ ICAO, as

³¹ Article 44 of the Convention.

the Supervisory Authority as regards the International Registry for aircraft objects, is advised by a Commission of Experts of the Supervisory Authority of the International Registry ('CESAIR').³² Aviareto is, in turn, advised by the International Registry Advisory Board ('IRAB'), a group of industry specialist legal and technical experts specifically established by Aviareto to provide it with advice on matters pertaining to the needs of the users of the International Registry. The IRAB meets frequently every year and has been extremely proactive in its discussions with Aviareto in developing innovative changes to the registry system, with the introduction of closing rooms and transferrable rights to discharge all arising out of IRAB discussions. The support provided by IRAB to Aviareto contributes substantially to the development of policy and practice. IRAB is also a valuable channel for user and industry feedback.

For the Space Registry, the Resolution No. 2 of the Diplomatic Conference to adopt the Space Protocol invited the ITU to become the Supervisory Authority. While the secretariat of ITU has been authorised to express interest in the matter, the Plenipotentiary Conference of ITU, which took place in Busan in October 2014, did not decide on the invitation and only mandated the Council to 'monitor any further developments regarding ITU's possible role as Supervisory Authority.'³³ It is yet to be seen what developments will be made by the next Plenipotentiary Conference in 2018. In the meantime, as in the case of the Rail Registry, the Preparatory Commission acts with full authority as Provisional Supervisory Authority for the establishment of the International Registry.³⁴

Unlike the aircraft and space sectors, there is no natural global body, similar to ICAO or the

International Telecommunications Union ('ITU') for the rail sector. The closest equivalent of an intergovernmental organisation is OTIF, the Intergovernmental Organisation for International Carriage by Rail, based in Bern, Switzerland. Its principal activity is to operate the Convention concerning International Carriage by Rail (COTIF). But OTIF has 50 governments, which are members, concentrated mainly in Europe. Naturally, at the Diplomatic Conference in respect of the Luxembourg Rail Protocol, there was some reluctance by non-member states to accept as a supervisory authority such an organisation in which they, as Contracting States, would have no participation. Accordingly, Article XII of the Luxembourg Rail Protocol fashions a new body as a supervisory authority comprising initially up to three delegates appointed by each of OTIF and Unidroit and one for each Contracting State.³⁵ The OTIF and Unidroit appointees are intended to give the Authority critical mass from the outset, but they will step back no later than two years after the Protocol enters into force in the 10th Contracting State.³⁶ OTIF is then appointed as the initial secretariat of the Authority.³⁷ Aside from managing the Supervisory Authority, the secretariat will have an important role in deciding when the International Registry is ready to operate by lodging a certificate to such effect with Unidroit.³⁸ This is one of the conditions for the entry of the Protocol.³⁹

Since the Supervisory Authority is constituted under the Luxembourg Rail Protocol, it does not exist until the Protocol comes into force. Under the Final Act of the Diplomatic Conference in Luxembourg,⁴⁰ a preparatory commission is appointed to act as a provisional

³⁵ Article XII (1) of the Luxembourg Rail Protocol.

³⁶ Article XII (3) of the Luxembourg Rail Protocol.

³⁷ Article XII (6) of the Luxembourg Rail Protocol.

³⁸ Article XII (8) of the Luxembourg Rail Protocol.

³⁹ Article XXIII (1) (b) of the Luxembourg Rail Protocol.

⁴⁰ Resolution No. 1 of the Final Act of the Diplomatic Conference to adopt a Rail Protocol to the Cape Town Convention in Luxembourg in 2007.

³² Article XVII(4) of the Aircraft Protocol.

³³ See PP-14 Highlights: Issue No. 11, < <http://www.itu.int/en/plenipotentiary/2014/newsroom/highlights/Pages/issue11.aspx> > (accessed on 18 October 2016).

³⁴ Resolution No.1 of the Diplomatic Conference to adopt the Space Protocol.

Supervisory Authority pending the constitution of the Supervisory Authority. Once constituted, it is expected that it will also set up a committee of experts to provide it with specialist advice as permitted under the Protocol⁴¹

2.3.2. *Legal status of the Supervisory Authority*

Article 27(1) and (2) of the Convention provides that the Supervisory Authority shall have international legal personality where not already possessing such personality and, together with its officers and employees, shall enjoy such immunity from legal or administrative process as specified in the relevant Protocol. ICAO, as a specialised agency of the United Nations, already enjoys immunity from legal process and is, therefore, not dependent on Article 27. That said, the Convention does not specifically require a Supervisory Authority to be an intergovernmental organisation.⁴²

The Supervisory Authority for the Luxembourg Rail Protocol, as mentioned above, is not yet constituted. In the coming year, the Preparatory Commission and OTIF will be working closely to draft statutes for the Authority as well as internal rules of procedure. What is already clear, however, is that the Supervisory Authority will be recognised by the Swiss government as an international organisation covered under the OTIF home office agreement with the Confederation of Switzerland.

For the Space Protocol, if the ITU accepts the invitation of the Diplomatic Conference's Resolution and to assume the role of the Supervisory Authority, the situation will be the same as the ICAO for the Aircraft Protocol, as the ITU is another specialised agency of the United Nations. Neither international legal personality nor immunity will become an issue.

⁴¹ Article XII (5) of the Luxembourg Rail Protocol.

⁴² Official Commentary (Air), para. 4.171; Official Commentary (Space), para. 4.169.

To ensure the continued operation of the International Registry, Article 27(4) of the Convention specifically provides that 'assets, documents, data bases and archives of the International Registry shall be inviolable and immune from seizure or other legal or administrative process'. This is, however, subject to the qualification in Article 27(5) that any person bringing a claim against the Registrar pursuant to Article 28(1) or Article 44 is entitled to access such information and documents as are necessary to enable the claimant to pursue its claim.

2.4. *Transactional aspects of the International Registry*

2.4.1. *Notice-filing system*

The primary element of the transactional aspect is, of course, to enable registration of international interests in assets. The registry is an asset-based database, not a debtor-based one. The Convention also envisages that it shall be a notice-filing registry, neither document filing nor title registry.⁴³ On the one hand, the International Registry under the Cape Town Convention does not disclose the title, or 'property right' as would a land registry in most civil law jurisdictions. Parties may register an international interest once an agreement (as defined in the Convention)⁴⁴ is made between the creditor and debtor, whether or not the creditor gives money to the debtor. Therefore, the existence of a registration does not mean that the creditor in fact extended finance to the debtor to be secured by the international interest or validate the agreement.

On the other hand, since the International Registry is a notice-filing system, it only gives an indication that it is asserted that there is an agreement constituting an international interest. A registry can be a transaction-filing system, as in the case of STB filing for secured transactions over rolling stock in the United

⁴³ See Official Commentary (Air), para. 2.119; Official Commentary (Rail), para. 2.111; Official Commentary (Space), para. 2.120.

⁴⁴ Article 1(a) of the Convention.

States, where the entire security documentation is filed.⁴⁵ However, this is not the case with the International Registry, and one must ask a party to the agreement revealed from the registration to acquire any information beyond what are registered.⁴⁶

As a corollary to the nature of the International Registry as notice-filing system, the Registrar does not examine the correctness of the registration, still less guarantee it. This point, though obvious from the Convention and Protocol, is better made explicitly to ensure full awareness of the users. The regulations and draft regulations for all three Protocols include a provision on it.⁴⁷

2.4.2. *Identification and definition of objects*

In designing the International Registry, the most crucial issue is how to identify the object against which a registration is to be made. No less important is the definition of the object, which will determine the extent of coverage of the International Registry. To some extent, these issues are addressed in the respective Protocol, but they may need to be supplemented by the Regulations. Reflecting the difference in nature of the relevant objects as well as that in relevant industry practice, the position of the respective International Registries will differ.

2.4.3. *Registration and recordation other than registration of international interests and sales*

The Aircraft Protocol and Space Protocol extend their application to sales of respective objects. As a result, the Aircraft Registry and Space Registry accept registrations of sales.⁴⁸

⁴⁵ On notice-filing and transaction-filing systems, see Gerard McCormack, *Secured Credit under English and American Law*, p. 129 (2004, Cambridge University Press).

⁴⁶ Official Commentary (Air), para. 2.122; Official Commentary (Rail), para. 2.114; Official Commentary (Space), para. 2.123.

⁴⁷ Section 3.2 of the Aircraft Registry Regulations; Section 3.2 of the Rail Registry Regulations; Section 3.2 of the Space Registry Regulations.

The Luxembourg Rail Protocol does not adopt the same policy but provides for the registration of notice of sales that can be searched for information purposes only.⁴⁹ Besides accepting registrations of an international interest and sales or notices of sales, the International Registry must accept other kinds of registrations and recordation, pursuant to the provisions of the Convention and Protocol. They include registration of non-consensual right or interest, recordation of a rights assignment (with Space registry) and the registration of public service (with Space registry). These divergences are another source of differences in the design of the International Registries.

2.5. *Operational aspects of the International Registry*

The International Registry needs to be structured to perform its functions efficiently. This is for the sake of both a satisfactory level of service and cost performance, and the financial viability of the system. As part of efforts to enhance the efficiency of the International Registry, a few practices have developed after the Convention and the first protocol, namely the Aircraft Protocol, were adopted, without explicit basis in either of the texts. These issues, besides the issues arising from the transactional aspect, need to be considered in designing the International Registry.

2.5.1. *Relationships with registries for regulatory purposes*

The first of such issues is the relationship with other systems. All of the existing three Protocols envisage that a Contracting State may specify a designated entry point that the registration must go through.⁵⁰ Though there is

⁴⁸ Article III of the Aircraft Protocol; Article IV of the Space Protocol.

⁴⁹ Article XVII of the Luxembourg Rail Protocol.

⁵⁰ Article XIX of the Aircraft Protocol; Article XIII of the Rail Protocol; Article XXXI of the Space Protocol.

no limitation about which entity can be a designated entry point, it will usually be used as a link between the International Registry and the domestic system relating to the object covered by the Registry. More generally, there can be international or regional registries for regulatory (or administrative) purposes, and the relationship with those registries, both advantages and disadvantages, will also come into consideration.

2.5.2. Innovations of the International Registry: institutions not foreseen in the Convention and Protocols

Secondly, the Aircraft Registry has been so innovative as to introduce (i) registration of fractional and partial Interests,⁵¹ (ii) multiple registrations and (iii) other innovations, i.e. closing room, transferable right to discharge, etc., by revising the Regulations from time to time.⁵² While not explicitly provided for in the Convention or Aircraft Protocol, they have proven to be useful, at least as far as the aircraft financing is concerned. The Luxembourg Rail Protocol or even Space Protocol adopted as late as 2012 does not mention them explicitly in the text. As a result, the Rail and Space Registries have faced a question of whether or not to adopt these innovations in practice in their Regulations. The Rail Registry will certainly embrace (ii) and (iii), and indeed preliminary discussions with SITA on the applicable regulations were in part at least a catalyst for producing a system for multiple registrations. Interestingly, the draft Space Registry Regulations have adopted (i) and (iii), but not (ii).

2.6. Liability and financial integrity of the Registrar

Relevant to both the transactional and operational aspects, ensuring the financial soundness

⁵¹ Sections 5.12 and 5.13 of the Aircraft Registry Regulations.

⁵² Sections 5.18 of the Aircraft Registry Regulations.

of the Registrar is of great significance. This has two implications, positive and negative. On the negative side, the integrity and reliability of the International Registry could be threatened if the Registrar incurs substantial financial loss due to, in particular, the liability arising in the course of its operation. Such a concern was duly shared by the delegates at the Diplomatic Conferences for the Convention and Protocols, and, as a result, the Convention foresees that the Registrar acquires sufficient insurance or financial guarantee for its potential liability.⁵³ An alternative (or additional) solution to address this problem is to limit the liability of the Registrar, which is adopted by the Luxembourg Rail Protocol (discussed in 4.4).

On the positive side, it is important that the Registrar earn sufficient return to cover its operational cost. This demand needs due consideration when the Supervisory Authority sets the Registrar's fees. However, if the fee is perceived too expensive and onerous by parties to finance transactions, they could simply choose not to make use of the International Registry. Such a concern is not a theoretical one in the Rail and Space Registries, as the markets for private sector asset-based financing for these types of assets are not as voluminous as for aircraft financing under the current situation.

3. Aircraft Registry

3.1. Overview of the International Registry for aircraft

As mentioned above, the operation of the International Registry for each asset type is partly governed by the Convention, the respective Protocol, the Regulations made pursuant to the respective Protocol and the Procedures for effecting registrations and searches. Resolution No. 2 of the diplomatic conference, held in Cape Town on 16 November 2001, invited ICAO to accept the functions of the Supervisory Authority for aircraft objects. The same resolution invited ICAO to

⁵³ Article 28 (4) of the Convention.

establish a commission of experts, having the necessary qualifications and experience, to assist ICAO upon entry into force of the Convention and the Aircraft Protocol. Pending entry into force of the Convention and the Aircraft Protocol a preparatory commission was also set up for the purposes of establishing the International Registry under the guidance and supervision of the Council of ICAO. Aviareto was duly appointed as registrar by such preparatory commission and is currently operating the International Registry for aircraft objects. The Registrar itself is appointed on a renewable fixed term basis.⁵⁴ Once the Convention and Aircraft Protocol entered into force on 1 March 2006, being the date the work of the preparatory commission ceased, the Council of ICAO assumed the office of Supervisory Authority.

The International Registry for aircraft objects provides for the registration of interests as against particular uniquely identifiable aircraft objects rather than against parties to a transaction. In addition, searches are carried out against such aircraft objects and not against parties. One of the principal features of the International Registry system, for all registries, is that no documents are deposited for verification or vetting, which differentiates it from many other paper-based registries. The fact that no documents are deposited with the International Registry when interests are recorded contributes to its success and efficiency. Administrative costs are kept to a minimum, and the confidentiality of aircraft transactions is preserved.

3.2. *Transactional aspects*

3.2.1. *Identification of Aircraft objects*

The formal requirements for constituting an interest as an international interest are prescribed by Article 7 of the Convention, which provides that, inter alia, the relevant

agreement creating or providing for the interest must relate to an object that enables that object to be identified in accordance with the relevant protocol. The Aircraft Protocol provides that a description of an aircraft object that contains its manufacturer's serial number, the name of its manufacturer and its model designation is sufficient to identify that aircraft object.⁵⁵

The Aircraft Protocol does not distinguish the identification criteria required for the constitution of an international interest and for its registration. However, the search criteria for an aircraft object (name of manufacturer, manufacturer's serial number and model designation) may be supplemented from time to time as necessary to ensure uniqueness, with any such supplementary information to be specified in the Regulations.⁵⁶

The identification elements for an aircraft object are provided by the International Registry in the form of lists from which selections, for the purposes of effecting a registration, are mandatory except where the aircraft object information in question is not uploaded to the International Registry.⁵⁷ In other words parties should use the designated lists provided where applicable and not engage in 'free text' registrations unless absolutely necessary. In this respect, the information describing the manufacturer's serial number, the name of the manufacturer and the model designation of each aircraft object made available on the International Registry for aircraft objects is provided to Aviareto Limited by the respective aircraft, aircraft engine and helicopter manufacturers, which is also jointly facilitated in conjunction with the Aviation Working Group. A disclaimer on the International Registry website makes it clear to users that they should not rely on the accuracy or comprehensiveness of the aircraft object information or any descriptive documents a manufacturer may provide to Aviareto Limited. The success of the International Registry for aircraft objects is partly

⁵⁴ Article XVII(5) of the Aircraft Protocol. In June 2014, the Council of ICAO opted to reappoint Aviareto to operate the International Registry for a third five-year term from 2016 to 2021.

⁵⁵ Article VII of the Aircraft Protocol.

⁵⁶ Article XX of the Aircraft Protocol.

⁵⁷ Section 5.1 of the Aircraft Regulations.

attributable to the willingness of manufacturers to participate by providing the relevant information to the Registrar.

3.2.2. *Definition of aircraft objects*

Aircraft objects (airframes, aircraft engines and helicopters) are defined very specifically by the Aircraft Protocol by reference to technical issues such as certain thrust, horsepower, weight and number of passengers capable of transport.⁵⁸ It is important to note that, in all cases, the Protocol specifically excludes 'airframes', 'aircraft engines' and 'helicopters' that are used in military, customs or police services.⁵⁹ The exclusion, by the Aircraft Protocol, of 'airframes', 'aircraft engines' and 'helicopters' used for military, customs and police services follows the Geneva Convention.⁶⁰ The Official Commentary (Air) recognises that the Aircraft Protocol does, however, apply to aircraft objects used in other state services such as firefighter and medical services. It also doesn't preclude the potential application of the Convention to mixed use objects, namely those objects that are used for commercial and other purposes.⁶¹ Furthermore, the definition of 'airframes' includes all 'installed, incorporated or attached accessories, parts and equipment (other than aircraft engines), and all data, manuals and records relating thereto'. Similarly the definition of 'aircraft engines' and 'helicopters' includes 'all modules and other installed, incorporated or attached accessories, parts and equipment and all data, manuals and records relating thereto' and 'all installed, incorporated or attached accessories, parts and equipment (including rotors), and all data, manuals and records relating thereto' respectively.

That the Aircraft Protocol enables registration of independent international interests in engines is one of the innovations of the Convention as compared with existing domestic

registration systems in most countries. There is, however, a slight inconsistency between the Convention and Aircraft Protocol with regard to the definitions of aircraft engines and helicopters. The definition of 'aircraft' in the Aircraft Protocol means aircraft as defined for the purposes of the Chicago Convention, which are either airframes with engines installed thereon or helicopters. Airframes and aircraft engines are treated, for the purposes of the Convention and Aircraft Protocol, as separate and distinct objects. Read in isolation, Article I(2)(b) of the Aircraft Protocol could be thought to include an engine that is installed on a helicopter.⁶² Furthermore, having regard to Article 2(3)(a) of the Convention, which refers to airframes, aircraft engines and helicopters, it is clear that 'aircraft engine' means an engine that is not installed on a helicopter. Professor Sir Roy Goode concludes that 'if the intention had been to treat installed helicopter engines in the same way as engines installed on an airframe, the reference would have been to a helicopter frame rather than a helicopter'.⁶³ The implication of the foregoing requires registering parties to register a prospective international interest against helicopter engines in addition to an international interest in respect of the helicopter. Should the engine ever be removed from the helicopter, and provided the underlying security or leasing agreements are drafted correctly, an international interest should attach automatically to the helicopter engine as a separate identifiable object.

Article 29(7) of the Convention operates to ensure that where an item, which itself is not an object, becomes installed on an aircraft object, such installation or incorporation does not affect any pre-existing rights if these are preserved by applicable law. The position is otherwise where, under applicable law, the doctrine of accession confers rights to the installed or incorporated items to the owner of the aircraft object as the principal asset.

⁵⁸ Article I(2) of the Aircraft Protocol.

⁵⁹ Article I (b), (e) & (l) of the Aircraft Protocol.

⁶⁰ The Convention on the International Recognition of Rights in Aircraft 1948.

⁶¹ Official Commentary (Air), at para 5.7.

⁶² Official Commentary (Air) at para. 3.8.

⁶³ Official Commentary (Air) at para. 3.8.

Article XIV(3) of the Aircraft Protocol operates to override the doctrine of accession to ensure that neither the installation of an aircraft engine on an aircraft nor its removal affects the ownership in such an aircraft engine. The provisions of Article XIV(3) do not, however, apply to installed items other than aircraft engines, given that such items are deemed to form part of the actual aircraft object by virtue of the definition contained in Article I (2)(b), (e) and (l) of the Aircraft Protocol.

3.2.3. *Registration of sales*

While the Convention limits itself to registration of international interests, the Aircraft Protocol extends the registration system to contract of sales.⁶⁴ The inclusion of the registration of sales, for the purposes of the Aircraft Protocol, essentially provides notice of various title transfers of the aircraft object over its useful life. The International Registry is not a title registry, however; in excluding Article 29 (3) of the Convention, the application of Article III of the Aircraft Protocol to the Convention is that registered buyers obtain priority, in the capacity of buyer, over all subsequently registered sales by any seller who had the power to dispose of that object. Buyers are encouraged to register sales in their favour, in respect of aircraft objects, for a number of reasons, including: (a) it preserves priority against a subsequent sale or creation of an international interest by a seller; (b) it preserves priority over earlier unregistered interests (other than a pre-existing right or interest) or subsequently created international interests; (c) it secures priority over Article 40 interests, which have not been registered; (d) it secures priority over subsequent declarations made pursuant to Article 39 of the Convention [provided such declaration does not have retrospective effect under Article 39(4)]; and (e) to confer priority on the buyer over that of a creditor planning to exercise the remedy of de-registration and export pursuant to Article

⁶⁴ Article III of the Aircraft Protocol.

IX(1) of the Aircraft Protocol⁶⁵ such that the remedy may not be properly exercised without the buyer's written consent.

3.2.4. *Registration and/or recording of information other than international interests and sales*

As stated above, the Convention contemplates two forms of non-consensual rights or interests. The first type (Article 39) relate to those non-consensual rights or interests created by the law of a Contracting State that have priority, without registration, over a registered interest on the International Registry, and with respect to which a Contracting State has made a declaration under Article 39. The second type (registrable non-consensual rights or interests – Article 40) are, again, non-consensual rights or interests and, like Article 39, require a declaration to be made by a Contracting State. However, unlike Article 39 rights or interests, such rights or interests must also be registered on the International Registry in order for them to have any effect. Article 39 and 40 are mutually exclusive in that a Contracting State is prohibited from making a declaration covering the same rights or interests under both Articles. A Contracting State is, however, permitted to cover rights or interests of the same nature under both Articles, provided such rights or interests are differentiated from each other.

For the most part, Contracting States to the Aircraft Protocol have sought to protect rights, pursuant to Article 40, arising from: court orders permitting attachment of an aircraft object in partial or full satisfaction of a legal judgment; liens in favour of works for unpaid wages; and unpaid state taxes and charges. A full discussion regarding Article 40 registrations is outside the scope of this paper. However, Aviareto and ICAO have been working with the Aviation Working Group to propose changes to the existing Aircraft Regulations that would make it more

⁶⁵ Official Commentary (Air), at para. 3.84.

unattractive for individuals to make malicious or unwarranted Article 40 registrations.

3.3. Operational aspects

3.3.1. Designated entry points

Pursuant to Article 18(5) of the Convention, the Aircraft Protocol provides in Article XIX for a Contracting State to decide whether to make a declaration designating an entity as the entry point for the transmission of registration information to the International Registry. With respect to aircraft objects, the system is well established and understood. If a Contracting State to the Convention and Aircraft Protocol designates an entity as the entry point to the International Registry, the International Registry System will warn users where registrations or discharges are being made. Section 12.1 of the Aircraft Regulations provides for two categories of entry points: (i) an 'authorizing entry point'; and (ii) a 'direct entry point'. An 'authorizing entry point' merely requires an authorisation code issued by the relevant Contracting State, whereas the latter transmits the information automatically without the need for an authorisation.⁶⁶ Any registrations effected in violation of the terms of a designation under Section 12.1 shall be invalid⁶⁷ unless (a) in the case of an 'authorizing entry point', an authorisation code is not obtainable or (b) in the case of a 'direct entry point', use of that entry point is not permitted, in each case, under its procedures based on the facts of the transaction to which it relates.⁶⁸ It is important to note that there are exceptions to the designated entry point system for aircraft. A Contracting State may only designate entry points for registrations relating to airframes and helicopters in respect of which it is the state of registry,⁶⁹ and therefore, it may permit, but not compel, use of a designated entry point or entry points for information

required for registrations in respect of aircraft engines.⁷⁰ Furthermore, Article XIX(1) of the Aircraft Protocol specifically excludes registrations of a notice of national interest and rights or interests under Article 40 of the Convention in either case arising under the laws of another Contracting State.

3.3.2. Multiple registrations

The introduction of multiple object registrations and the implementation of 'Generation II' of the International Registry website in September 2013 represented a significant step forward for the International Registry. This feature enabled users of the International Registry to group several aircraft objects together for the purposes of registering the same international interest against each of them.

3.3.3. Relationship with registries for regulatory purposes

With respect to the Aircraft Protocol, Article IV states

without prejudice to Article 3(1) of the Convention, the Convention shall also apply in relation to a helicopter, or to an airframe pertaining to an aircraft, registered in an aircraft register of a Contracting State, which is the State of register.

Accordingly, registration of an aircraft with a national register in a Contracting State may provide an additional connecting factor to the Convention for the purposes of the registration of an international interest or contract of sale in an airframe or helicopter only in circumstances where a debtor is not situated in a Contracting State for the purposes of Article 3(1) of the Convention.

In addition, and as mentioned earlier, Regulation 12.2 of the aircraft regulations provides that a Contracting State may only designate a mandatory entry point for registrations relating to airframes and helicopters for which it is the state of registry.

⁷⁰ Article XIX (2) of the Aircraft Protocol.

⁶⁶ Official Commentary (Air), at para 5.84.

⁶⁷ Section 12 of the Aircraft Regulations.

⁶⁸ Section 12.8 of the Aircraft Regulations.

⁶⁹ Section 12.2 of the Aircraft Regulations.

Article IX of the Aircraft Protocol expanded the list of remedies available to a creditor specified in Chapter III of the Convention to incorporate, to the extent that the relevant debtor has at any time so agreed and in the circumstances specified in that Chapter, the right to procure (i) the de-registration of an aircraft and (ii) export and physical transfer of an aircraft object from the territory in which it is situated. Furthermore, Article XIII (which must be read in conjunction with Articles IX and XI), which only applies where the relevant Contracting State has made a declaration, provides for the recordation with the registry authority⁷¹ of an irrevocable de-registration and export request authorisation ('IDERA') issued by the relevant debtor in the form annexed to the Aircraft Protocol. The person in whose favour the IDERA has been issued or its certified designee shall be the sole person entitled to exercise the de-registration and exportation remedies specified in Article IX(1) provided that such remedies must be exercised in accordance with applicable aviation safety laws and regulations and in accordance with the provisions of Chapter III of the Convention as modified by the Aircraft Protocol.

In this respect, given the nature of the regulated global aviation industry, national registries and aviation authorities, in some respects, play a central role with respect to the Aircraft Protocol in terms of the registration and honouring of IDERAs, expanding the sphere of application of the Convention to the creation of international interests in airframes and helicopters registered in an aircraft register of a Contracting State and providing clarity as to which aircraft objects are within the scope of a particular designated entry point.

3.3.4. *Innovations of the Aircraft Registry: registration of fractional and partial interests*

Although the Convention does not regulate fractional ownership, it also does not preclude it. ICAO facilitated the needs of the aviation industry by amending the Regulations, which

⁷¹ Defined in Article I(2)(o) of the Aircraft Protocol.

in turn prompted updated software for the operation of the website, an updated practitioners' guide and, in time, the Official Commentary was also updated to deal with the matter. It was a progressive and practical solution to an important matter and could not have been introduced without deep industry engagement by ICAO.

Other examples of innovative updates and improvements to the International Registry system facilitated by ICAO include the introduction of the ability to transfer the right to discharge of certain interests, multiple object registration and the closing room facility.

3.4. *Liability and financial integrity of the Registrar*

The Registrar is liable for compensatory damages for loss suffered by a person directly resulting from an error or omission of the Registrar and its officers and employees or from a malfunction of the international registration system except where the malfunction is caused by an event that could not be precluded by best practices.⁷²

Section 14.1 of the Regulations provides that

for the purposes of Article 28 (1) of the Convention, 'loss suffered' means loss or damage resulting from an error or omission of the Registrar and its officers and employees or from a malfunction of the international registration system, except as provided for by Article 28 of the Convention, but does not include loss or damage resulting from lack of access to the International Registry as a result of measures referred to in Section 3.4 of these Regulations.⁷³

As the liability of the Registrar under Article 28 is unlimited, the Convention⁷⁴ obliges the Registrar to procure insurance (or a financial guarantee) covering any such liabilities to the

⁷² Article 28 of the Convention.

⁷³ Regulation 3.4 refers to the requirement that the International Registry is accessible 24 hours a day, 7 days a week, except if precluded by maintenance performed outside peak periods, or technical or security problems, as set out in the Procedures.

⁷⁴ Article 28(4) of the Convention.

extent determined by the Supervisory Authority, in accordance with the Protocol. The Aircraft Protocol prescribes that such insurance/guarantee shall, in respect of each such event, not be less than the maximum value of an aircraft object as determined by the Supervisory Authority.⁷⁵ This limit is designed to enable the Supervisory Authority to choose an aircraft of a value not exceeding the amount for which insurance cover or a financial guarantee could be obtained in the market at reasonable cost.⁷⁶ The current insurance cover in respect of the International Registry for aircraft assets is US\$130 million.

4. Rail Registry

4.1. Overview of the International Registry for railway rolling stock

When looking at the legal issues surrounding the creation and operation of the International Registry under the Luxembourg Rail Protocol, there are two points that become immediately apparent where the legacy conditions are quite different from those applicable in the aviation industry before the adoption of the Aircraft Protocol. These are the lack of any national registry recording title or security interests in relation to railway rolling stock, and the complete absence of any common global system for identifying railway rolling stock either within particular asset types, such as locomotives, or across the whole asset class, taking into account that the asset class is broadly defined and comprises assets from conventional inter-urban rolling stock through to trams, cable cars and even gantries and cranes on rails in ports. As a result, not only does the Rail Protocol provide groundbreaking solutions for the international financing of railway rolling stock and the financing of rolling stock operating internationally (two different situations), but it delivers a new solution for purely domestic financings. Against

⁷⁵ Article XX(5) of the Aircraft Protocol.

⁷⁶ Official Commentary (Air), at para. 5.97.

this background, what are the key legal issues that will arise from the setting up and operation of the International Registry?

4.2. Transactional aspects

4.2.1. Identification of railway rolling stock

It is clear that an international interest under the Cape Town Convention must relate to a specific item of equipment. This is entirely logical, since a creditor (and, for that matter, an insurer or maintainer) has to be able to point to a specific asset in which it has an interest, in the broader sense. Moreover, identification of the asset through a series of numbers, letters or both would not be sufficient. It has to be unique; otherwise, there remains a risk that the creditor could look to an identifiable asset where in fact it has no interest in such asset but in another one with the same identifier. Although the Luxembourg Rail Protocol clearly envisages unique identifiers, it is not immediately clear whether the identifier has to be unique at a particular point in time, or at any time. Logic dictates, however, that uniqueness means that there cannot be duplicate numbers, either consecutively or concurrently.⁷⁷

The drafters of the Aircraft Protocol chose to use a manufacturer's identification system, so that identification is by reference to the manufacturer's name, the equipment model description and the manufacturer's serial number.⁷⁸ Moreover, this applies in relation to the constitution of an international interest and its registration. It is taken for granted that the identifier is unique – the only reference to uniqueness is in relation to search criteria against existing registrations.⁷⁹ With a relatively small number of aircraft in existence⁸⁰ and a limited number

⁷⁷ A central purpose of any regulations governing registration requirements 'will be to ensure that any identification number is and remains unique and is not reusable' – Official Commentary (Rail), para. 3.43.

⁷⁸ Article VII of the Aircraft Protocol.

⁷⁹ Article XX of the Aircraft Protocol.

⁸⁰ The International Registry for Aircraft in Dublin is able to list every aircraft and engine, but this would

of manufacturers, this trusts that the manufacturers will never recycle serial numbers, for the same model is probably well placed. This is not practicable, however, in the rail sector, where there are potentially thousands of manufacturers worldwide,

As a result, the Luxembourg Rail Protocol takes a more granular and detailed approach. For the purposes of creating an international interest under Article 7 of the Convention, a general description by model type, item or even reference to a group of assets that can change, for example where a floating charge is created over assets, will suffice.⁸¹ But when it comes to registration of (and therefore searches against) railway rolling stock in the International Registry, a much stricter regime applies under which individual assets must be uniquely identifiable. In addition, the Protocol envisages three different systems that could be used for identifying railway rolling stock, namely (i) that an identification number is affixed to the railway rolling stock itself or (ii) associated in the International Registry with the manufacturer's name and the manufacturer's identification number so affixed, or (iii) associated with a national or regional identification number required by a Contracting State so affixed.⁸² The exact treatment will be set out in the draft Rail Regulations, but it is clear from the Protocol that the regulations must provide a system enabling the unique identification of railway rolling stock. If, therefore, a manufacturer's identification system or even national or regional identification systems do not comply with the requirement to be unique, they cannot be accepted by the Registrar; otherwise the integrity of the International Registry would be badly threatened. That this is the intention of the Protocol is clearly indicated by the subsequent provision of Article XIV when dealing with national or

regional numbering systems, where it is made an express condition that such a system must ensure 'unique identification of each item of railway rolling stock to which this system applies'.⁸³

So either the Registrar will simply allocate a unique identifier to be affixed to the railway rolling stock, or in certain circumstances it must accept one of these two alternatives (manufacturer's or national/regional identification numbering system). It is submitted, however, that neither of these two alternatives is practical.

Concerning manufacturers' identification numbers, every manufacturer will have a different system. Some manufacturers do not even have an identification system, and of course some may replicate or at least recycle numbers. Manufacturers change names, they may allocate the same number to different models, there is no common convention for model descriptions, their names may not always be in English, the identifier may be numeric, alphabetical (and not always in western script) or a combination, and the identifier may differ in length. Moreover, the Registrar is in no position to audit the manufacturers, particularly taking into account the fact that, unlike in the aviation and space environments, there are so many of them. In practice, it is impossible.

Similarly, the option to use national or regional identification numbers is also, in practice, unsatisfactory. A Contracting State may, by declaration,

state the system of national or regional identification numbers that shall be used with respect to items of railway rolling stock subject to an international interest that is created or provided for, or is intended to be created or provided for, by an agreement entered into by a debtor situated in that Contracting State at the time of the conclusion of that agreement.⁸⁴

The Protocol seems to be clear that any declaration made by a Contracting State selecting a national or regional numbering system

be impossible in the rail sector where the quantities of equipment are much greater and manufacturing is more fragmented.

⁸¹ Article V of the Luxembourg Rail Protocol.

⁸² Article XIV(1) of the Luxembourg Rail Protocol.

⁸³ Article XIV(2) of the Luxembourg Rail Protocol.

⁸⁴ *Ibid.*

must apply that system to all railway rolling stock. This is logical, since the wording refers to railway rolling stock – a defined term – and there is no option for the Contracting State to pick and choose if the national or regional system would apply to some, but not all, railway rolling stock. Moreover, the alternative would be chaotic and very difficult to implement with no common global model descriptors for rolling stock. So, for example, it is not possible for the European Union to select as a regional identifier the running numbers used for conventional railway rolling stock across Europe, not just because, arguably, they cannot be guaranteed to be unique, but also because such running numbers do not apply to trams and cable cars.

Then there is another complication. The discretion given to the Contracting State is clearly stated to relate to international interests arising under agreements with ‘a debtor situated in that Contracting State at the time of the conclusion of that agreement’. Railway rolling stock could be immatriculated and registered in a local immatriculation registry because it is operated within the physical area covered by that registry, but the operator/debtor could be situated⁸⁵ outside such an area at the time the international interest is created, where the Contracting State in which the debtor is situated has made no such declaration for the same numbering system. What if the operator is a partnership where some partners are ‘situated’ inside the Contracting State and some are not? Further, there could be more than one international interest registered on the asset, where in one case the debtor is based in the area covered by the registry, and in the other is not. Would the rolling stock concerned then have two numbers with all the scope for confusion that this infers? It is surely critical that these interests are registered against the same identifier; anything else would be chaotic.

Lastly, the Protocol goes on to provide that such a national or regional identification

system selected shall, subject to agreement between the Supervisory Authority⁸⁶ and the Contracting State making the declaration, ‘ensure the unique identification of each item of railway rolling stock to which the system applies.’⁸⁷ So the declaration by the Contracting State can only be valid if the system is not one that ‘allows the same number to be used in connection with two different railway vehicles’⁸⁸ or logically, one that allows two different numbers to be allocated to the same vehicle.⁸⁹ On the other hand, if there has been a sequence of numbers under the national or regional identification system selected, a registration of an international interest in an item of rolling stock shall only be valid if it specifies ‘all the national or regional identification numbers to which the item has been subject since the entry into force of this Protocol under Article XXIII (1) and the time during which each number has applied to the item’.⁹⁰

Whichever system is operated, it is clear that the Registrar has to develop a unique identification number. We would suggest that this should be the number affixed to the side of the railway rolling stock, but thought also has to be given as to how this number will be created. Since this is an entirely new system, section 5.3 of the draft Rail Registry Regulations set out the characteristics of the URVIS⁹¹ identifier. It will be a 20-digit number (including probably one check digit) and entirely unstructured except that there may be inclusion of a regional or national identifier if, in the rather unlikely case, there is an

⁸⁶ Established pursuant to Article XII of the Luxembourg Rail Protocol.

⁸⁷ Article XIV (2) of the Luxembourg Rail Protocol.

⁸⁸ Official Commentary, *ibid.* at para. 3.46.

⁸⁹ In theory, as there is a qualification ‘subject to agreement between the Supervisory Authority and the Contracting State making the declaration’, there could be an agreement in derogation from this principle, but this is highly unlikely in practice because of the confusion it would cause.

⁹⁰ Article XIV (4) of the Luxembourg Rail Protocol.

⁹¹ Unique Rail Identification Vehicle Identification System.

⁸⁵ ‘situated’ is a term carefully defined in Article 4 of the Convention.

agreement between a Contracting State and the Supervisory Authority recognising that number as an identifier for the purposes of the International Registry.

4.2.2. *Definition of railway rolling stock*

In simple terms, an item of railway rolling stock is defined in Article I 2. (e) of the Protocol. An item is a vehicle

movable on a fixed railway track or directly on, above or below a guideway, together with traction systems, engines, brakes, axles, bogies, pantographs, accessories and other components, equipment and parts, in each case installed on or incorporated in the vehicles, and together with all data, manuals and records relating thereto.⁹²

What is clear is that the Luxembourg Rail Protocol takes an inclusive approach to an item of railway rolling stock. It does not separately break out components such as wheel sets and bogies or, for that matter, the traction system. This is by contrast to the Aircraft Protocol, where engines can be separately registered⁹³ and independently subject to an international interest.⁹⁴ But there is an interesting question as to where one item of railway rolling stock ends and another begins. Is a TGV high-speed train set one item, or a series of locomotives and carriages? When are trams with articulated carriages actually more than one item of railway rolling stock? In the draft Rail Registry Regulations, the definition of an item of railway rolling stock is specified in more detail. It must be a vehicle that firstly satisfies the basic definition in Article I 2. (e) of the Protocol, i.e. it must be able to be operated with or without traction, but it must also be able to be physically separated from other vehicles

⁹² Article I 2. (e) of the Luxembourg Rail Protocol.

⁹³ Article I 2. (c) of the Aircraft Protocol.

⁹⁴ At the Diplomatic Conference in Luxembourg, there was some discussion as to whether engines or other traction systems should be covered separately by the Protocol, but the firm conclusion was that there is no comparable situation in the rail industry where there are modular engine systems that could be easily moved in and out of locomotives.

and able to continue to operate under normal industry conditions after such separation, and be able to be operated alone or contiguous to other vehicles without the need for special adaptation or the use of additional special equipment. The draft Rail Registry Regulations go on to state that:

where a vehicle is made up of a number of articulated sections which are physically fixed to each other, but it is possible to replace or substitute such sections in the normal course of maintenance operations, whether using specialist equipment or otherwise, each articulated section shall be regarded as an item of railway rolling stock.⁹⁵

4.2.3. *Registration of sales*

Both the Aircraft and Space Protocols extend the Convention to contract of sales,⁹⁶ but this is not the case for the Luxembourg Rail Protocol, which focuses just on protecting creditor rights in relation to security interests. However, there is a provision in Article XVII of the Protocol for Notices of Sale of items of railway rolling stock to be registered in the International Registry, which may be searched for informational purposes only, i.e. the creation and registration of sales do not result in any incremental rights accruing to the purchaser under the Protocol and the Convention.⁹⁷ The unique identification rules for such equipment still apply.⁹⁸ In the event that a Contracting State has designated a local entry point (see 3.3.1) then notices of sale may be registrable through that entry point but, unlike international interests, this is not compulsory, and

⁹⁵ Section 2.3 of the draft Rail Registry Regulations.

⁹⁶ Article III (1) of the Aircraft Protocol and Article IV (1) of the Space Protocol.

⁹⁷ Of course, this comment does not apply to conditional sales agreements that result in the creation of an international interest.

⁹⁸ Article XVII and section 5.6 of the draft Rail Registry Regulations (although there is a strong argument that this section should apply all of section 5.3 to notices of sale, and this may be readdressed in the next iteration of the draft Rail Registry Regulations).

a registration may always be made directly through the International Registry.⁹⁹

But this does not mean that owners of railway rolling stock are unprotected under the Protocol. Since there are no national title registries for railway rolling stock, the registration of the Notice of Sale will usually be the first publically accessible asset-based registration by which a prospective purchaser or creditor can track a chain of title. Since those parties logically will usually search against the item of railway rolling stock before the transactions complete, if the prior title transfer to the vendor or debtor is not in the International Registry, this fact will be transparent or raise enquiry. So the registration of the notice will help on a practical basis. The public registration may have a domestic law effect.¹⁰⁰ In addition, any owner seriously concerned about third parties asserting and registering security interests against the railway rolling stock can easily protect themselves by arranging an internal pledge of the asset to a sister company, thereby creating a registrable international interest in the pledgee's favour.

4.2.4. Registration and/or recording of information other than international interests and sales

A Contracting State may make a declaration stating which non-consensual rights or interests are registrable in relation to any category of object as if the right or interest were an international interest.¹⁰¹ This implies that different declarations can be made for different objects. Generally there would be specific lists of categories, for example judgment creditors, which would come into this list as a type of interest. However, it is possible for a Contracting State then to apply the list in one protocol to certain assets and not to the assets covered in

⁹⁹ Article XIII of the Luxembourg Rail Protocol.

¹⁰⁰ For example in relation to a third party purchasing an asset bona fide without notice of the owner's interest.

¹⁰¹ Article 40 of the Convention.

a second protocol. The first rule will be to be as transparent as possible, and therefore Contracting States are encouraged to make specific declarations under Article 40 rather than allow there to be overriding rights where registration is not required pursuant to Article 39. It remains to be seen how Contracting States will use this declaration possibility in relation to railway rolling stock. The most obvious area of focus will be on track charges where, in many jurisdictions in the future, we can expect independent charging regimes for all operators gaining access to a specific rail system. However, on the rail side with a mixture of assets, the approach in certain Contracting States could be more sophisticated. For example, it may be necessary to make a declaration under Article 40 in relation to conventional railway rolling stock but not in relation to trams. Careful thought will need to be given to this in practice, particularly as sometimes tram or light rail vehicles may be travelling on standard gauge state-owned tracks. Certainly, as these declarations are being considered, the experience of the Aircraft Protocol will be most helpful. In addition, Contracting States will need to take care to ensure that any declaration in relation to railway rolling stock will effectively apply without discrimination. The scope for a declaration in Article 40 is by reference to 'any category of object' and not by reference to the debtor or operator.

4.3. Operational aspects¹⁰²

4.3.1. Designated entry points

Following Article 18 of the Convention, the Luxembourg Rail Protocol broadly follows the Aircraft Protocol in creating facility for Contracting States to nominate 'designated entry points' for registrations of international

¹⁰² This section focuses principally on legal issues arising when operating the International Registry. For a useful discussion of some of the practical issues the Registrar will have to cover, see Elizabeth Hirst and Nicolas Gavage, 'The International Rail Registry and The Luxembourg Rail Protocol to The Cape Town Convention—Global Registration of Mobile Assets' 46 *Uniform Commercial Code Law Journal* 359 (2015).

interests (but all searches must be made directly at the International Registry). The only material difference is that whereas in the Aircraft Protocol, it is not necessary to register an international interest on engines through any designated entry point, this is not relevant on the railway side. On the other hand, since, as discussed above, contracts of sale are not themselves constituting enforceable rights under the Protocol, the registration of notices of sale under the Luxembourg Rail Protocol should be made directly with the International Registry. The designated entry point may not be used for the registration of a notice of a national interest or other right or interest under Article 40 of the Convention¹⁰³ in either case arising under the law of another state.¹⁰⁴

But there must be strong doubt as to whether the operation of designated entry points in the context of the Luxembourg Rail Protocol is either necessary or practicable.

Because of the maintenance of national aircraft registries recording both ownership and security interests in airframes, it was clearly considered important to have the facility to reconcile the registration regime under the Aircraft Protocol and the Cape Town Convention with the national registrations. One way to do this is to allow the national registries to act as the intermediary between the registering party and the International Registry in relation to registrations of international interests.¹⁰⁵ This is not, however, a concern for the Luxembourg Rail Protocol, since there are no national registries.¹⁰⁶ Furthermore, as noted above,

¹⁰³ That is, a non-consensual right or interest.

¹⁰⁴ Article XIII (1) of the Luxembourg Rail Protocol.

¹⁰⁵ As occurred in the United States where registrations are made through the Federal Aviation Administration in Oklahoma.

¹⁰⁶ Section 12.1 of the Aircraft Regulations acknowledges this nexus as a prerequisite for registration in this way. The equivalent section in the draft Rail Registry Regulations (13.1) is not so specific and may need further revision, not least to deal with Contracting State authorisation codes. The draft Space Regulations adopt wordings that closely follow the Aircraft Regulations (section 12.1).

since there is no commonly accepted methodology for uniquely and permanently identifying railway rolling stock, and the most likely situation is that the identifier will be issued by the International Registry, it must make little sense to divert registration through a national agency. But there are some quite difficult practical problems with using a designated entry point.

Whereas any national designated entry point for aircraft will exclusively cover the assets subject to an international interest under the Aircraft Protocol (aside from engines, which are specifically excluded), it is extremely unlikely that there would ever be one national or regional agency covering all the types of railway rolling stock as defined in the Luxembourg Rail Protocol. This means that there could be more than one national agency potentially responsible for various specific types of railway rolling stock. In addition, there is the question of liability. What if the intermediary agency does not fulfil its function correctly and delays processing a registration, resulting perhaps in a third party registering an international interest ahead of one being registered through the designated entry point? Or what if the wrong information is conveyed to the International Registry? The Registrar cannot be expected to carry this liability.

Since, unlike for aircraft, there is no nexus between the asset and a national registry where it will to some extent acquire nationality based on the location of its registration in a national register, it is extremely unclear as to when a registration is required to be made through a designated entry point, even if nominated by a Contracting State. The applicability of the provision must be linked to the principal location of the debtor or the rolling stock.¹⁰⁷ What happens when there is a succession of debtors located in different countries, for

¹⁰⁷ Professor Goode rightly states that any designation is 'unlikely to be effective unless made by a State which has the necessary degree of control either over the object, where the registrant is a national of that State or the rolling stock is situated in that State.' Official Commentary (Rail), at para 4.137.

example if the railway rolling stock is principally operating in country A and leased to a lessee operating in that country (which has elected to require registration through a national registry) but the lessor is based in country B and the lessor in turn finances the receivables through a loan secured on the railway rolling stock or through a sale and lease back with a creditor located in country C? This would make concurrent closing and registration extremely difficult and creates some real risks as to the priorities of the respective creditors in relation to their international interests. This is exacerbated by another problem that could unintentionally affect the priorities of the registered interests, bearing in mind that the first registered international interest has priority over any subsequently registered interest unless otherwise agreed between the holders of the competing interests,¹⁰⁸ namely that the designated entry point is only required to operate 'at least during working hours' in its territory,¹⁰⁹ whereas the International Registry will be operating continuously.¹¹⁰

So this will all create considerable uncertainty for any creditor as well as lead to additional transactional and registration costs. It must be far more efficient and cost-effective for all registrations to be made directly in the International Registry.

4.3.2. Multiple registrations

There are about 1.6 million freight wagons and locomotives operating in North America on the major railroads.¹¹¹ The Indian railways have a fleet of over 250,000 freight wagons. Compared with aircraft, railway rolling stock generally comes in less expensive packages but in higher volumes. Financings will rarely be for one locomotive or even a handful of

wagons. One of the particular challenges therefore for the International Registry for railway rolling stock will be how to accommodate financings of groups of assets and then searches against both groups and individual assets. It is not practical to expect a debtor and a creditor engaged in the financing of, say, 100 wagons, to force them to register each wagon individually.

The draft Rail Registry Regulations set out a specific requirement for the International Registry to provide

for a method or methods for group registrations and group searches, which may be further delineated as to type and other factors, consistent with filings and search solutions in the International Registry Procedures which accommodate current railway rolling stock financing practices.¹¹²

So the International Registry software will need to accommodate the deposit with the International Registry of a schedule listing multiple items of railway rolling stock in a prescribed format (for example, an Excel spreadsheet), which can be used both as an attachment to the actual contract between the parties and as a document from which the information can be transposed into the International Registry itself. Of course, whether the railway rolling stock is new or old, it will need to be identified by reference to the respective URVIS numbers for each item.

We anticipate that when the registration takes place, the Registrar will allocate a file number against the group registration. This will then allow third parties to search against the file number and therefore the group of assets rather than having to search against each asset individually, as well as facilitate the registration of any substitute railway rolling stock within a particular finance package (for example, if a wagon is destroyed and then replaced). Such substitution will also need the consent of the creditor and debtor to be registered at the International Registry. It will also

¹⁰⁸ Article 29 of the Convention.

¹⁰⁹ Article XIII (1) of the Luxembourg Rail Protocol.

¹¹⁰ Article XV (4) of the Luxembourg Rail Protocol.

¹¹¹ American Association of Railroads, Class I Railroad Statistics 2014, published 3 May 2016, available at www.aar.org

¹¹² Section 5.5 of the draft Rail Registry Regulations.

make deregistration of groups of international interests easier.

We expect also that the International Registry will have sufficient flexibility to accept additional items of railway rolling stock as part of the group of financed assets under a specific existing file number. This would be important in the case of a creditor subsequently requiring additional collateral against the financing where, for example, the loan-to-value ratio covenant has been breached.

This facility will be of great practical use in two other circumstances. If the creditor chooses to syndicate, assign, pledge or otherwise lay off its loan or lease receivable together with the related collateral, being the security interests in rolling stock, to a syndicate of bankers or other financiers, the registration of the assignment of the collateral by reference to a group registration of international interests makes the process much more efficient. In the second case, if a lessor leases 50 wagons to an operator, registers its international interest in that group of 50 wagons and subsequently discounts the lease receivables with the security of the wagons with a third-party bank or other creditor, it will be easy for the bank to register its, presumably subordinate, international interests against that group of assets.

Being able to search against a specific file number representing a group of assets has clear operational advantages. As part of its annual audit, the creditor will be able to obtain verification of its security position from the Registrar easily, rather than having to search against each individual asset. Where an assignment of international interests takes place, or where a lessor is discounting receivables and also securing its financing with the leased rail assets, the ability of the prospective assignee or creditor to conduct its due diligence by reference to a group registration will be very helpful and efficient. The same will apply to sales of packages of railway rolling stock.

4.3.3. Relationship with registries for regulatory purposes

Even if no designated entry points are stipulated by a Contracting State, this does not mean that there should be no relationship with national or regional registries that may be focused on different issues. For example, it may be very helpful for there to be a direct line of contact and even links between the International Registry and national or regional registries focused on the immatriculation and operation of railway rolling stock. There are already working links with the European Union Agency for Railways,¹¹³ and work is ongoing to explore where and how the European Vehicle Number, the running number on the side of locomotives and conventional wagons, can be registered with the URVIS number both in the International Registry and in the European Vehicle Registry (EVR), and searched against, once the EVR fully comes into operation. Consideration is also being given to allowing regional registries to become distributors of URVIS numbers, thereby facilitating a producer or operator receiving a running number and an URVIS number at the same time from the same agency. In this case, the regional registry would receive a block of numbers from the International Registry and then gradually allocate them as and when requested to do so.

There are also discussions in areas where there are common interests, for example the physical tracking of railway rolling stock, how best to access tracking technology and how any unique identifier should be marked on existing and new railway rolling stock as cost effectively as possible. But the linkage with regional or national registries has to be by agreement; it cannot be forced on the International Registry. The draft Rail Registry Regulations make this clear:

Implementing or amending any procedures or mechanisms that involve declared national or regional systems shall require agreement between the Registrar and that system or

¹¹³ Formerly the European Railway Agency; renamed on the entry into force of the technical pillar of the 4th railway package in 2016.

systems and absent agreement cannot be imposed on that system or systems or vice versa.¹¹⁴

4.3.4. *Innovations imported from the Aircraft Registry: registration of fractional and partial interests*

As they currently stand, the draft Rail Registry Regulations make no provision for registrations of or searches against fractional interests in railway rolling stock. The aircraft regulations introduced this concept in response to a specific industry segment whereby fractional or undivided interests in aircraft, particularly corporate jets, are offered in the market under sale or lease contracts. There is no such corporate railway rolling stock or, at an investment level, any situations at the moment where investors would purchase an undivided interest in a package of rail equipment. Nonetheless, this could change, and any provisions would then be introduced through a revision to the registry regulations.

4.4. *Liability and financial integrity of the Registrar*

4.4.1. *Limiting the liability of the Registrar*

It is absolutely critical that the Registrar be always in a position to fulfil its duties throughout the term of its appointment. So the financial strength of the Registrar on the one hand, and its vulnerability to any claims from third parties on the other, must be assessed very carefully. In all three Protocols, the fees are essentially set by reference to the need to recover the cost of establishing, implementing, and operating the respective International Registry.¹¹⁵ This potentially creates tension, because each industry will want to keep

registration and search fees as low as possible, and so has an interest in the Registrar generating additional fees from other activities, provided of course that this does not create incremental liability for the Registrar. Let us take each of these points in turn.

Article 28 of the Convention makes it clear that in principle, the Registrar has unlimited liability for compensatory damages for a loss suffered by a third party directly resulting from an error or omission of the Registrar and its officers and employees or from a malfunction of the international registration system 'except where the malfunction is caused by an event which could not be precluded by best practices'.¹¹⁶ The Registrar is not responsible for any factual inaccuracy of registration information received by it, and there are provisions for contributory negligence¹¹⁷ reducing any claim on the Registrar. There is also a requirement on the Registrar to insure against this liability in accordance with the Protocol and otherwise as determined by the Supervisory Authority.¹¹⁸ The Aircraft and Space Protocols provide also that there should be a minimum level of insurance or financial guarantee. In the Aircraft Protocol, it is clear that the coverage should be 'not less than the maximum value of an aircraft object as determined by the Supervisory Authority'.¹¹⁹ The Space Protocol uses the same system but sets out the minimum cover in the regulations.¹²⁰

By contrast, the Luxembourg Rail Protocol sets out to limit liability of the Registrar. Article XV states that liability should be limited to an amount not exceeding 'the value of the railway rolling stock to which the loss relates' but with an overall cap of 5 million special drawing rights (SDRs) 'or such greater amount, computed in such manner, as a Supervisory Authority may from time to

¹¹⁴ Section 15 of the draft Rail Registry Regulations. Both the Registrar and the Supervisory Authority will be watching carefully for anything that could adversely affect the operational integrity of the International Registry.

¹¹⁵ Article XX (3) of the Aircraft Protocol; Article XVI (2) of the Luxembourg Rail Protocol; Article XXXII (4) of the Space Protocol.

¹¹⁶ Article 28 (1) of the Convention.

¹¹⁷ Article 28 (3) of the Convention.

¹¹⁸ Article 28 (4) of the Convention.

¹¹⁹ Article XX (5) of the Aircraft Protocol.

¹²⁰ Article XXXII (6) of the Space Protocol.

time determine by regulations'.¹²¹ This limitation of liability does not apply in relation to damages for loss caused by gross negligence or intentional misconduct of the Registrar or its offices and employees.¹²² But there are two problems. If there is an annual cap of 5 million SDRs, and the claims exceed that amount, how is the liability on each claim reduced? Will it be on a first-come-first-served basis whereby claims in the early part of the year, before the limit is used up, are paid out in full? Or will it be pro rata, in which case one has to wait until the end of the year to calculate the total amount of the claims. The draft Rail Registry Regulations seek to solve this problem by making it clear that the limitation on liability is not more than 5 million SDRs 'per event of loss'.¹²³ The Supervisory Authority is empowered to come to this position based on the wording in the Protocol 'or such greater amount, computed in such manner, as the Supervisory Authority may from time to time determine by regulations'.¹²⁴

The second problem is to define what actually constitutes an event of loss. This is important because the policy objective of the limitation of liability is not just to protect the Registrar directly from excessive claims but also to keep down its costs in terms of liability insurance cover, because this in turn will be reflected in the fees charged by the Registrar. So the regulations provide clearly that an event of loss 'comprises all losses suffered as a result of the same error or omission or malfunction in so far as the losses are compensable under Article 28 (1) of the Convention'.¹²⁵

The draft Rail Registry Regulations also set out a clear procedure for pursuing claims against the registrar.¹²⁶

Once the limitation of liability is clearly established, setting insurance coverage is relatively easy, since effectively the Supervisory Authority needs to ensure that there is sufficient cover for the actual potential liability. Accordingly, the draft Rail Registry Regulations make it clear that the insurance cover must be not less than 5 million SDRs per event of loss.¹²⁷

The draft regulations also make clear that one error or omission or malfunction relating to a number of items of railway rolling stock registered as part of one group registration must still be considered as one event of loss and not several.¹²⁸

4.4.2. *Level of charges and possible ancillary services provided by the Registrar*

Bearing in mind that the International Registry fees for various services will be set by reference to the ability to recover the cost of establishing, implementing and operating the International Registry, plus other ancillary costs,¹²⁹ over the term of the contract with the company designated to run the International Registry, the concern from the industry has always been to keep these fees as low as possible, which in turn will encourage maximum usage and make the International Registry itself as inclusive as possible, effectively creating a virtuous circle. On the other hand, the industry considers that if the fees are too high, this will discourage usage, and this in turn will create a vicious circle, where the fees will have to be increased so as to cover the International Registry's costs, many of which will be fixed and not variable with usage. Accordingly, considerable thought was given during the negotiations between the Preparatory Commission and the

¹²¹ Article XV (5) of the Luxembourg Rail Protocol.

¹²² Article XV (6) of the Luxembourg Rail Protocol.

¹²³ Section 16.4 of the draft Rail Registry Regulations.

¹²⁴ Article XV (5) of the Luxembourg Rail Protocol.

¹²⁵ Section 16.4 of the draft Rail Registry Regulations.

¹²⁶ Section 16.2 *ibid.*

¹²⁷ Section 16.5 *ibid.*

¹²⁸ Section 16.6 *ibid.*

¹²⁹ Article XVI (2) of the Luxembourg Rail Protocol.

proposed Registrar, to allowing the Registrar to generate alternative and additional sources of revenue. Without betraying the confidential commercial relationship between the Preparatory Commission, as the predecessor of the Supervisory Authority,¹³⁰ and the Registrar designate, the contract between them makes specific provision for the Registrar to provide ancillary services to the public in addition to the core services that need to be provided to operate the International Registry in accordance with the Protocol. This could include using the website, running training programmes and other services related to, but not part of, the core obligation of the Registrar to run the International Registry, such as, for example, providing services to monitor the physical location of the railway rolling stock. In each case, though, this will need the prior consent of the Supervisory Authority. What will be uppermost in the mind of the Supervisory Authority is whether the provision of ancillary services creates incremental liabilities that in turn could impact the ability of the Registrar to perform its principal role: to run the International Registry in accordance with the Protocol. So, for example, the Supervisory Authority will certainly look at any insurance coverage for any incremental liability, as well as the contractual provisions relating to the supply of any ancillary services. Nonetheless, the Supervisory Authority will encourage the provision of ancillary services as a way of keeping the fees for basic services as low as possible, as long as the liability issue is covered.

5. Space Registry

5.1. Overview of the International Registry for space assets

For the establishment of the International Registry under the Space Protocol (hereinafter as 'Space Registry'), the initial step of preparatory work is almost being completed. Soon after the

¹³⁰ Under Resolution No. 1 of the Final Act of the Diplomatic Conference to adopt the Luxembourg Rail Protocol, in Luxembourg in February 2007.

Diplomatic Conference adopted the Space Protocol in March 2012, the Preparatory Commission was convened pursuant to the Resolution No. 1 of the Diplomatic Conference. Having had four sessions of meeting, the Commission has drafted the Registration Regulation. The Preparatory Commission also has agreed on the process for contracting with the Registrar. The Request for Proposals for the selection of a Registrar is yet to be finalised.

The Space Registry has uniqueness when compared with the Aircraft and Rail Registries. On the one hand, no state has ever set up a title registry (registry of private rights) dedicated exclusively to space assets. In some countries, space assets may be covered by the registry for security interests in personal property. The registry in such a case is a debtor-based one, not an asset-based one. This is in contrast to the almost universal existence of asset-based registry for private rights (title and mortgages) for aircraft. On the other hand, there have existed global registries under the regime of public international law. The Registry of space objects administered by the Secretary General of the United Nations was established pursuant to the United Nations General Assembly Resolutions 1721 (XVI) B of 20 December 1961, restated later by the Registration Convention of 1974. There is also the Registry held by the ITU for the use of radiofrequency. Such coexistence with regulatory registries is also a unique background of the Space Registry, which requires due consideration when designing the Registry.

5.2. Transactional issues

5.2.1. Identification of space assets

5.2.1.1. *Problem with identification of space assets.* Already at the Diplomatic Conference adopting the Space Protocol, finding identification criteria for registration of international interests in space assets was a big challenge. It was why the Space Protocol referred the issue entirely to the Regulations by providing that '[a] description of a space asset in accordance with the criteria for identification provided by

the regulations is necessary and sufficient to identify the space asset for the purposes of registration in the International Registry'.¹³¹

One of the problems was the absence of any universal system for serial numbers to be allocated to space assets. Although manufacturers allocate serial numbers to space assets and most of the components for the purposes of controlling the production process, they differ from one manufacturer to another, and no coordinated system exists. The survey to industry experts made by the Preparatory Commission has only revealed that the practice varies significantly across states, or possibly across manufacturers as well.

Furthermore, it was always recognised that the identification criteria must be consistently used from the production process throughout the life of space assets in orbit. Financing of a space asset may take place, on the one hand, before its production commences or while it is being assembled and, on the other hand, after the space asset is launched into orbit. The former aspect made it useless to refer to existing denominators of space objects, most typically the identification number obtained from COSPAR (Committee on Space Research), as such a number is available only for space objects in orbit. The latter aspect, however, gave rise to no less a difficult question, as a spacecraft, once in orbit, cannot be physically reached from the earth. This means that a serial number on a space asset, if any, cannot be checked or confirmed by looking at it.

5.2.1.2. Unique identification number and unique identification file. At one point, the Preparatory Commission considered whether one can rely on contract reference numbers allocated by the manufacturer in the production process as a unique identifier. However, the contract reference number was found to cause a problem, in particular if used to identify a payload or its part, including transponders. A

¹³¹ Article XXX of the Space Protocol.

contract reference number for the spacecraft on which such a payload or part is to be installed may not consistently refer to a specific payload or part throughout the production process. When two or more satellites are in parallel production, a plan about which satellite to carry which payload can be changed in the process, depending on the progress with the production of satellite bus or other components of each. A payload may have its own contract reference number, but the relevant contract can be a contract between the assembler and payload manufacturer, not the purchaser and assembler.

Against all these backgrounds, the Preparatory Commission decided to adopt an approach inspired by the Rail Registry. The Space Registry Regulations basically require a 'unique identification number',¹³² which is an identifier issued by the Registrar. The process for issuance of unique identification number is provided in Annex 2 of the Space Registry Regulations. The owner of a space asset may request issuance of a unique identification number by providing the Registrar with (a) the name of the owner, (b) the name of the manufacturer, (c) the manufacturer's contract reference number and (d) the category of space asset.¹³³ The Registrar shall issue a unique identification number if it appears that no unique identification number has previously been issued for the space asset. If it appears that a unique identification number has previously been issued for the space asset, the Registrar shall provide the existing unique identification number to the owner.¹³⁴ The idea of unique identification number addresses the problem of the lack of internationally coordinated system for allocating serial numbers.

The Registrar shall then create a 'unique identification file' for each space asset for which the unique identification number is

¹³² Section 5.3 of the Space Registry Regulations.

¹³³ Section 2, Annex 2 of the Space Registry Regulations.

¹³⁴ Section 3, Annex 2 of the Space Registry Regulations.

issued and record the unique identification number in the file.¹³⁵ It is in this file that an international interest, when effecting its registration, is recorded. Additional information to be used for reference, though not for determining priority, is also recorded in the same file.¹³⁶ The system is equivalent to a land title registry or vessel title registry, in which a file is first created for a piece of land and then titles to that land are recorded.

5.2.1.3. Additional information. The additional information that can be recorded is specified in Annex 1 of the Space Registry Regulations according to the type of space assets. For a spacecraft, it is either (a) the Coordinated Universal Time (UTC) of the launch and the place of the launch or (b) any COSPAR unique identifier. For a transponder or other communications equipment (the latter being relevant for optical beaming communications), it is the frequency band or bands and signal polarisation on which the communications equipment is capable of operating. For other types of payload, Annex 1 does not specify any information to be required besides either (a) the UTC of the launch and the place of the launch or (b) any COSPAR unique identifier, not least because the Preparatory Commission could not find sufficient practice of financing them. For other parts of a spacecraft or a payload, the Annex 1 again is not elaborated and refers solely to either (a) the UTC of the launch and the place of the launch or (b) any COSPAR unique identifier. Once financing of such parts other than transponders actually comes in practice, the list might need to be amended.

Although it may be recommended to provide additional information once the space asset is launched into outer space, this is not obligatory.¹³⁷ It is obvious that a duly registered

¹³⁵ Section 5.3 bis of the Space Registry Regulations.

¹³⁶ Section 5.3 bis (d) of the Space Registry Regulations.

international interest should not be invalidated by the failure to provide such additional information. The consideration is all the more relevant, given that the additional information is not always available to creditors.

5.2.1.4. Problem of physical identification. The additional information may help identify the spacecraft once they are launched and, therefore, be useful in addressing a problem of impossibility to physically access the spacecraft in orbit. Still, there could be a possibility for an owner of the space asset to cheat the creditor by pointing to a wrong space asset in orbit and making the creditor believe that it is the space asset in which a registered international interest is created. Thus, the problem of physical identification is not entirely solved.

In practice, the creditor may find it essential to have access to tracking data, as it enables the creditor to know the exact orbit that the space asset launched at a specific time and place is currently on. The creditor may include the right to have access to tracking data in the covenants for financing agreement. It may even obligate the debtor, or the TTC (Telemetry, Tracking and Command) service company employed by the debtor, to submit the tracking records periodically. Such practice will be in line with the enforcement measure under the Space Protocol to use an alternative command code kept in escrow to take indirect possession of the space assets when the debtor defaults.¹³⁸ In this latter situation, too, the creditor will need to have access to the TTC service. A financing agreement will elaborate on the details and conditions of creditor's right in this regard.

5.2.2. Definition of space assets

5.2.2.1. Bankability of space assets other than a spacecraft. Under the Space Protocol, a space asset covers not only a spacecraft, but also a

¹³⁷ Section 5.11bis of the Space Registry Regulations.

¹³⁸ See Article XIX of the Space Protocol.

payload (whether telecommunications, navigation, observation, scientific or otherwise) or a part of a spacecraft or payload such as a transponder. The latter two types of asset can qualify as a space asset only to the extent that 'in respect of which a separate registration may be effected in accordance with the regulations'.¹³⁹ While there are various kinds of payloads and parts of a spacecraft or a payload, delegations at the Diplomatic Conference could not find which of them will be subject of financing transactions in practice. Up to now, the only known practice has been financing (leasing) of communication satellites' transponders. However, no one can predict future practice, not least in the face of hosted payload schemes for communications satellites¹⁴⁰ and PPP (public private partnership) schemes for remote sensing satellites gaining popularity.¹⁴¹ Against these backgrounds, it was delegated to the Supervisory Authority to make judgments from time to time on what types of a payload or a part can be the subject of financing transaction ('bankable') and, as such, needs to be covered by the Space Registry Regulations.

The current Space Registry Regulations, as approved by the Preparatory Commission in its fourth session, distinguish 'transponders or other communication equipment' and other payloads and parts, namely 'observation payload,' 'navigation payload,' 'scientific payload' and 'other parts of a spacecraft or payload'. For the latter types of assets, the Annex 1 to the Space Registry Regulations includes an Explanatory Note to the extent that the bankability of these types of assets is yet to be tested. This means that the Space Registry will start accepting registrations only

in spacecraft and transponders or other communication equipment until revisions are made to the draft Space Registry Regulations.

5.2.2.2. *Information about the physically linked space asset.* Recognising international interests in a payload or part (transponder) is the Space Protocol's unique feature, which does not exist in either the Aircraft or Luxembourg Rail Protocol. Under the Aircraft Protocol, an international interest can be created in an engine. However, it does not overlap with international interests in airframe, which apparently means an object excluding engines.¹⁴² In the case of helicopter engines, an international interest disappears once installed on a helicopter (see above at 3.2.2). To the contrary, a payload or transponder consists of part of a spacecraft, which may be subject to another international interest. As a result, there is a possibility that two international interests conflict with each other when being enforced.

The solution under the Space Protocol was to apply a rule equivalent to the priority rule under the Convention. While this is not the problem of priority as such, because the space assets at issue are different, it was considered reasonable to give deference to the international interest registered earlier (whether in the spacecraft or the payload or transponder). To be more precise, the Space Protocol provides that

[u]nless otherwise agreed, a creditor may not enforce an international interest in a space asset that is physically linked with another space asset so as to impair or interfere with the operation of the other space asset if an international interest or sale has been registered with respect to the other space asset prior to the registration of the international interest being enforced.¹⁴³

This means that a creditor, when effecting registration in a space asset, needs to know not only the pre-existing international interests

¹³⁹ Article I (2)(k) of the Space Protocol.

¹⁴⁰ Maria Buzdugan, *Satellite Financing through Hosted Payloads: Benefits and Challenges*, *Air and Space Law*, Vol. 36, p. 139 (2011).

¹⁴¹ See Fabio Tronchetti, *Legal aspects of satellite remote sensing*, in: Frans von der Dunk & Fabio Tronchetti (eds), *Handbook of Space Law*, p. 501 at p. 544 (2015, Edward Elgar).

¹⁴² See the definition in Article I (2)(e) of the Aircraft Protocol.

¹⁴³ Article XVII (3) of the Space Protocol.

in the same space asset, but also those in other space assets that are physically linked to the former.¹⁴⁴

To enable such a search, the Space Registry Regulations require, when a registration is effected with regard to an international interest in a payload or a part of a spacecraft or payload (transponder), the unique identification number of the spacecraft to which the payload or the part is attached (satellite bus).¹⁴⁵ This information is again filed in the unique identification file of the relevant space asset. If such information is duly provided, a search of a spacecraft with its unique identification number will retrieve registrations in a space asset that is attached (physically linked) to it. If the registration of an international interest in a payload or transponder fails to provide the unique identification number of the spacecraft that carries the payload or transponder, that registration is an invalid registration, and its holder shall not be entitled to claim the right to exclude interference or impairment under Article XVII (3) of the Space Protocol.

A complexity may arise if an international interest is registered in a payload or transponder before it is attached to a spacecraft. In this situation, the registration cannot include the unique identification number of the spacecraft, which could betray the reliance of a creditor that later searches the Registry with regard to the spacecraft and finds no registration. A practical solution may be for the creditor of a spacecraft to demand declaration by the debtor about the existence of any payload or transponder already attached in a reps & warranties clause and require the debtor to notify before a new payload or transponder is going to be attached (and the latter's unique identification number). Then the creditor can carry out a search against the payload or transponder that

is going to be attached and, if necessary, enter into negotiations with the creditor in the latter.

5.2.3. *Registration of sales*

The Space Protocol followed the Aircraft Protocol in extending the registration system to sales.¹⁴⁶ It might appear slightly surprising, as no state has ever established a domestic registry over a title (ownership) to a space object. The fact is in sharp contrast to the existence of title registry for aircrafts in several states. It being said, the International Registry is not a title registry anyway. Furthermore, as sales of space assets, in particular sales on orbit, will take a long time in clearing various regulations,¹⁴⁷ a seller may find it useful to protect their priority by registering sales.

5.2.4. *Registration and/or recording of information other than registration of international interests and sales*

5.2.4.1. *Recordation of a rights assignment.* A rights assignment is a defined term under the Space Protocol to refer to a

contract by which the debtor confers on the creditor an interest (including an ownership interest) in or over the whole or part of existing or future debtor's rights to secure the performance of, or in reduction or discharge of, any existing or future obligation of the debtor to the creditor which under the agreement creating or providing for the international interest is secured by or associated with the space asset to which the agreement relates.¹⁴⁸

'Debtor's rights' is also a defined term that means 'rights to payment or other performance due or to become due to a debtor by any person with respect to a space asset'.¹⁴⁹ The rights

¹⁴⁴ For example, if a creditor is effecting a registration in a transponder on a communication satellite, they need to check registrations in the satellite that carries the transponder as well as registrations in other transponders (or payloads) on the same satellite.

¹⁴⁵ Section 5.3 (c) (ii), (iii) of the Space Registry Regulations.

¹⁴⁶ Article IV of the Space Protocol.

¹⁴⁷ The regulations such as those on licensing of space activities, authorisation of frequency use, export controls and national security remain applicable, without being affected by the Space Protocol. See Article XXVI of the Space Protocol.

¹⁴⁸ Article I (2)(h) of the Space Protocol.

¹⁴⁹ Article I (2)(a) of the Space Protocol.

assignment will enhance the value of space assets as security, as the assigned debtor's rights are the source of revenue from the operation. Because space assets cannot be exported from one state to another¹⁵⁰ and even moving a space asset from one orbit to another may entail practical hurdles (owing to the consumption of fuels, among others), introducing the rights assignment as accompaniment of international interests was considered necessary to make the Space Protocol as a commercially viable instrument.

A rights assignment must be made by identifying a specific debtor's right that is assigned.¹⁵¹ As an implication, it is not excluded to assign a debtor's right according to the general applicable law unless a rights assignment under the Space Protocol is made in its regard. However, once the rights assignment is recorded, it always prevails over a general assignment of a debtor's right, as there is no means to register or record a general assignment of a debtor's right in the International Registry and, therefore, the assignee of such a general assignment always remains as unregistered. In practice, no one will be interested in being assigned a right of a space asset's owner once an international interest is registered with regard to the space asset.

A rights assignment may be recorded in the Space Registry only as part of a registration of an international interest.¹⁵² No independent recording is allowed.

The Space Registry Regulations require the unique identification number of the space asset as well as the file number of the registration relating to the international interest in respect of which the rights assignment is to be recorded.¹⁵³ No information is specified to identify the debtor's right to be assigned, while the Space Protocol provides that a

recording 'may identify the rights so assigned or acquired either specifically or by a statement that the debtor has assigned, or the holder of the international interest or prospective international interest has acquired, all or some of the debtor's rights, without further specification.'¹⁵⁴ It is not clear from the Space Registry Regulations what can be done if the assignee does wish to specify the rights assigned to it or to announce that it has acquired all of the debtor's rights according to the Protocol.¹⁵⁵

5.2.4.2. *Registration of a public service notice.* The registration of a public service notice, despite the use of the same term 'registration', is different in nature from the registration of an international interest.

Firstly, it is not a registration of a right or interest that entitles a party to exert some power, but rather a flag to denote that the space asset accompanied by a registered public service notice is subject to special rules for the enforcement of an international interest. If an international interest exists in a space asset that is the subject of a public service notice, the creditor

may not, in the event of default, exercise any of the remedies ... that would make the space asset unavailable for the provision of the relevant public service prior to the expiration of the period specified in a declaration by a Contracting State.¹⁵⁶

Technically, the whole Article applies only when a public service notice is registered. Still, the basic idea of the provision derives from the desire to ensure continued provision of a public service in case the debtor defaults, and the notice is required to make the creditor aware of the possibility of limitation in the exercise of its right, and enable it possibly to

¹⁵⁰ Note that all the regulations on national security and export controls will remain applicable. See Article XXVI of the Space Protocol.

¹⁵¹ Article IX (a) of the Space Protocol.

¹⁵² Article XII (1) of the Space Protocol.

¹⁵³ Section 5.6bis of the Space Registry Regulations.

¹⁵⁴ Article XII (1) of the Space Protocol (emphasis added).

¹⁵⁵ A statement described in free texts might possibly be attached and filed together with the record, though the use of free text may not be the ideal solution.

¹⁵⁶ Article XXVII (3) of the Space Protocol.

reflect that possibility in the conditions of financing in advance.

Secondly, a public service notice is registered based on the agreement of the parties to a public service agreement (most typically the operator of the satellite and the provider of a public service) and the Contracting State in which the public service is provided.¹⁵⁷ The Space Registry Regulations, in turn, require that the names of the parties to the public service agreement as well as the consent of them and of the relevant Contracting State be 'given under an authorization' for effecting a registration of a public service notice.¹⁵⁸ These rules imply that the creditor is not involved in the registration and needs to be notified of such a registration. Therefore, the creditor is included in the recipient of information notices from the International Registry in case of a public service notice.¹⁵⁹ In practice, though, the creditor may require consultation before the debtor gives consent to a registration of a public service notice in the covenants of a financing agreement, as the registration of a public service notice has such significant impact on its right.¹⁶⁰

Thirdly, a public service notice does not affect an international interest registered prior to the registration of a public service notice on condition that the international interest was created pursuant to an agreement made before the conclusion of the contract with the public services provider and that at the time the international interest was registered, the creditor had no knowledge that such a public services contract had been entered into.¹⁶¹ The exception to this rule is recognised in the case of a public service notice registered no later than six months after the initial launch of the space asset.¹⁶² This exception is included

to address the situation where the use of a space asset is determined after it is launched into orbit¹⁶³ (which is usually not the case). However, the Space Registry Regulations require no information regarding the timing of launch. As a result, whether the public service notice is registered within six months of the launch of the space asset is not immediately evident from the data in the Registry. It will be raised by the debtor (or other relevant party) as a defence to limit the exercise of the international interest, once the debtor is in default.

5.3. Operational issues

5.3.1. Designated entry points

As in other Protocols, a Contracting State of the Space Protocol may designate an entry point(s) for registration.¹⁶⁴ The Space Registry Regulations again follow the two preceding Regulations in dividing such entry points into two categories, namely (a) 'authorizing entry point,' which shall or may authorise the transmission of information required for registration under the Convention and the Protocol to the International Registry and (b) 'direct entry point,' through which information required for registration under the Convention and the Protocol shall or may be directly transmitted to the International Registry.¹⁶⁵

In practice, there are two possibilities conceivable as such entry points. One is the registrar ('designated focal point' as mentioned in the UN General Assembly Resolution on Recommendations on Registration Practices¹⁶⁶) of the domestic registry of space objects, which the Registration Convention requires the launching State of a space object to

¹⁵⁷ Article XXVII (1) of the Space Protocol.

¹⁵⁸ Section 5.6ter (c), (d) of the Space Registry Regulations.

¹⁵⁹ See Sections 5.3 (g), 5.6ter (g) of the Space Registry Regulations.

¹⁶⁰ Official Commentary (Space), at para. 5.105.

¹⁶¹ Article XXVII (9) of the Space Protocol.

¹⁶² Article XVII (10) of the Space Protocol.

¹⁶³ Official Commentary (Space), at para. 3.93 (4).

¹⁶⁴ Article XXXI of the Space Protocol.

¹⁶⁵ Section 12.1 of the Space Registry Regulations.

¹⁶⁶ Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects (United Nations general Assembly Resolution 62/101, 2007).

maintain.¹⁶⁷ The coverage of the registry, in fact, can differ from that of the Space Registry, as the Contracting State (to the Space Protocol) in which the debtor is located is not necessarily the launching state of the space asset.¹⁶⁸ Furthermore, when the space asset is a payload or a part of spacecraft or payload, the space asset as such may not be registered as a space object.¹⁶⁹ The domestic regulator may notwithstanding wish to designate the registrar of its registry as the entry point and to grasp information about the space activities in which an entity located in the state is engaged.

Another possibility is to designate the agency in charge of radiofrequency coordination. As any operation of a space asset requires the use of radiofrequency, the debtor of a space asset under the Cape Town Convention is likely to apply for a right to radiofrequency in the state where it is located. If the ITU assumes the role of Supervisory Authority for the Space Registry, designation of a radiofrequency coordination agency as the entry point will make sense all the more. Still, the timing of application may differ, as the application for radiofrequency coordination must be made according to the timeline of ITU procedure, which requires bringing into use within seven years of the receipt by the ITU of the Advance Publication Information.¹⁷⁰ On the other hand, the registration of an international interest can take place much earlier, because under the Cape Town Convention's notice-

filing system, the registration is effected without the creditor giving the interest to the debtor.¹⁷¹

5.3.2. *Multiple registrations*

The draft Space Registry Regulations do not provide for 'group registration' as found in the draft Rail Registry Regulations (discussed above at 4.3.2). The assumption may be that, unlike financing of railway rolling stock, satellite financing will take place for each satellite. Given that plans for a constellation consisting of hundreds of satellites are advanced by some commercial companies, the assumption may need to be modified in the future. Still, the draft Space Registry Regulations may not impede financing arrangements involving several (even hundreds of) satellites to develop in practice. Just as the Aircraft Registry has developed to enable registering international interests against a group of several aircraft objects without a provision in the Aircraft Regulations on 'group registration' [discussed above at III.3. (b)], the Space Registry may be responsive, once the needs in practice are identified.

5.3.3. *Relationship with registries for regulatory purposes*

There are two other international registries relevant to space activities. One is the registry of space objects maintained by the Secretary General of the United Nations. The other is the Master International Frequency Register (MIFR) of the ITU. Both registries cover space objects for different purposes than the Space Registry. Therefore, there is no direct relationship or link between the Space Registry and these two registries. Such being the case, creditors registering international interests in the Space Registry may find it useful to make reference to two other international registries. Further, if the Space Registry comes to be

¹⁶⁷ Article II, para. 1 of the Registration Convention.

¹⁶⁸ While a State procuring the launch of a space object is also a launching State [Article I (a)(i) of the Registration Convention], how this provision is applied in case of a launch procured by a private (non-governmental) entity is disputed. Besides this issue, in the case of a lease, a lessee is unlikely to be considered as 'procuring a launch', while it is the debtor under the Cape Town Convention.

¹⁶⁹ In some cases, a component of a space object is recognised as a space object and registered [see Article I (b) of the Registration Convention]. However, it is doubtful that, for example, a hosted payload is registered as a separate space object in the domestic registry.

¹⁷⁰ No. 11.48 of ITU's Radio Regulations.

¹⁷¹ See section 3.2 of the Space Registry Regulations.

used widely by the space sector, it could have implications on the practice under the two other registries, given that the information to be filed is similar.

5.3.3.1. *UN registry of space objects.* The UN registry, established by the UN General Assembly Resolution 1721 (XVI), is maintained by the Secretary General of the UN. The primary purpose of this registry is to identify the launching state of a space object to enable victims, in case damages are caused by a space object, to pursue its liability under the international law.¹⁷² The registration practice has been developed pursuant to, first, the Registration Convention of 1972 and, more recently, by the UN Resolution of 2007 concerning recommendations on the registration practice.¹⁷³

The Registration Convention, currently ratified by 62 States, requires each state of registry to furnish a certain set of information to the UN Secretary General. They are: (a) name of launching State or States, (b) an appropriate designator of the space object or its registration number, (c) date and territory or location of launch, (d) basic orbital parameters, including (i) nodal period, (ii) inclination, (iii) apogee and (iv) perigee, and (e) general function of the space object.¹⁷⁴

The Resolution concerning Recommendations on the registration practice elaborates for the sake of uniformity that these information be furnished by referring to (i) the COSPAR international designator, where appropriate, (ii) UTC as the time reference for the date of launch, (iii) kilometres, minutes and degrees as the standard units for basic orbital parameters and (iv) any useful information relating to the function of the

¹⁷² Article VII of the Outer Space Treaty, elaborated by the Liability Convention, especially its Articles II & III.

¹⁷³ Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects, supra note 166.

¹⁷⁴ Article IV of the Registration Convention.

space object in addition to the general function requested by the Registration Convention.¹⁷⁵ It further commends to states to consider furnishing additional information on (i) the geostationary orbit location, where appropriate, (ii) any change of status in operations (inter alia, when a space object is no longer functional), (iii) the approximate date of decay or re-entry, if States are capable of verifying that information, (iv) the date and physical conditions of moving a space object to a disposal orbit and (v) web links to official information on space objects.¹⁷⁶

Comparing the information to be furnished under these instruments with the information to be filed under the Space Registry Regulations, the additional (though not obligatory) information for spacecraft includes either the COSPAR designator or the UTC and place of launch of the space asset, which is commonly found in the UN registry. It means that a user of the Space Registry can use the additional information to make reference to the UN registry and find out more information, such as the current orbit or whether the space asset is still functional or not. Note that such a reference will make sense, notwithstanding, only if the launching state furnishes the relevant information timely. It might imply that the debtor's financing conditions could be affected by the practice of the launching state. It will, in turn, affect the competitiveness of the launching company.

5.3.3.2. *MIFR of ITU.* The MIFR is a registry maintained by the ITU to record assignments of radio frequencies. In order to enable calculation of interference, technical particulars of the radio stations are included in the database. The reference to the satellite is by a unique name, not the COSPAR designator used in the UN registry, not least because the

¹⁷⁵ Para.2 (a) of the Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects (supra note 166).

¹⁷⁶ Para. 2 (b), *ibid.*

recordation in the MIFR is made much earlier than the launch of the satellite, while the COSPAR designator is allocated only after the object is launched in orbit.

The additional information filed under the Space Registry Regulations for transponders and other communication equipment is the frequency band or bands and signal polarisation on which the communications equipment is capable of operating. Such information is included in the MIFR, although in a more technical manner. A user of the Space Registry making a search can, if it so wishes, use this information and look into the MIFR to acquire more details about the transponder.

5.3.4. *Innovations imported from the Aircraft Registry: registration of fractional and partial interests and closing room*

The Regulations and Procedures for Aircraft Registry has developed a procedure to effect registration of a fractional interest, though the concept is not explicitly mentioned in the Convention or Protocols. The Official Commentary to the Aircraft Protocol states that the absence of the term 'fractional interest' in the text of the Convention or Protocols does not preclude a fractional interest from being registrable as a separate international interest.¹⁷⁷

The same understanding is accepted with regard to the Space Protocol,¹⁷⁸ and as a result, the Space Registry Regulations adopt the same rules for effecting a registration of a fractional or partial interest as those in the Rules and Procedures for the Aircraft Registry. Such a registration may be effected by specifying that (a) it covers a fractional or partial interest in a space asset and, if so, the extent of such interest and/or (b) multiple named parties hold

¹⁷⁷ Official Commentary (Air), at para. 2.47.

¹⁷⁸ The precisely same form of 'fractional interests' as that in aircrafts does not exist in space financing practice, but there are other forms of division of interests. See Official Commentary (Space), at para. 2.46.

or have granted an interest evidenced thereby.¹⁷⁹

It is yet to be seen whether the practice of sharing an interest in a space asset becomes popular. In the case of space assets, in particular communications satellites, sharing the capacity to use a set of transponders by a certain portion without specifying which transponders to which party may be realistic. Such an arrangement will also be covered by the concept of fractional or partial interest, as the concept is understood to cover undivided percentage interest for the Aircraft Protocol.¹⁸⁰

Another, more innovative arrangement introduced by the Aircraft Registry is the 'closing room'.¹⁸¹ Simply stated, it is an online facility to effect registrations for multiple transactions negotiated at one time for the same object. Again, the concept has no basis in the Convention or Aircraft Protocol but has been considered useful in practice of aircraft financing. The Space Registry Regulations include provisions on closing room in parallel with the Aircraft Regulations.¹⁸² It will be even more useful in the case of space assets financing, as transactions on space assets involve larger complexities with governmental procedures and are much more time-consuming than aircraft financing, owing to national security and other considerations.

5.4. *Liability and financial integrity of the Registrar*

The financial soundness of the Registrar is no less important with the Space Registry than with other International Registries. The Space Protocol, however, does not specify the

¹⁷⁹ Section 5.12 of the Space Registry Regulations.

¹⁸⁰ The Legal Advisory Panel of the Aviation Working Group, *Practitioner's Guide to the Cape Town Convention and the Aircraft Protocol*, 2015 edition, p. 67.

¹⁸¹ Section 5.18 of the Regulations and Procedures for the Aircraft Registry. See William B. Piels & Tan Siew Huay, Generation II OF The International Registry Website The Closing Room: A Transactional Approach to Registrations, *The Cape Town Convention Journal* Issue 2, p. 165 (2013).

¹⁸² Section 5.18 of the Space Registry Regulations.

amount of insurance required of the Registrar but leaves it to the Regulations.¹⁸³ The Space Registry Regulations, in turn, avoid specifying the amount to be insured but leave it to the decision of the Supervisory Authority.¹⁸⁴ As it will take some time for the Space Protocol to attract 10 ratifications and enter into force, deferring the decision on a specific amount may be reasonable.

Another concern, which is not relevant to the Aircraft Registry, is the commercial viability of the Registrar. It is easy to foresee that the number of registrations and searches in space assets remains much smaller than in the case of aircraft. Around 20 commercial satellites are launched on a geostationary orbit every year. There are plans for a constellation of several hundred satellites, which could boost the potential of satellite financing. Still, the number is not comparable with aircraft financing. As a result, the Registrar will have a limited chance of revenue, much smaller than the Registrar for the Aircraft Registry.

To address this concern, the possibility for the Registrar to be engaged in other businesses needs to be considered seriously. Because such a business should not threaten the financial soundness itself, the type of conceivable business will be restricted, maybe to another type of registry service in the space sector. The issue will be considered by the Preparatory Commission when finalising the request for proposals.

6. Comparison of three International Registries

As the rules of the respective Protocols run mostly parallel under the basic framework of the Convention, the three Protocols of course share many elements in common. The roles of the Registrar and Supervisory Authority, as well as of the court of the place where the Registrar has its centre of administration, basic structure of the International Registry as the

notice-filing system and, finally, the liability of the Registrar and its implications on the latter's financial integrity are all matters of important concern to all the International Registries. Furthermore, the Regulations of the three International Registries (though those for the Rail and Space Registries are still drafts subject to later changes) contain largely parallel provisions.

Still, the International Registries are not entirely identical. It is because the structure and practice differ in respective industries. The first and most obvious difference lies in the number of manufacturers. The success of the Aircraft Protocol was sustained by the cooperative commitment of the manufacturers, including, among others, their voluntary provision of aircraft object information to the Registrar. It is less likely to take place with the Rail and Space Registries, as the number of manufacturers is larger in the rail industry, and the numbering practices are extremely divergent in both the rail and the space industry.

Secondly, the variety of products covered differs significantly. While the aircraft objects, airframes, aircraft engines and helicopters, are limited in variety, the railway rolling stock covered by the Luxembourg Rail Protocol includes various products, ranging from high-speed trains to trams and light rail trains (LRTs) to cranes on tracks at ports, which are unlikely to be numbered and regulated under a uniform manner. The space assets covered by the Space Protocol are even more diverse, because they include payloads of a spacecraft as well as parts of a spacecraft or a payload. As a result, the Rail and Space Registries cannot rely on the identification criteria of the manufacturer (model designation and serial numbers) but will use unique identifiers issued by the respective International Registry.

Thirdly, the diversity of objects that the Rail and Space Registries have to deal with also implies the absence of an international organisation overseeing the respective industry sectors, equivalent to ICAO for aircraft objects. For the Rail Registry, it meant that no existing

¹⁸³ Article XXXII (6) of the Space Protocol.

¹⁸⁴ Section 14.4 of the Space Registry Regulations.

intergovernmental organisation was in a position to assume the role of Supervisory Authority, which resulted in the establishment of an independent body for that purpose. In the case of the Space Registry, ITU has, with good reason, been invited to become the Supervisory Authority, as the use of radio communication is one of the few aspects common to space activities with various space assets.

The fourth difference is the transactional arrangements that require special consideration in designing the respective International Registries. In the case of aircraft, fractional interests are frequently used, in particular with private jets. Thus the procedure to effect such registrations is included in the Aircraft Regulations notwithstanding that the Convention and Aircraft Protocol do not mention it explicitly. For railway rolling stock, practically they are registered as a fleet. This necessitated the system of multiple registration under the draft Rail Registry Regulations, which is now included in the Aircraft Regulations as well, but with less relevance in practice. The Space Registry faces still another problem, given that the practice of transponder leases and hosted payloads is widely in use, without excluding the possibility of financing a whole satellite. To respond to such a practice, the Space Protocol and draft Space Registry Regulations include several rules to solve possible conflicts with overlapping international interests, which is not foreseen in the case of two other International Registries.

According to Jane Winn, the success of the Cape Town Convention is attributed to several factors, such as the advancement of the core value (of facilitating asset-based finance), mandatory framework, the use of mature technology, mitigating the collective action problem by a small number of players involved and the responsive governance to meet the users' demands.¹⁸⁵ While the first three factors

are common to all the International Registries, the collective action issue obviously depends on the industry structure and is not the same in the Aircraft and two other Registries. The last factor, responsiveness in the governance of an International Registry, may be taken as a lesson to the Registries that are yet to be set up and brought into operation, namely the Rail and Space Registries.

In fact, the 10 years' experience of the Aircraft Registry indicates some lessons that are to be learnt. Perhaps the most important lesson is the value of inputs that the industry experts can make. In the case of the Aircraft Registry, such inputs have been made through two channels: through the CESAIR to the Supervisory Authority and the IRAB to the Registrar. While the former is an organisation under the Aircraft Protocol (as in other Protocols), the latter is a voluntary group established by the current Registrar, Aviareto. Both have contributed significantly to the development of the Aircraft Registry.

Lessons are also to be learned to avoid the problems that the Aircraft Registry as the first Registry experienced. For example, the use of free texts, which the Aircraft Registry allows in a limited situation, appears to have caused many difficulties in practice. The Rail and Space Registries would be best advised to exclude this, which seems to be the case with the current draft Regulations for them. Another lesson is the abuse of registrations, in particular, of non-consensual rights and interest. Because it is dependent on the declarations of Contracting Parties, it may be advisable for the Rail and Space Registries to provide guidance on the scope of non-consensual rights registrable subject to the Contracting Parties' declarations.

7. Concluding remarks

The Cape Town Convention is unique as a uniform law instrument in that it creates an international regime. Traditionally, a uniform law instrument provides for a set of rules, which will then be applied and enforced

¹⁸⁵ Jane K. Winn, The Cape Town Convention's International Registry: decoding the secrets of success in global electronic commerce, *The Cape Town Convention Journal* Issue 1, p. 25 (2012).

through the courts of State Parties. In such a case, the work of designing an international scheme ends in drafting the text of the instrument.

This is not the case with the Convention, as it foresees an operative institution. This requires additional works necessary for establishing a workable International Registry. Similar examples include international conventions to establish compensation funds, such as the Fund Convention for the Oil Pollution Damage and HNS (hazardous and noxious substances) Convention, Unlawful Interferences Risks Convention of ICAO and Supplementary Compensation for Nuclear Damages Convention of IAEA. Still, these are the minorities, if not exceptions, among uniform law instruments of transnational commercial law.

The additional works can be significant, possibly requiring an even heavier workload than drafting a text itself. This is because the International Registry, in order to be workable in reality, must be adapted to the specific practices and features of the relevant industry, while satisfying the structure provided for by

the Convention and the respective Protocol. The experiences with the International Registries, one in operation already for a decade and two more in preparation, indicate that the work cannot be done without input from experts specialised in the relevant business sector. In particular, the contributions made by the ICAO as Supervisory Authority of the Aircraft Registry as well as by the IRAB as an advisory body of the same cannot be understated. Their orientation for being innovative in making the Aircraft Registry move forward may have set an excellent model for the conditions for success of this type of international institution.

These experiences may also be useful for the work of designing of the International Registries under the future Protocols.¹⁸⁶ It might even be useful for thinking about a registry unrelated to the Convention, such as a domestic registry to be introduced in an emerging market country,¹⁸⁷ or an international registry to be used in e-commerce. Further theoretical analysis may deserve academic attention.

¹⁸⁶ In the triennium program 2017–2019, Unidroit plans to work on drafting a MAC Protocol [see Report of the Governing Council, Unidroit 2016 C.D. (95) 15, para. 158]. Furthermore, the possibility of having a ship protocol is sometimes discussed. See Ole Böger, *The Cape Town Convention and Proprietary Security over Ships*, [2014–1] *Uniform Law Review* 24.

¹⁸⁷ Cf. UNCITRAL Guide on the Implementation of a Security Rights Registry (2014).