

ASSET IDENTIFICATION UNDER THE CAPE TOWN CONVENTION AND PROTOCOLS

SIR ROY GOODE*

I INTRODUCTION

Secured transactions law has attracted huge interest, both domestically and internationally, over the past few decades. While much attention has been devoted at the national level to the modernization of laws governing security interests, international and European organizations have invested great effort in promoting harmonization at the international level. For example, this harmonization has been accomplished on an international level through the UNCITRAL Model Law on Secured Transactions and the UNIDROIT Convention on International Interests in Mobile Equipment and its associated Protocols, and, at a regional level, through the Model Law on Secured Transactions produced many years ago by the European Bank for Reconstruction and Development for the assistance of legislators in economies in transition. Secured transactions law has also generated much law and economics literature as well as attention by national and international regulators concerned with the capital adequacy of banks. This special issue is most timely.

This article is devoted to a small, but crucially important aspect of this vast subject: asset identification under the 2001 Convention on International Interests in Mobile Equipment (the Cape Town Convention) and its associated Protocols.¹ The Convention provides for the creation, perfection, and priority of

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* CBE, QC, Emeritus Professor of Law, University of Oxford, and Emeritus Fellow, St. John's College. It is a privilege to be invited by three distinguished scholars, Professors Mooney, Schwarcz and Castellano, to contribute to this special issue of Law and Contemporary Problems on a subject of immense importance.

1. International Institute for the Unification of Private Law [UNIDROIT], Convention on International Interests in Mobile Equipment, Nov. 16, 2001, S. TREATY DOC. NO. 108-10 (2003), 2307 U.N.T.S. 285 [hereinafter Cape Town Convention]; UNIDROIT, Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment, Nov. 16, 2001, S. TREATY DOC. NO. 108-10 (2003), 2367 U.N.T.S. 517 [hereinafter Aircraft Protocol]; UNIDROIT, Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets (Mar. 9, 2012), <http://www.unidroit.org/english/conventions/mobile-equipment/spaceassets-protocol-e.pdf> [<https://perma.cc/J5RG-QS5R>] [hereinafter Space Protocol]; UNIDROIT, Luxembourg Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Railway Rolling Stock (Feb. 23, 2007), <http://www.unidroit.org/english/conventions/mobile-equipment/railprotocol.pdf> [<https://perma.cc/H4VN-HG4U>] [hereinafter Luxembourg Protocol].

international interests in high-value mobile equipment.² This equipment requires huge financing, but there have thus far been no uniform, substantive laws at the international level to protect the interests of secured creditors and those supplying mobile equipment under title reservation and leasing agreements. The Convention is proving to be one of the most successful private commercial law conventions ever. It has already attracted seventy-four ratifications, while the Aircraft Protocol has secured sixty-eight ratifications; both have been ratified by what is now the European Union.³ Further ratifications by other countries are in train.

II

SOME GENERAL THOUGHTS ON IDENTIFICATION CRITERIA

The requirements to identify a tangible movable, in order to establish a proprietary right in it, depend on the purpose for seeking the identification. For some purposes, it suffices that the asset falls within a category described in a contract without being uniquely identified—in other words, that it is identified as falling within the scope of the contract. So, a contract of sale may relate to goods forming part of an identified bulk, and this may suffice to give the buyer some form of property interest in the goods.⁴ In a system allowing for the creation of inchoate rights in after-acquired property a security interest may be given over all of a dealer's present and after-acquired motor vehicle stock, taking effect on each new acquisition as from the time of the security agreement.⁵ It is not necessary to identify any particular motor vehicle in order for the creditor to acquire a proprietary interest. As between the parties to the security agreement, it suffices that an existing motor vehicle falls within the description and that after-acquired property of the dealer consists of, or includes, motor vehicle stock. Even third parties will be bound if public notice, typically in the form of registration in a public register, is given in accordance with legal requirements. Whether this necessitates unique identification depends on the nature of the registration system.

Many legal systems provide for the registration of security interests over tangible movables in a publicly accessible register. There are two main registry

2. For the three forms of international interest (created by a security agreement, a leasing agreement, or a title reservation agreement) and the various categories of mobile equipment (aircraft objects, railway rolling stock, and space assets) see Part III, *infra*.

3. UNIDROIT, CAPE TOWN CONVENTION—STATUS, <http://www.unidroit.org/status-2001capetown> [<https://perma.cc/B8J8-PZ3B>] (last visited Nov. 28, 2017); UNIDROIT, AIRCRAFT PROTOCOL—STATUS, <http://www.unidroit.org/status-2001capetown-aircraft> [<https://perma.cc/6FBG-URRL>] (last visited Nov. 28, 2017).

4. See, e.g., Sale of Goods Act 1979, c. 54, § 20A (Eng.), <https://www.legislation.gov.uk/ukpga/1979/54> [<https://perma.cc/T2C8-SLSU>] (“property in an undivided share of the bulk is transferred to the buyer,” who “becomes an owner in common of the bulk”); U.C.C. § 2-501 cmt. 5 (AM. L. INST. & UNIF. LAW COMM’N 2010) (a contract referencing an identified fungible bulk is enough to effect an identification).

5. As to English law on this point, see GOODE AND GULLIFER ON LEGAL PROBLEMS OF CREDIT AND SECURITY ¶¶ 2-12–2-13 (6th ed. 2017).

modes: registration against the debtor and registration against the asset. There are advantages and disadvantages of each. Debtor-based registration, which is by far the most common, allows for the perfection of a security interest not only against an individual asset, but against assets falling within a given description, or even against all of the debtor's assets, including after-acquired assets. This form of registration is therefore extremely flexible and allows for both specific and global security. Its drawback is that it reveals only security interests granted by the debtor and not those granted by other parties, such as a buyer from the debtor. So, a searcher against the buyer will pick up the later security interest granted by the buyer, but not the earlier one granted by the debtor-original owner.

By contrast, an asset-based registration system over tangible movables will reveal all security interests granted over an asset, whether by the person with whom a third party is dealing, or any of that person's successors or predecessors. The limiting factor is that such a system is necessarily confined to assets that are uniquely identifiable, with motor vehicles being the classic case. The typical identification criteria for an asset-based registration system are the manufacturer's serial number or vehicle identification number, coupled with the manufacturer's name and details of the type of asset, make, and model. But many kinds of assets do not have serial numbers and, even where they do, the asset may be of relatively low value. Accordingly, asset-based registration is usually confined to serial-numbered assets, such as motor vehicles, and assets of high value, such as ships and aircraft. Unique identifiers are normally attached to or embodied in the asset,⁶ or are encoded in a bar code placed on the asset. Sometimes, however, this is not practicable; for example, where the asset is a satellite already launched into outer space without any attached unique identifier, or an identifier that is visible from Earth.

While registration systems are common for security interests over equipment, registration of conditional sale agreements and leasing agreements is rare except in those jurisdictions where conditional sale agreements and certain leasing agreements are characterised as security agreements—notably the United States, Canada, New Zealand, and Australia.

6. This may cover not only hard goods but also livestock, which nowadays are electronically ear-tagged to encode a large number of bits of information. In the writer's early years as a practicing solicitor he was asked to investigate a major fraud in Scotland, where there was a dealer selling pedigree Friesian cows to my client, a finance house, to be let back on hire-purchase. In those days tagging was manual and relatively unsophisticated. Default by hirers having steadily mounted, the client initiated steps to repossess the cows. But the client was unable to match the numbers shown in the hire-purchase agreements with those specified in the pedigree herd book—not surprising, as it transpired that the numbers allocated to the cows in the agreements were in fact the chassis numbers of a fleet of Austin seven motor cars. So, serial numbers are not always reliable!

III ABOUT THE CAPE TOWN CONVENTION

The work leading to the Cape Town Convention was initiated by UNIDROIT on a proposal from the Canadian Government. The International Civil Aviation Organisation came in at a later stage to collaborate with UNIDROIT and co-organize the diplomatic Conference in November 2001 at which the Convention was adopted.

The project stemmed from a recognition that the traditional conflict rule governing dealings in tangible movables, the *lex situs (lex rei sitae)*, while working well enough for equipment in a fixed location, was highly unsatisfactory for objects regularly moving across national borders in the ordinary course of business. But even if a more suitable conflict rule could be devised, that would not solve the problem of differences in national legal systems governing security interests in equipment. For example, in some legal systems, a particular form of security might not be recognized at all, in others, default remedies might be restricted and their exercise delayed, additionally, perfection requirements and priority rules would vary from jurisdiction to jurisdiction, with little or no machinery to secure the international priority of security and quasi-security interests. Creditor protection in the event of the debtor's insolvency might be weak. The consequent uncertainty for creditors and the obstacles to speedy repossession meant an increased risk, resulting in an unwillingness to advance credit at all in some countries, borrowing costs and credit insurance premiums might be substantially higher than with a stable regime under a set of uniform substantive law rules.

Nor was this all. In the United States, strong protection for the creditor under Section 1110 of the Federal Bankruptcy Code for aircraft equipment and vessels had facilitated the securitisation of aircraft receivables through the issue on the market of enhanced equipment trust certificates; thus, providing a financing facility that is often less expensive than that provided by banks,⁷ but, absent comparable legislation elsewhere, this was not available to airlines outside the United States. Economic assessments carried out for UNIDROIT,⁸ which were subsequently confirmed by others,⁹ anticipated that, by reducing uncertainty and

7. Further, the rating of securitization issues is typically higher than that of the issuer's own debt securities. See STEVEN L. SCHWARCZ, *STRUCTURED FINANCE: A GUIDE TO THE PRINCIPLES OF ASSET SECURITIZATION* § 1.3 (3d ed. 2010) (describing how companies benefit from securitization).

8. See generally Anthony Saunders & Ingo Walter, *Proposed UNIDROIT Convention on International Interests in Mobile Equipment as Applicable to Aircraft Equipment Through the Aircraft Equipment Protocol: Economic Impact Assessment - A Study Prepared Under the Auspices of INSEAD and the New York University Salomon Center*, 23 AIR & SPACE L. 339 (1998).

9. See Vadim Linetsky, *Accession to the Cape Town Convention by the UK: An Economic Impact Assessment Study* (Dec. 2010) (unpublished manuscript), available at <http://cdm15895.contentdm.oclc.org/cdm/ref/collection/p15895coll7/id/2> [<https://perma.cc/LJ4M-KAUS>]; Vadim Linetsky, *Economic Benefits of the Cape Town Treaty* (Oct. 18, 2009) (unpublished manuscript), available at <http://www.awg.aero/assets/docs/economicbenefitsofCapeTown.pdf> [<https://perma.cc/RX9D-2XSS>]. At the request of UNIDROIT, the Aviation Working Group commissioned both of these studies to assist in the development of the Cape Town Convention and Aircraft Protocol.

risk and providing strong creditor protection, creating uniform, substantive rules for international interests in aircraft objects would thereby improve credit ratings of aircraft financing receivables. Consequently, the provisions would facilitate securitization, promote the provision of credit that might otherwise have been unavailable in a capital-intensive industry highly dependent on external finance, and significantly reduce costs. This could be expected to benefit airlines, passengers and other end-users, governments, commercial manufacturers and suppliers, and aviation industry investors. That perception, of which early manifestations were the Cape Town Convention discounts offered by the US Export-Import Bank and later by the OECD, was well-founded and has produced substantial estimated savings.

The Convention thus created a new, autonomous international interest that covered not only security interests, but also title reservation agreements and leasing agreements with a set of basic default remedies for the creditor. It established an International Registry to record those interests, a set of priority rules based on the order of registration, and—dependent on a Contracting State's declaration—protection of the creditor in the event of debtor insolvency.¹⁰ As stated earlier in Part I, the Convention covers aircraft objects, railway rolling stock, and space assets and it is supplemented by separate Protocols—the Aircraft Protocol, the Luxembourg Protocol, and the Space Protocol—for each of the three categories. Each Protocol defines the class of equipment to which it relates. A unique feature is that the Protocol controls the Convention, which cannot come into force until the relevant Protocol is in force, and which can be amended by the Protocol. Article 51 of the Convention prescribes a procedure for additional categories of equipment, and under the MAC Protocol, when concluded, mining, agricultural, and construction equipment will be added. The MAC Protocol is in draft, but it is expected that, following a second meeting of the Committee of Governmental Experts convened by the International Institute for the Unification of Private Law (UNIDROIT), a diplomatic Conference will be held in late-2018 or early-2019 to consider and adopt the text. Of the other three Protocols, only the first, relating to aircraft objects, is in force.

IV

THE CAPE TOWN CONVENTION REGISTRATION SYSTEMS

The Convention envisages a separate International Registry for each category of equipment. The registry for aircraft objects, the only one currently in operation, is entirely electronic and registrations involve no human input at the registry end. Access to the registry for the purpose of registration is governed by strict controls, including electronic consents by the debtor, but searches can be

10. See, e.g., Aircraft Protocol, *supra* note 1, art. XI, Alternative A. There are many other matters covered by the Convention and Protocols, including provisions as to the protection of non-consensual rights or interests, assignments, and jurisdiction, which fall outside the scope of this paper. For a comprehensive analysis, see the writer's Official Commentaries on the Convention and each Protocol published by UNIDROIT.

made by any person.

Under all of the Protocols, the registration system is asset-based.¹¹ However, for each category of asset, other than aircraft objects, formulating identification criteria proved extremely challenging; indeed, it appeared to be insoluble. How, for example, does one identify a satellite already situated in outer space with either no serial number or a serial number that cannot be seen from Earth? How are identification criteria to be prescribed for a mass of extraordinarily diverse items of mining, agricultural, and construction equipment? Each category of asset covered by the Convention, as prospectively extended by the draft MAC Protocol, posed its own identification problems, and workable solutions were reached only by hard work and imagination, albeit some only on a provisional basis.

The technology required to establish the International Registry for aircraft objects turned out to be much more complex than had been expected. Indeed, but for a delay of some years because of an embargo placed by Spain on adoption of the Convention and Aircraft Protocol by what was then the European Community,¹² the two instruments would almost certainly have come into force well before the Aircraft Registry, which is central to the Convention, became operational—leaving a conundrum for international lawyers.¹³

The Aircraft Registry is the only one that is currently operational under the Convention. It was developed in successive stages to become a highly sophisticated system that can even provide a pre-registration electronic closing room, in which the order of intended registrations is resolved prior to the release of the agreed outcome to the registry.¹⁴ The system's efficacy is amply attested by the fact that (through August 2016) though there have been some 825,00 registrations of transactions covering aircraft deals with an estimated value of between USD half a trillion and USD one trillion, as well as 906,000 searches,¹⁵

11. For security interests over other categories of asset Professor Charles Mooney has made an ambitious outline proposal for the creation, implementation, and operation of a general international secured transactions registry. See Charles W. Mooney, Jr., *The Cape Town Convention's Improbable-but-Possible Progeny Part One: An International Secured Transactions Registry of General Application*, 55 VA. J. INT'L L. 163, 186 (2014); Charles W. Mooney, Jr., *The Cape Town Convention's Improbable-but-Possible Progeny Part Two: Bilateral Investment Treaty-Like Enforcement Mechanism*, 55 VA. J. INT'L L. 451, 452 (2015). The second part of Professor Mooney's paper proposes an amendment to the Cape Town Convention to make it an investment treaty under which private parties could enforce a Contracting State's obligations, a power lacking in the present text. See ROY GOODE, OFFICIAL COMMENTARY ON THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT AND PROTOCOL ON MATTERS SPECIFIC TO AIRCRAFT EQUIPMENT, UNIDROIT ¶ 2.236 (3d ed. 2013).

12. This was not because Spain had any objections to the Convention and Protocol, but on account of yet another row over Gibraltar.

13. It is not clear that Articles 61 and 72 of the 1969 Vienna Convention on the Law of Treaties would have covered this situation. The dispute was eventually resolved on mutually acceptable terms. See Vienna Convention on the Law of Treaties, *adopted* May 23, 1969, 1155 U.N.T.S. 331.

14. See generally William B. Piels & Tan Siew Huay, *Generation II of the International Registry Website The Closing Room: A Transactional Approach to Registrations*, 2 CAPE TOWN CONVENTION J. 165 (2013). The aircraft registry system provides a further example of the growing dependence of the law on technological development, particularly in the area of finance.

15. Emails from Rob Cowan, Managing Director, Aviareto, to author (Aug. 28, 2017) (on file with

not a single claim for errors or system malfunction has been made against the Registrar in the eleven years of the Registry's operation.¹⁶

Registration is normally conceived as a perfection requirement designed to give public notice of the existence of the security interest to third parties and preserve the secured creditor's priority—it is not a prerequisite of the creation of the security interest. Exceptionally, the Cape Town Convention and Aircraft Protocol (but not the other Protocols) require unique identification not only for registration purposes, but in the agreement itself.

V

THE PURPOSES OF IDENTIFICATION

Unique identification is required for two distinct purposes, registration and search. It is necessary to consider not only the identification criteria themselves but also the consequences of an unintended error in the registered identification particulars and a change in the description of the object or the party names to which the registration relates. Of course, it is also necessary to address a threshold question: whether the equipment falls within the definition of the relevant Protocol.

Each of the three Protocols already adopted has elaborate definitions of the subject-matter, whether it be airframes, aircraft engines, and helicopters under the Aircraft Protocol,¹⁷ railway rolling stock under the Luxembourg Protocol,¹⁸ or space assets (including spacecraft, payloads, and parts of a spacecraft or payload) under the Space Protocol.¹⁹ The draft MAC Protocol is different in that it defines mining, agricultural, and construction equipment solely by reference to the selection of World Customs Organisation Harmonised System Codes reproduced in the Annexes to the draft Protocol.²⁰

VI

CONSTITUTION OF AN INTERNATIONAL INTEREST

Article 7 of the Convention sets out the formal requirements for the constitution of an international interest:

An interest is constituted as an international interest under this Convention where the agreement creating or providing for the interest:

- (a) is in writing;
- (b) relates to an object of which the chargor, conditional seller or lessor has power to dispose;
- (c) enables the object to be identified in conformity with the Protocol; and

author).

16. *Id.*

17. Aircraft Protocol, *supra* note 1, art. 1(2)(b) (defining “aircraft engines”); *id.* art. 1(2)(e) (defining “airframes”); *id.* art. 1(2)(l) (defining “helicopters”).

18. Luxembourg Protocol, *supra* note 1, art. 1(2)(e) (defining “railway rolling stock”).

19. Space Protocol, *supra* note 1, art. 1(2)(j) (defining “space asset”).

20. *See* Mac Protocol, *infra* note 24, art. I.

(d) in the case of a security agreement, enables the secured obligations to be determined, but without the need to state a sum or maximum sum secured.²¹

The provisions of the Convention other than the default rules have been extended to sales by the Aircraft Protocol and the Space Protocol,²² but not by the Luxembourg Protocol or the draft MAC Protocol, where a notice of sale may be registered that has no effect under the Convention, but which may constitute notice for the purpose of priority rules under national law. The identification criteria are left to be determined by the Protocol. Some of the Protocols, in laying down such criteria, provide for their supplementation by Registry regulations.

Under the Aircraft Protocol, unique identification is required not only for registration purposes, but also for the constitution of the international interest. Subsequent Protocols recognized that such identification was unnecessary for the purpose of the agreement between the parties and any method of identification, including description of a category of objects and after-acquired property, suffices so long as it enables the object to be seen as falling within the scope of the agreement. In other words, it is not necessary to provide identifiers that are unique to a specific object, except at the point of—and for the purpose of—registration. This was first picked up at the diplomatic Conference to adopt the Luxembourg Protocol, which introduced a distinction between identification criteria for the purposes of constitution of an international interest and identification criteria for the purposes of registration. The former is embodied in Article V of the Luxembourg Protocol,

(1) For the purposes of Article 7(c) of the Convention and Article XVIII(2) of this Protocol, a description of railway rolling stock is sufficient to identify the railway stock if it contains:

- (a) a description of the railway rolling stock by item;
- (b) a description of the railway rolling stock by type;
- (c) a statement that the agreement covers all present and future railway rolling stock; or
- (d) a statement that the agreement covers all present and future railway rolling stock except for specified items or types.

(2) For the purposes of Article 7 of the Convention, an interest in future railway rolling stock identified in accordance with the preceding paragraph shall be constituted as an international interest as soon as the chargor, conditional seller or lessor acquires the power to dispose of the railway rolling stock, without the need for any new act of transfer.²³

This approach has been copied in the Space Protocol and the draft MAC Protocol.²⁴

21. Convention, *supra* note 1, art. 7.

22. Aircraft Protocol, *supra* note 1, art. III; Space Protocol, *supra* note 1, art. IV.

23. Luxembourg Protocol, *supra* note 1, art. V.

24. Space Protocol, *supra* note 1, art. VII; UNIDROIT, Committee of Governmental Experts, Study 72K – CGE2 – Doc. 2, *Text of the Revised Preliminary Draft Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Agricultural, Construction and Mining Equipment*, art. V (May 2017) [hereinafter MAC Protocol].

So, for the purpose of constitution of the agreement, the identification requirements in this and subsequent Protocols are very flexible. They accommodate existing and after-acquired assets without needing individual specification or even specification by type; all that is required is that the equipment can be seen to fall within the scope of the agreement. Thus, a security agreement covering “all assets, present and future” suffices.²⁵

VII

IDENTIFICATION UNDER THE AIRCRAFT PROTOCOL

The Convention applies only to aircraft objects as defined; that is, airframes, aircraft engines, and helicopters. It is not possible to take an international interest in an entire aircraft,²⁶ nor can an international interest be taken in components, as these have no distinct status but simply form part of the object in which they are incorporated.

The identification criteria are straightforward. Article VII of the Protocol provides that a description of the aircraft object containing its manufacturer’s serial number, the name of the manufacturer and its model designation is necessary and sufficient to identify the object for the purposes of Article 7(1) of the Convention and Article V(1)(c) of the Protocol, which reproduces Article 7(1) in relation to outright sales. In contrast to the subsequent protocols, there are no separate identification criteria for registration; compliance with the identification requirements for the constitution of the international interest or sale automatically meets the registration needs. Section 5.3 of the aircraft registry regulations,²⁷ extended to sales by Section 5.5(a), repeats the provisions of Article VII, but with the gloss that the model designation must be the manufacturer’s *generic* model designation—that is to say, not one that is specific to a particular party. This makes explicit what is implicit in Article VII.²⁸

When the Aircraft Registry²⁹ was being developed, it was recognized at an early stage that applicants for registration might key in serial numbers and other details incorrectly, for example by transposing digits. The Registry, therefore, arranged with the manufacturers of aircraft objects to supply the Registry in advance with details of the name of the manufacturer, the generic model, and the

25. ROY GOODE, *THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT AND LUXEMBOURG PROTOCOL THERETO ON MATTERS SPECIFIC TO RAILWAY ROLLING STOCK: OFFICIAL COMMENTARY* ¶¶ 3.7(1), 5.11 (2d ed. 2014).

26. In this respect, the Aircraft Protocol, *supra* note 1, is more circumscribed than the Luxembourg Protocol, *supra* note 1, and the Space Protocol, *supra* note 1. See Parts VII (Aircraft Protocol), VIII (Luxembourg Protocol), and IX (Space Protocol), *infra.*, at 143–50.

27. Int’l Civ. Aviation Org. [ICAO], *Regulations and Procedures for the International Registry*, ICAO Doc. No. 9864, § 5.3 R-10 (7th ed. 2016), <https://www.internationalregistry.aero/ir-web/common/documentDownload?locale=en&documentId=4> [<https://perma.cc/W7UX-SGDG>] [hereinafter Aircraft Registry Regulations].

28. It would not be competent to regulations to make a provision inconsistent with the Protocol except so far as the Protocol itself so provides.

29. Officially the International Registry of Mobile Assets.

serial number. This information is then held on the Registry website. An intending registrant is required to make an informational search by entering the serial number of the object and then making a selection from the Registry drop-down list showing the manufacturer's serial number, name of the manufacturer, model, type (airframe, aircraft engine, helicopter), State of Registry of aircraft, authorising entry point code where relevant,³⁰ nationality, and registration marks. The intending registrant then selects the aircraft object or objects in respect of which registration is required. Use of the drop-down list is mandatory, and free text is not allowed, unless the registration relates to an object not on the drop-down list.³¹ The Registrar may post supplemental object identification materials, but these are not compulsory elements of the registration.³²

VIII

IDENTIFICATION UNDER THE LUXEMBOURG PROTOCOL

The identification criteria are more complex for railway rolling stock than for aircraft objects. This is partly because for older railway rolling stock it was not the practice to affix serial numbers, and partly because of the need to take account of national or regional registrations systems, such as the North American Uniform Machine Language Equipment Register (UMLER), where numbers are reusable and are structured to identify different components, so that a change in a component results in a change in the number, as where an item of railway rolling stock of a particular class is converted to another class or undergoes a major rebuild, or where it is sold to another operator or moves across national borders. Moreover, running number systems³³ are different in different regions and numbers may well be duplicated.³⁴ These features make such systems unsuitable for registration under the Cape Town Convention, for which unique permanent identification through the life of an item of railway rolling stock is essential.

Article XIV(1) of the Luxembourg Protocol provides that identification numbers are to be allocated by the Registry itself pursuant to an allocation system prescribed by regulations.³⁵ The internal identification number assigned, which need not be a serial number, must be: “(a) affixed to the item of railway rolling

30. Article XXIX of the Aircraft Protocol, *supra* note 1, empowers a Contracting State, pursuant to Article 18(5) of the Convention, to designate an entity or entities in its territory as the entry point or entry points for aircraft objects through which information required for registration shall or may be transmitted to the International Registry, but use of such an entry point may not be made compulsory for aircraft engines.

31. Aircraft Registry Regulations, *supra* note 27, § 5.1 R-9.

32. *Id.* § 5.2 R-9–R-10.

33. A running number is a number used by the operator in day to day operations and signifying that the train has been immatriculated; that is, accepted for operation on a rail system, the number being constructed in accordance with the system rules. It is to be contrasted with the manufacturer's number allocated at the time of construction.

34. See Martin Fleetwood & Peter Bloch, *The Cape Town International Rail Registry and the Development of State Registries*, 3 CAPE TOWN CONVENTION J. 95, 107 (2014).

35. That is, registry regulations made by the Supervisory Authority.

stock; or (b) associated in the International Registry with the manufacturer's name and the manufacturer's identification number for the item so affixed; or (c) associated in the International Registry with a national or regional identification number so affixed."³⁶

But Article XIV of the Protocol makes this last method of identification, alternative (c), subject to various qualifications. First, the relevant Contracting State must,³⁷ by declaration, state the system of national or regional identification numbers that are to be used with respect to items of railway rolling stock subject to an international interest created or provided for, or intended to be created or provided for, by an agreement entered into by a debtor situated in that Contracting State at the time of conclusion of that agreement.³⁸ Second, the national or regional system must, "subject to agreement between the Supervisory Authority and the Contracting State making the declaration, ensure the unique identification of each item of railway rolling stock to which the system applies."³⁹ Third, the Contracting State's declaration must include "detailed information on the operation of the national or regional identification system."⁴⁰ Finally, a registration effected pursuant to such a declaration must "specify 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."⁴¹

The complexity of the above requirements makes it unlikely that alternative (c) will be used. Instead, the Rail Working Group, one of the not-for-profit working groups established at UNIDROIT's request to assist in preparing the Convention and Protocols, has proposed a new Unique Rail Vehicle Identification System (URVIS) under which the Registrar will, on request, issue an URVIS number comprising twenty Arabic digits, the last of which is a check digit. The number will be unstructured and thus unchangeable.⁴² In order to have effect under the Protocol the URVIS system would need to be prescribed by regulations under Article XIV(1) of the Luxembourg Protocol.

A threshold question posed by the Luxembourg Protocol is: what is the asset that is to be identified under Article I(2)(e) of the Protocol?

"[R]ailway rolling stock" means vehicles 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.⁴³

36. Luxembourg Protocol, *supra* note 1, art. XIV(1).

37. The text uses the word "may" but this is only to allow for the fact that a Contracting State may not wish to utilize alternative (c).

38. Luxembourg Protocol, *supra* note 1, art. XIV(2).

39. *Id.*

40. *Id.* art. XIV(3).

41. *Id.* art. XIV(4).

42. See Fleetwood & Bloch, *supra* note 34, at 106–07.

43. Luxembourg Protocol, *supra* note 1, art. I(2)(e).

The definition covers a variety of railway rolling stock, including locomotives, passenger and freight wagons, entire trains, and trams.⁴⁴ The item to be identified depends on the terms of the agreement. It may be a tram consisting of a set of articulated vehicles constructed as a single entity; a permanently coupled articulated train, where adjacent cars are not only sitting on a shared bogie but are permanently connected so that again the train functions as a single unit; a simple train consisting of cars sitting on separate bogies, each being readily detachable and exchangeable; or a separable articulated train set in which adjacent cars, though resting on a shared bogie, are similarly able to be detached and exchanged. In line with this approach, Section 2.3 of the Draft Rail Registry Regulations provides as follows:

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.⁴⁵

So, where the agreement relates to an individual replaceable articulated section it is the identifier for that section that will be the requisite identifier. On the other hand, where the agreement relates to an entire vehicle, the identifier will be that applied to the vehicle as a whole even if individual sections are readily separable.⁴⁶ This will also, of course, be the case where the individual sections are permanently connected.

The Rail Registry regulations are unique in providing for group registration and group search in respect of international interests held by a creditor in a multiple of items of railway rolling stock identified in accordance with Article XIV.⁴⁷ This is because large numbers of items of railway rolling stock are in daily use and it would be burdensome to require individual filings and searches. The purpose of the group registration and search facility is to enable a single filing and a single search to cover all listed items, though each will have to be individually identified.

IX

THE SPACE PROTOCOL

The identification requirements of the Space Protocol, which are not to be found in the Protocol itself only in the regulations to which it delegates them,⁴⁸

44. ROY GOODE, OFFICIAL COMMENTARY ON THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT AND LUXEMBOURG PROTOCOL THERETO ON MATTERS SPECIFIC TO RAILWAY ROLLING STOCK, UNIDROIT ¶ 3.8 (2d ed. 2014).

45. UNIDROIT Preparatory Commission regarding the establishment of the International Registry for railway rolling stock according to the Luxembourg Protocol to the Cape Town Convention on International Interests in Mobile Equipment, *Draft Regulations for the International Registry*, § 2.3 (Feb. 22, 2016), <http://www.unidroit.org/english/conventions/mobile-equipment/registry-rail/draft-regulations-20160222.pdf> [<https://perma.cc/SX89-GJTB>] [hereinafter Draft Rail Registry Regulations].

46. GOODE, *supra* note 44, ¶ 3.9.

47. Draft Rail Registry Regulations, *infra* note 45, §§ 2.2, 5.5.

48. UNIDROIT Preparatory Commission for the Establishment of the International Registry for Space Assets Pursuant to the Space Protocol, *Summary Report of the Fourth Session*, Prep. Comm.

proved much harder to work out than for the previous protocols and are correspondingly more technical and complex. First, many space assets do not possess serial numbers. Second, even if they have serial numbers, they may not be visible on space assets that have already been launched. Third, it is necessary for the registration details to accommodate physically linked space assets, namely transponders or other registrable items forming part of a spacecraft, or payload and spacecraft forming part of another spacecraft; for example, a docking module attached to a space station to facilitate docking of a spacecraft to the International Space Station, or a space module that detaches to perform certain tasks such as conducting experiments in space. Finally, the Protocol is not confined to a complete spacecraft, but also extends to a payload and part of a spacecraft or payload, though only where capable of separate registration in accordance with the regulations.⁴⁹

This unusual dependence on regulations, not only as the exclusive source of identification criteria, but also as a determinant of the sphere of application of the Convention and Protocol, ensures that the payload—or the part of the spacecraft or payload regarding which registration is sought—is uniquely identifiable and is also of sufficient value that an interest in it will be bankable. These matters could only be worked out in the course of establishing the Registry. The Preparatory Commission came up with an ingenious solution to all of these problems which avoids any need for physical serial numbering. This solution has a number of facets.

A. Unique Identification File

On application by the owner of a space asset, and before any international interest can be registered, the owner of the space asset can apply to the Registrar for a unique identification number (UIN) based on the following information to be supplied by the owner as prescribed by Annex II (“the Annex II information”), namely,

- (1) the name of the manufacturer;
- (2) the manufacturer’s contract reference number, which in the case of a contract covering two or more space assets will include a unique suffix to the contract number;⁵⁰
- (3) the category of asset (i.e. a spacecraft or one of the kinds of payload or part of a

Space/4/Doc. 7 rev. (Dec. 11, 2015), *available at* <http://www.unidroit.org/english/documents/2015/depositary/ctc-sp/pcs-04-07rev-e.pdf> [<https://perma.cc/XP29-YATP>] [hereinafter Draft Space Registry Regulations]. These are made subject to amendments and final approval of the Supervisory Authority and are therefore provisional in nature. However, pursuant to Resolution 1 of the diplomatic Conference, which adopted the Space Protocol, the Preparatory Commission set up pursuant to the Resolution itself acts with full authority as Provisional Supervisory Authority for the establishment of the International Registry for space assets. If previous practice in relation to the Aircraft Registry is followed, the Preparatory Commission will not hand over to the Supervisory Authority (when established) until the International Registry has come into operation pursuant to regulations made by the Preparatory Commission. These, of course, can be amended by the Supervisory Authority later, if thought necessary.

49. Space Protocol, *supra* note 1, art. I(2)(k).

50. For example, if the contract reference number 12345 covers two space assets, the number of the first will be 12345/1 and the number of the second will be 12345/2.

spacecraft or payload listed in Annex 1 to the Regulations.⁵¹

The Registrar will then issue a UIN to the owner if one has not already been issued—for example, to a previous owner—or, if it has, the legislator will provide it to the (new) owner. The manner of constructing the number will be left to the technical experts. The Registrar will open a unique identification file for each UIN issued, which will be separate from the file relating to any subsequently registered international interest. The regulations thus presuppose two distinct files, a unique identification file for each space asset and a subsequent registration file for registrations affecting that asset. The unique identification file will contain the UIN and the Annex II information, as set out above. From the unique identification file, an intending creditor will be able to find details of the manufacturer and obtain a copy of the relevant contract, which will provide a detailed description of the space asset. The file will be updated to record details of any registrations which refer to the UIN⁵² and any additional information set out in Annex I,⁵³ which is voluntarily supplied under section 5.11bis.

B. Application to Register an International Interest or Sale

Any application to register an international interest, sale, or other registrable category will have to provide the following identification information:

- (i) in the case of a spacecraft, the unique identification number of the spacecraft and, where the spacecraft forms part of another spacecraft, the unique identification number of the other spacecraft;
- (ii) in the case of a payload the unique identification number of the payload and, if any, of the spacecraft to which the payload is attached;
- (iii) in the case of a part of a spacecraft or a payload (as defined in Annex I), the unique identification number of the part and, if any, of the spacecraft or payload to which the part is attached.⁵⁴

This ingenious formulation enables a person to search against any one asset and discover the UIN of any physically linked asset.⁵⁵ A priority search can only

51. Draft Space Registry Regulations, *supra* note 48, Annex 2(2) (for example, a transponder or other communications equipment).

52. *Id.* § 5.3bis (c). *See infra* Section B.i.

53. For example, the details will include: for a spacecraft, either the Coordinated Universal Time (UTC) of the launch and the place of the launch, or any Committee on Space Research (COSPAR) uniquely identified; for a transponder, or other communications equipment, the frequency band or bands and signal polarization on which the equipment is capable of operating. This additional information goes on the unique identification file, not on the registered interest file. The categories of asset and the additional identifiers prescribed are provisional only and may need review by industry experts while the registry system is being established to ensure that the twin tests of unique identifiability and sufficient financial value to justify registration are satisfied.

54. Draft Space Registry Regulations, *supra* note 48, § 5.3(c).

55. So, a search against a spacecraft will show registration of any interest in a payload attached to the spacecraft; a search against a payload will show registration of any interest in any spacecraft to which the payload is attached; and, a search against a transponder, in showing registrations of interests in the spacecraft, will also show registrations of interests in other transponders attached to the spacecraft. Resolution 3 of the diplomatic Conference invites the Supervisory Authority for the International Registry to ensure that, so far as practicable, any search of the International Registry relating to physically linked assets reveals all international interests registered against such assets as well as other

be made against the UIN.⁵⁶ Any other search is an informational search,⁵⁷ designed to produce a list of space assets meeting the search data from which the searcher can select the relevant item.

C. The Recording of “Debtor’s Rights”

One further feature of the Space Protocol merits mention. For obvious reasons, the value of satellites in outer space as collateral is more limited than in the case of Earth-based assets, even though on the debtor’s default it is possible for a creditor to take control of command codes, to terminate the debtor’s access to the satellite, and to enter into a new contract. So, by way of additional collateral, space financiers seek to take an assignment of rentals, licenses, and other sums payable to the debtor by lessees, licensees, or other parties (“debtor’s rights”). There was at one time a proposal to make such assignments registrable as international interests, but this faced an insuperable obstacle: the whole registration system is geared to uniquely identified physical objects and does not lend itself to the identification and registration of intangibles. The ingenious solution was to allow assignments and reassignments of debtor’s rights—whether absolute or by way of security, and whether existing or future⁵⁸—to be recorded against the registration of the space asset to which these relate,⁵⁹ with the formal requirements being that the assignment must enable both the debtor’s rights and the space asset to which they relate to be identified.⁶⁰ Article XIII of the Space Protocol states, “A recorded rights assignment has priority over any other transfer of debtor’s rights (whether or not a rights assignment) except a rights assignment previously recorded.”⁶¹ So, priority is determined by the order of recording, not by the order of registration of competing international interests. These provisions also apply to rights reassignments.⁶² By linking a rights assignment and a rights reassignment to a registered international interest, the above provisions extend the concept of unique identifiability to assigned and reassigned intangibles, a neat solution to a vexing problem.

data. The Registry regulations are designed to fulfill that objective, but they will no doubt need to be revised in light of technological issues and the needs of the space industry.

56. Draft Space Registry Regulations, *supra* note 48, § 7.2.

57. *Id.* § 7.3.

58. Under Article XI of the Space Protocol, “A provision in a rights assignment by which future debtor’s rights are assigned operates to confer on the creditor an interest in the assigned rights when they come into existence, without the need for any new acts of transfer.” Space Protocol, *supra* note 1, art. XI.

59. *Id.* art. XII.

60. *Id.* art. IX.

61. *Id.* art. XIII.

62. *Id.* art. XV. “Rights reassignment” does not mean assignment back to the debtor, but an onward transfer to a subsequent assignee, or a transfer of debtor’s rights resulting from an assignment of the international against which they are recorded. *Id.* art. I(2)(i).

X

THE DRAFT MAC PROTOCOL

As stated in Part III, the draft MAC Protocol covers mining, agricultural, and construction equipment.⁶³ The range and value of items of such equipment is potentially vast and for a long time seemed to raise two insuperable problems: unique identification and minimum value requirements. Happily, the UNIDROIT Study Group and the Working Group of industry experts it set up to examine these complex issues ingeniously solved these problems. The answer proposed by the private sector through the MAC Working Group, and adopted by the Study Group, was to select thirty-six of the over 5,000 codes utilized by the World Customs Organization in its Harmonized Commodity Description and Coding System (“HS System”) to classify goods for customs purposes.⁶⁴ The selected codes were those allocated to equipment that is, for the most part, of high value and identified by serial number.⁶⁵

The draft MAC Protocol contains three Annexes. Annex 1 is devoted to agricultural equipment, Annex 2 to construction equipment, and Annex 3 to mining equipment.⁶⁶ Accessories or parts that do not fall within a separate HS code in an Annex are brought within the definition of the equipment to which they relate. Equipment that does not fall within an HS Code in an Annex is outside the Protocol. The substantive provisions of the draft MAC Protocol apply equally to all three categories without differentiation. A Contracting State may, by declaration, exclude the entirety (but not part) of one or two of the Annexes. However, some codes are common to more than one Annex. For example, certain codes relating to different parts of a bulldozer fall within all three categories. An exclusion of one Annex will not preclude the Convention from applying to the same code of equipment in another Annex. Categories of equipment falling within an earlier Protocol, such as some types of railway rolling stock, are excluded.⁶⁷

The Annexes only identify categories of equipment, not specific items. Article V of the MAC Protocol follows the flexible approach of the Luxembourg and Space Protocols as regards the constitution of the agreement.⁶⁸ For registration purposes, Article XVI of the MAC Protocol states, “A description of agricultural, construction, or mining equipment that contains its manufacturer’s serial number

63. MAC Protocol, *supra* note 24, art. II.

64. The Harmonized Commodity Description and Coding System (HS System) was established pursuant to, and is governed by, the 1988 International Convention on the Harmonized System (HS Convention). See *HS Convention*, WORLD CUSTOMS ORG., http://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/hs_convention.aspx [<https://perma.cc/QE7K-WHFL>] (last accessed Nov. 28, 2017).

65. Equipment not identified by serial number is not eligible for registration under the Protocol even if covered by an HS Code. MAC Protocol, *supra* note 24, art. XVI.

66. See generally *id.*

67. *Id.* art. II(4). It is unlikely that MAC equipment would extend to any aircraft object or space asset.

68. *Id.* art. V.

and the name of the manufacturer as supplemented by such additional information as may be provided by the regulations is necessary and sufficient to identify the object for [uniqueness].”⁶⁹

XI

SEARCHING FOR REGISTERED INTERESTS IN THE INTERNATIONAL REGISTRIES

“Searches in the International Registry for aircraft objects may be made against a manufacturer’s name, a manufacturer’s generic model designation, and a manufacturer’s serial number.”⁷⁰ A priority search for a registration against a specific aircraft object must supply all three items of information.⁷¹ Alternatively, a searcher may make an informational search by providing only a manufacturer’s serial number.⁷² This informational search will throw up a list of all matching objects described by the serial number from which the searcher selects the appropriate object. Searches in the Rail Registry will, under the working draft produced by the Rail Preparatory Commission, be made using one or more of the following criteria:

- (a) the URVIS identifier allocated to the item by the Registrar pursuant to Article XIV (1) of the Protocol;
- (b) the number assigned to the item under a national or regional identification system where a declaration is made by a Contracting State according to Article XIV(2) of the Protocol;
- (c) the Registrar’s group file number in relation to a group registration.⁷³

The division into informational and priority searches follows that of the Aircraft Registry regulations. Searches in the Space Registry, when established, may be made against the UIN, the information on the basis of which the UIN was issued, or any additional information set out in Annex 2.⁷⁴ Any search certificate issued under Article 22 of the Convention must also include the particulars recorded in respect of a rights assignment or reassignment.⁷⁵

69. *Id.* art. XVI. Article XVI reflects changes that were recommended by an intersessional working group. See UNIDROIT, *Intersessional Working Group on Registration Criteria, Conclusions Paper*, (Sept. 2017), <http://www.unidroit.org/english/documents/2017/study72k/cge02/s-72k-cge02-11-e.pdf> [https://perma.cc/H3SC-WH5M].

70. Aircraft Registry Regulations, *supra* note 27, § 7.1 R-24.

71. *Id.* § 7.2 R-25.

72. *Id.* § 7.3 R-25.

73. Draft Rail Registry Regulations, *supra* note 47, § 8.1. As to group registrations, see text accompanying note 48, *supra*.

74. Draft Space Registry Regulations, *supra* note 48, § 7.1. The regulations follow those of the aircraft registry for priority searches and informational searches. Attention has already been drawn to the neat way in which the registration system has been designed to enable a search against a space asset to throw up details of any physically linked asset. See Part IX, *supra*.

75. Space Protocol, *supra* note 1, art. XII(3).

XII

THE EFFECT OF REGISTRATION ERRORS

Identification errors inevitably occur in some registrations, as where a digit is mis-keyed or the digits of a code are transposed. Presumably, the registration system will be designed to reject a registration where the effect of the error is that the stated code does not exist in any of the Annexes, but it would be possible to have an error which leads to the application of a different code from that intended, as where 842919 is inputted as 842911.

The International Registry is strictly “liable for compensatory damages for loss suffered by a person directly resulting from an error or omission of the Registrar and its officers or employees,” or, in general, for system malfunction,⁷⁶ but not for “factual inaccuracy of registration information received by the Registrar or transmitted by the Registrar in the form in which it received that information.”⁷⁷ In the case of aircraft objects, the risk of an identification error is reduced because of the requirement to use the drop-down menu for data supplied to the Registrar by the aircraft and engine manufacturers. A common test applied in laws relating to national registration systems is whether the error is seriously (or materially) misleading.⁷⁸ For this purpose, it is not necessary to show that a person was actually misled. The test is an objective one that is designed to protect the integrity of the register and avoid factual disputes as to whether a particular searcher was or was not misled. If the above test is applied, then a seriously misleading registration error will vitiate the registration.

XIII

POST-REGISTRATION CHANGES OR ADDITIONS TO REGISTERED DATA

The final question is whether the creditor has a duty to update a registration; for example, to take account of a change of name of a party, a change in the description of a model, post-launch information as to the co-ordinates of a satellite, or the addition of a linked asset. During one of the sessions of the Space Preparatory Commission, it was strongly urged by some participants that the Space Registry regulations (then under discussion) should require the creditor to provide post-launch information. Others objected that this might prove burdensome, since the creditor would not necessarily have access to the required information and, even if it was available, it might take time to obtain, and could possibly jeopardize the creditor’s existing registrar. The writer brought the discussion to a close by pointing out that under Article 20(1) of the Convention a registration may be amended by either party, but only with the written consent

76. Cape Town Convention, *supra* note 1, art. 28(1).

77. *Id.* art. 28(2).

78. Similarly, the Official Commentaries suggest that whether an error invalidates a registration depends on its gravity and the likelihood that a person acting in reliance on the erroneous data would be reasonably misled. *See, e.g.*, ROY GOODE, OFFICIAL COMMENTARY ON THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT AND THE PROTOCOL THERETO ON MATTERS SPECIFIC TO AIRCRAFT EQUIPMENT, UNIDROIT ¶ 2.136 (3d ed. 2013).

of the other. Accordingly, the imposition of any unilateral obligation on the creditor by the regulations would be *ultra vires*. To date, the registry rules for space assets and the draft MAC Protocol largely follow those for the aircraft registry, and all of them provide for amendment or supplementation of registered information, but only with the consent of the named parties.⁷⁹

XIV

CONCLUSION

It will now have become apparent that the primary purpose of this article is to help those who suffer from insomnia. One page and you're out! But, if it has served any other purpose, it is to show that the design of asset registration systems is exceedingly complex and requires intensive input both from technological experts and from those engaged in the industry concerned if it is to function reliably and efficiently.

79. See, e.g., Aircraft Registry Regulations, *supra* note 27, §§ 5.11–5.13. But consent is not required for a change of name by a transacting user entity. *Id.* § 5.16.