16

INTERNATIONAL REGULATORY LAW

Ian Walden

16.1 INTRODUCTION

Telecommunications is an inherently trans-national technology. As such, the development of telecommunications has always required substantial cooperation and agreement between nation states. Cooperation can be seen at a number of different levels, including the need for adherence to certain standards, both technical and operational. Historically, the need for ongoing cooperation between states has meant the establishment of inter-governmental organizations, of which the International Telecommunication Union (ITU) lays claim to the oldest pedigree of any such organization. These inter-governmental institutions have been responsible for laying down much of the framework that comprises international telecommunications law and regulation.

In addition, the nature of the industry demands the construction of communications links across jurisdictions subject to both domestic and international law. As such, the telecommunications industry has been subject to treaties and conventions established under public international law for the treatment and use of common natural resources, specifically the law of the sea and outer space law.

Over the past thirty years, the sources of international telecommunications law has diversified as the industry and national markets have undergone fundamental change. At a technical level, the need for internationally agreed standards has expanded exponentially with the growth of data communications and the range of services being made available over communication networks. The rate of

Ian Walden, 16 International Regulatory Law In: Telecommunications Law and Regulation. Fifth Edition. Edited by: Ian Walden, Oxford University Press (2018).
DOI: 10.1093/oso/9780198807414.003.0022

technological change has required more flexible and dynamic decision-making procedures and institutions. Historically, standards-making bodies comprised monopolistic operators that were part of a national public administration. With market liberalization, the numbers of participants in the standards-making process has risen dramatically, whilst conversely the effective role of governments has diminished significantly. As a consequence, we are witnessing a period of change in those international institutions to which the attention of telecommunications lawyers has traditionally been focused. International industry associations have emerged to challenge the primacy of inter-governmental organizations. At the same time, governments, particularly among developed nations, are increasingly looking to scale-down their involvement in the governance of the telecommunications sector, driven both by a desire to reduce demands on public finance, as well as through a recognition that they are not necessarily best placed to make appropriate decisions in such a rapidly evolving environment.

International telecommunications organizations such as the ITU are also experiencing institutional competition from other inter-governmental bodies, particularly the World Trade Organization (WTO). While the associated multinational trade agreements have focused on telecommunications as a distinct economic activity, a tradable service, rather than simply as a medium or conduit for conducting trade. As the industry undergoes fundamental structural shifts, with operators merging to become global entities as well as pondering the consequences of convergence, attention has shifted to issues of market access as the primary concern in international telecommunications law. The ITU has experienced a loss of status in the face of such new priorities and is therefore engaged in a re-examination of its role in the changing environment.

Despite the global trend towards market liberalization, there continues to be an inevitable divergence of view between developed nations and developing nations towards the telecommunications sector. Whilst all nations recognize the critical role of telecommunications in a nation's economic infrastructure and development, many countries continue to see telecommunications as a public resource and even a natural monopoly in which governments have a right and obligation to intervene. Developing countries are experiencing considerable pressure to embrace the credo of market liberalization from a number of directions. Firstly, the need to attract foreign investment into the domestic telecommunications market. Secondly, developments in technology, particularly internet-related, increasingly erode the ability of states to exercise effective regulatory control over the sector. Thirdly, developmental organizations, such as the World Bank and the European Bank of Reconstruction and Development (EBRD), have imposed liberalization conditions as part of their loan programmes for infrastructure investment projects in telecommunications.

This chapter broadly examines three substantive aspects of international telecommunications law:

- the construction of international telecommunications network infrastructure, both satellites and submarine cables;
- the structure and operation of the ITU and its rule-making activities; and
- the impact of the WTO and its trade agreements on national telecommunication markets and legal regimes.

16.2 INTERNATIONAL NETWORK INFRASTRUCTURE

As at a national level, the physical construction of telecommunications networks is subject to a particular regulatory framework not applicable to the provision of services over such networks. For example, issues concerning rights of way across public and private property are a central element in the licensing of a public telecommunications operator.[1] At an international level, similar issues arise concerning the rights and obligations of those wanting to construct either wireless (ie satellite) or wireline (ie cable) networks between sovereign jurisdictions. This section reviews the law governing the launch and operation of communication satellites[2] and the laying of submarine cables.

16.2.1 Satellite regulation

The launch of TELSTAR I in 1962 marked the beginning of satellite technology for use in telecommunications, broadcasting, and for military purposes. Satellites are now also used for weather forecasting, earth observation, and navigation purposes, such as GPS technology. Satellites primarily operate as radio relay stations, receiving and retransmitting signals between uplink and downlink frequencies, through 'transponders', from and to receivers and transmitters on earth, as well as between satellites, known as 'extraplanetary links'. Modern satellites may also carry out more complex on-board signal processing than simply acting as a relay.

Satellite systems can be distinguished into geostationary and non-geostationary systems. A geostationary system (GEO) is based above the equator (around 36,000 kms) and revolves at the same speed as the earth, thereby appearing to be stationary (ie a synchronous orbit). An advantage of GEOs is the ability to provide continuous and relatively comprehensive coverage of the earth with only three

[1] See further Chapter 6, Authorization and Licensing.

[2] Issues relating to the assignment of frequency spectrum and orbital slots are discussed in Section 16.3.2.

satellites,[3] although providers may operate more.[4] Disadvantages of such systems include the fact that the equator can only accommodate a limited number of systems; while the quality of communications is diminished somewhat by the transmission delay caused by the substantial distance travelled by signals to and from such satellites, particularly for voice telephony.

Recent developments in the satellite market have been in the proliferation of non-geostationary systems operating in medium earth orbits (MEOs), operating at around 10,000 kms above sea level, and low earth orbits (LEOs), operating at around 1,500 kms above sea level. Such systems require a considerably greater number of satellites than GEO systems to ensure continuous coverage.[5]

The launch and operation of satellites is subject to international space law. Historically, satellite systems were developed under international conventions between States, such as INTELSAT, INMARSAT, and EUTELSAT. However, the current non-geostationary systems are multinational private consortia operating under private agreement and subject to national legal regimes.

16.2.1.1 *International space law*

International space law comprises a set of agreed principles embodied in a series of treaties and conventions. These principles encompass the launch and operation of satellites, particularly in respect of liability for any damage caused by the satellite or any other space object.

In 1962, the UN General Assembly adopted a declaration comprising nine fundamental legal principles governing the use to be made of 'outer space'.[6] This declaration formed the basis of the 'Outer Space' Treaty agreed in 1967.[7] This Treaty continues to be one of the primary international legal instruments governing the launch and operation of telecommunications satellites.

In terms of economic exploitation, the Treaty declares that outer space and celestial bodies may not be subject to national appropriation (Article II). States are

[3] An idea published by Arthur C Clarke in Wireless World in 1945. Coverage does not really extend to regions above latitudes 75° north or south. The angle of elevation in northern Europe does significantly limit reception.

[4] Inmarsat, Section 16.2.1.2, for example, has three constellations of 11 satellites.

[5] eg the O3b MEO system will initially use 12 satellites at an altitude of 8,062 km; Iridium's LEO system uses 66 satellites at an altitude of 785 km; Globalstar's LEO system will use 24 satellites at an altitude of 1,414 km.

[6] Resolution 1962 (XVIII), adopted at UN General Assembly, 13 December 1963 (GAOR Annexes (XVIII) 28, p 27). The physical boundaries of outer space are somewhat unclear, although 100 km above sea level, representing the boundary between the lower and outer atmosphere, is a generally accepted figure: see 'The legal regime of airspace and outer space: the boundary problem' in Cheng, C, *Studies in International Space Law* (Oxford: Clarendon Press, 1997) 425–456.

[7] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (London, Moscow, and Washington, 27 January 1967; TS 10 (1968); Cmnd 3519).

also responsible under international law for their activities in outer space, whether carried out by governmental or non-governmental authorities; the latter requiring authorization and ongoing supervision (Article VI). Liability for damage caused by any object placed in space would rest jointly with the State that launches, or procures the launch of, the object, and the State 'from whose territory or facility an object is launched' (Article VII). Jurisdiction and control over any object in outer space remains with the State that has registered the object, whilst ownership is unaffected by the presence of the object in space or its return to Earth outside of the registering State (Article VIII). To facilitate international cooperation in the use of outer space, States are required to provide information to the United Nations regarding their activities in, and use of, outer space (Article XI).

The liability provisions of the Outer Space Treaty were elaborated further in a 1972 Convention on International Liability for Damage Caused by Space Objects ('Liability Convention').[8] Reflecting the terms of the 1967 Treaty, liability lies with the 'launching State'; this encompasses both the State that launches or procures the launch of the space object and the State from where it was launched (Article I).[9] In certain circumstances, this definition could result in there being three potential 'launching states'; for example, where a satellite supplier based in the UK arranges for the launch of satellite for a customer based in France, under a 'delivery in-orbit' arrangement, from a launch service provider based in Kazakhstan.[10] Where a launch has involved two or more States, then liability is joint and several (Article V), unless agreed otherwise privately by the parties.[11]

Liability results from damage caused by a 'space object', which includes its 'component parts' and the 'launch vehicle and parts thereof' (Article I(d)). The concept of 'damage' is defined under the Liability Convention in the following terms:

> … means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organisations (Article I(a)).

Consequential losses, such as future traffic revenues, do not seem to be encompassed within this definition.[12]

[8] London, Moscow and Washington 29 March 1972; TS 16 (1974); Cmnd 5551. The Treaty entered into force for the United Kingdom on 9 October 1973.

[9] Launching also includes any attempts.

[10] See <http://www.bis.gov.uk/ukspaceagency/what-we-do/space-and-the-growth-agenda/uk-capabilities-for-overseas-markets/the-outer-space-act-1986/registry-of-space-objects>.

[11] eg an agreement between Russia and Khazakstan.

[12] See generally Beer, T, 'The specific risks associated with collisions in outer space and the return to earth of space objects—the legal perspective', (2000) XXV(2) Air and Space Law, pp 42–50.

Liability is *absolute* under the Convention where the damage is caused on the Earth or to an aircraft (Article II).[13] The only formal claim that has been submitted under Article II was by Canada in 1979, claiming C$6m from the Soviet Union for damage caused by the radioactive debris from the re-entry of Cosmos 954 in January 1978. The claim was settled in 1981 for C$3m, but without liability being acknowledged.[14] Liability is *fault-based* where the damage is to the space object of another launching state caused elsewhere than on the Earth (Article III), which raises the potential for complex evidential and causation issues in the event of a claim. In 2009, a first example of a collision between intact satellites occurred between the Iridium 33 and a defunct Russian satellite, Kosmos 2251.[15] As well as the direct damage caused to the colliding space objects, the resultant debris could also have caused damage to other satellites, resulting in a third party claim against the two states involved in the initial collision (Article IV.1(b)). In another incident, in 2010, Intelsat announced it had lost control of Galaxy 15, leading to potential interference with the transmission of AMC 11, a satellite owned by SES World Skies; although it subsequently regained control in December 2010.[16] Such dangers and potential liabilities can be expected to become more common as the space segment becomes increasingly crowded.

A State may claim damages either on behalf of itself; its natural or legal persons (ie the State of nationality); or for those sustaining damage whilst in its territory (Article VIII). Alternatively, such persons may be able to seek remedies under other rules of international or domestic law. Claims for compensation are subject to certain time limits and, where diplomatic settlement is not achieved, may be decided upon by a 'Claims Commission' established at the request of either party (Articles XIV–XX).

Underpinning the 1962 Declaration and the Outer Space Treaty was the concept that each State would maintain a register detailing the space objects for which the State claimed jurisdiction and control. Such registration procedures were formalized under the 1975 Convention on the Registration of Objects Launched into Outer Space.[17] Under the Convention, the launching State accepted an obligation to maintain a register (Article II), although the contents and conditions of use could

[13] Unless it can be shown that the damage is the result of 'gross negligence or an act or omission done with intent to cause damage' by the claimant State (Art VI).

[14] Protocol on Settlement of Canada's Claim for Damages Caused by Cosmos 954 (1981) 20 ILM 689. See also Brearly, A, 'Reflections upon the notion of liability: The instances of Kosmos 954 and space debris', (2008) 34 J Space L 291.

[15] New Scientist, 'Space junk: Hunting zombies in outer space', 15 September 2010.

[16] See <http://www.intelsat.com/resources/galaxy-15/operational-status.asp>.

[17] New York, 14 January 1975; TS 70 (1978); Cmnd 7271. The Convention entered into force for the UK on 30 May 1978.

be determined by the 'State of registry'. In the UK, the Registry is maintained by the UK Space Agency.[18] Certain information is required to be furnished to the Secretary-General of the United Nations for general publication (Articles III, IV).[19] This information should be distinguished from that maintained under the auspices of the ITU in respect of the allocation of frequency spectrum and orbital slots.[20]

Aspects of the treaties comprising international space law have been transposed into UK law by the Outer Space Act 1986 (OSA), which is administered by the UK Space Agency, an executive agency of the Department for Business, Innovation and Skills (BIS). The Act applies to the 'launching or procuring the launch of a space object', 'operating a space object' or 'any activity in outer space' (s 1), which are all licensable activities.[21] However, a licence is not required for the leasing or use of space segment capacity, ie on a transponder, from an existing satellite operator.[22] Under the terms of any such licence, a licensee is subject to a number of obligations, including supplying certain information for inclusion in a register to be maintained by the Secretary of State and to 'avoid interference with the activities of others' (s 5). As part of the licensing process, the UK Space Agency will also ensure that the applicant has made appropriate ITU filings for frequency and orbital slots through Ofcom.[23]

In terms of liability, a licensee is obliged to obtain third-party liability insurance for any loss or damage arising from the authorized activities (s 5(2)(f)), as well as fully indemnifying the government against any claims (s 10). However, as part of the last Government's attempts to boost the domestic satellite industry, it reduced the minimum value of compulsory insurance cover required from €110 to €60m.[24] It has also promised to reform the OSA to both restrict the scope of the compulsory insurance, to only the launch phase and not the in-orbit operational phase, as well as removing the unlimited indemnity.[25] The current liability regime is seen as placing domestic industry at a comparative disadvantage with operators in other countries. In February 2017, the government published a Spaceflight Bill, which

[18] See n 11.

[19] The information to be supplied is: the name of the launching State or States; an appropriate designator or registration number for the space object; the date, territory or location of launch; basic orbital parameters; and the general function of the space object (see generally <http://www.oosa.unvienna.org>).

[20] See Section 16.3.2.

[21] An example of a typical licence can be obtained at <http://www.bis.gov.uk/assets/bispartners/ukspaceagency/docs/osa/osa2008example.pdf>.

[22] UK Space Agency, 'Revised Guidance for Applicants—Outer Space Act 1986'.

[23] See Ofcom, 'Procedures for the Management of Satellite Findings', 27 March 2007.

[24] See 'David Willetts secures agreement for cheaper access to space', BIS, 4 July 2011.

[25] HM Treasury and BIS, *The Plan for Growth*, March 2011, at 2.305.

will provide the basis for such reforms,[26] which was subsequently introduced and received Royal Assent in March 2018 as the Space Industry Act 2018.[27] Under the Act, an amended OSA will only be applicable to activities carried out overseas (which has been the reality for UK licensed launches to date), while domestic launches will be licensed under a new regime. The Secretary of State has been given the power to indemnify licensed operators in respect of any liability that exceeds the limit provided for in the licence, to be specified in regulations (Section 35).

In terms of jurisdiction, a satellite system can be distinguished into two components: the 'earth segment' and the 'space segment'. The 'earth segment' comprises those stations that send ('uplinks') and receive ('downlinks') transmissions from the satellite and which are subject to the laws of the jurisdiction in which they are physically located.[28] The 'space segment' has been defined in the following terms:

> . . . the telecommunications satellites, and the tracking, telemetry, command, control, monitoring and related facilities and equipment required to support the operation of these satellites. (INTELSAT Agreement, Article 1(h))

Jurisdictional responsibility for the 'space segment' can be sub-divided between the State that launched the satellite and the State from where the satellite is controlled. If control is distributed between multiple sites, then it is the operator's principal place of business.

16.2.1.2 *International satellite conventions*

With the successful launch of Sputnik I in 1957, the operation of satellite systems was initially a highly charged political arena with important military and therefore 'Cold War' implications. However, the 1962 UN resolution represented an important acceptance by the international community that space should be treated as a common resource of 'all mankind'. In addition, the industry then consisted of national, generally State-owned, monopoly operators. With these factors in mind, it was therefore perhaps inevitable that the first satellite systems were the subject of international treaty, rather than private endeavour.

The first international satellite organization (ISO) was established in 1964 under 'Interim Arrangements for a Global Commercial Communications Satellite System'[29] and, subsequently, the Agreement Relating to the International Telecommunications Satellite Organization (Intelsat).[30] Intelsat had legal personality (Article IV) and

[26] Department for Transport, Draft Spaceflight Bill (Cm 9421), February 2017, at <https://www.gov.uk/government/publications/draft-spaceflight-bill>.

[27] See <http://services.parliament.uk/bills/2017-19/spaceindustrybill.html>.

[28] The geographical coverage of a satellite's transmissions is known as its 'footprint'.

[29] Washington, 20 August 1964–20 February 1965; TS 12 (1966); Cmnd 2940.

[30] See the Agreement relating to the International Telecommunications Satellite Organization 'INTELSAT' (with Operating Agreement), (Washington, 20 August 1971; TS 80 (1973); Cmnd 5416).

operated in accordance with the inter-governmental Agreement and an 'Operating Agreement'. Member countries were required to grant Intelsat, and certain of its officers and employees, legal and taxation privileges and immunities (Article XVII). Intelsat's stated prime objective was:

> … the provision, on a commercial basis, of the space segment required for international public telecommunications services of high quality and reliability to be available on a non-discriminatory basis to all areas of the World. (Article III)

Intelsat comprised 147 member countries and signatories, as well as over 200 'investing entities', in 2001. In the UK, British Telecommunications was the designated signatory to Intelsat, reflecting the governmental origins of the organization; although prior to privatization, more than 20 other UK-based operators were designated as 'investing entities'. In July 2001, Intelsat became a private company and was acquired by private equity companies in 2005; it acquired the US satellite operator PanAmSat in 2007; was acquired by BC Partners in 2008 and became a public company in April 2013.

The International Mobile Satellite Organization (Inmarsat) was established in 1979 as an intergovernmental organization providing satellite services for the maritime and aeronautical sectors, particularly communications in situations of distress and safety.[31] In 1994, it established a separate private company, I-CO Global Communications Ltd, to build and provide a non-geostationary mobile satellite-based telecommunications system.[32] Until 1999, Inmarsat's organizational structure was very similar to Intelsat. The vast majority of its operations were privatized in 1999 and it floated on the London Stock Exchange in 2005.

A third international satellite organization to which the UK was a member signatory is the European Telecommunications Satellite Organization (Eutelsat), established in 1977 and comprised of 48 member countries.[33] Whilst the Convention and Operating Agreement were modelled closely on the Intelsat texts, in contrast to Intelsat only one operator per member was a shareholder, which for the UK was British Telecommunications plc. The prime objective of Eutelsat was 'the provision of the space segment required for international public telecommunication services in Europe' (Article III(a)). As with Intelsat and Inmarsat, Eutelsat was privatized in 2001, providing services through a private company (Eutelsat SA), whilst

[31] See the Convention on the International Maritime Satellite Organization (INMARSAT) (with the Operating Agreement), London, 3 September 1976; TS 94 (1979); Cmnd 7722. It changed its name in 1994.

[32] See generally Case No IV/35.296—Inmarsat-P, OJ C 304/6, 15 November 1995.

[33] See the Convention establishing the European Telecommunications Satellite Organization (EUTELSAT) (Paris, 15 July 1982; TS 15 (1990); Cmnd 956, as amended by a Protocol of 15 December 1983, Cmnd 9154). The UK instrument of ratification of the Convention was deposited on 21 February 1985 and the Convention, Operating Agreement and Protocol entered into force on 1 September 1985.

the intergovernmental organization continues to operate in order to 'ensure that basic principles of pan-European coverage, universal service, non-discrimination and fair competition are observed by the company'.[34]

With market liberalization, concerns arose that the treaty-based satellite systems could be utilized by incumbent operators to restrict access to space segment capacity and satellite services. In particular, a service provider wanting to purchase satellite capacity was generally required to procure the capacity via their local signatory, ie the incumbent operator. Not only did this generate revenue for the signatory, but associated 'coordination procedures' required details of the proposed service to be widely disclosed: eg

> To the extent that any Party or Signatory or person within the jurisdiction of a Party intends individually or jointly to establish, acquire or utilize space segment facilities separate from the INTELSAT … such Party or Signatory, prior to the establishment, acquisition or utilization of such facilities, shall furnish all relevant information to and shall consult with the Assembly of Parties … to ensure technical compatibility … and to avoid significant economic harm to the global system of INTELSAT. (Article XIV(d))

Such procedures could obviously be abused to restrict competition either directly, by blocking the provision of a service, or indirectly, by the incumbent operator commencing a competing service.

As part of the EU's liberalization programme, Member States party to any of the international satellite organizations, ie Intelsat, Inmarsat, Eutelsat, and Intersputnik, were required to notify the Commission of any measures which could breach European competition law.[35] In addition, a 1994 Council Resolution called for the rules of the international satellite organizations to be adjusted to ensure strict separation between regulatory and operational aspects; as well as separation or flexibility between ownership of investment shares and usage of the systems.[36]

To minimize the potentially anti-competitive operation of the satellite organizations, the European Commission believed it was necessary to ensure that 'users obtain direct access to space segment capacity, while providers of this space segment should obtain the right to market space capacity directly to users'.[37] Such

[34] See <http://www.eutelsat.com/>: 'Introduction to Eutelsat'.

[35] Commission Directive 94/46/EC of 13 October 1994 amending Directive 88/301/EEC in particular with regard to satellite communications, OJ L 268/15, 19 October 1994, at Art 3.

[36] Council Resolution on further development of the Community's satellite communications policy, especially with regard to the provision of, and access to, space segment capacity; OJ C379/5, 31 December 1994.

[37] 'Towards Europe-wide systems and services—Green Paper on a common approach in the field of Satellite Communications in the European Community', Communication from the Commission, COM(90)490 final, 20 November 1990. See also the 1991 Guidelines, at paras 122–128.

direct access has subsequently been implemented in most of the Member States, although through separate ancillary agreements rather than amendments to the provisions of the international agreements.[38] However, the Commission did not consider such developments to be sufficient to ensure a fully liberalized market in the provision of satellite-based services. Therefore, Member States now have an obligation to 'take all appropriate steps to eliminate' incompatibilities between the international conventions and the EC treaty.[39]

In the US, the government took a much more proactive stance towards the anti-competitive position of the ISOs. In 2000, Congress adopted the Open-Market Reorganization for the Betterment of International Telecommunications Act,[40] with the express purpose of ensuring that Intelsat and Inmarsat became independent commercial entities with a pro-competitive ownership structure. The Federal Communications Commission was required to determine whether Intelsat, Inmarsat, or any of their successor entities 'will harm competition in the telecommunications markets of the United States' and condition or deny any applications or authorizations where such harm is found to be present or potential.[41] Such a unilateral move was in breach of the US's international treaty obligations under the Intelsat agreement,[42] but acted as an effective spur to the privatization process.

With the progressive moves towards full commercialization and privatization, the treaty-based satellite systems are no longer relevant as a feature of international telecommunications law. From a competition law perspective, the process of privatization has raised a number of issues, including the need to ensure that the private operating entities do not retain any of the legal immunities granted to international organizations; and opening up the shareholding to non-participant entities, preferably through a public offering.[43] Such operators are now subject to the scrutiny of competition regulators in the same way as other multinational satellite ventures.[44] However, the ISOs also had a public service remit, both in general

[38] See Communication from the Commission, 'Fifth Report on the Implementation of the Telecommunications Regulatory Package', November 1999.

[39] Commission Directive 2002/77/EC 'on competition in the markets for electronic communications networks and services', OJ L 249/21, 17 September 2002 at Art 8(2).

[40] The 'ORBIT Act', Pub L 106–180, 114 Stat 48 (2000), codified at 47 USC §761 *et seq*.

[41] 47 USC § 761(b)(1).

[42] Sagar, D, 'Privatisation of the Intergovernmental Satellite Organisations', paper presented at the ECSL Tenth Summer Course on Space Law and Policy, Nice, 27 August–8 September 2001.

[43] Ungerer, H, 'The transformation of the International Satellite Organisations—some aspects from a European perspective', 11 April 1999: published on the Competition Directorate-General website. See also Press Release, 'Commission gives green light to Inmarsat restructuring', IP/98/923, 22 October 1998.

[44] eg Commission competition decisions: Case IV/34.768—International Private Satellite Partners, OJ L 354/75, 31 December 1994 and Case IV/35.518—Iridium, OJ L 16/87, 18 January 1997.

terms of offering services on a non-discriminatory basis, as well as specific service offerings, such as Inmarsat's maritime distress and safety services. Whether the privatized entities will continue to adequately fulfil such public service obligations in a commercial environment, only time will tell; but in 2018, the Inmarsat agency recognized other operators as providers of alternative maritime distress systems.[45]

16.2.2 Submarine cables

Submarine cables have been a component of the international telecommunications infrastructure since 1851, when the first submarine cable for telegraphy was laid between England and France. The first commercially successful transatlantic telegraph cable was operational in 1866; the first transatlantic coaxial copper telephone cable (TAT-1) in 1956, and the first transatlantic fibre optic cable (TAT-8) in 1988.[46] The emergence of satellite technology was widely viewed as signalling the demise of submarine cable as a transmission medium. However, submarine cable has continued to prosper and expand as the dominant medium for international traffic due to its superior transmission quality, reliability, and security, carrying over 95 per cent of international voice and data traffic.[47]

The expense of laying submarine cables has meant that, historically, consortia of operators from different jurisdictions have carried out such projects under private agreement, often referred to as 'cable clubs'. Such 'clubs' usually comprised the monopoly operators from each jurisdiction connected to the cable. In contrast to the first satellite systems, such consortia were not the subject of international conventions. During the telecommunications boom of the late 1990s, the 'club' model was supplanted by single private ventures, such as Global Crossing and FLAG, who were able to raise sufficient investment from the capital markets without the need for consortia. However, with the subsequent downturn in the sector, a number of these companies experienced financial difficulties and numerous submarine cable systems have been taken out of service.[48] As a consequence, we have seen a return of cable 'clubs' as a financing vehicle for submarine cable systems. Cable laying projects are driven by the perceived growth in demand for bandwidth to carry data traffic, which reflects in part general economic activity around the world.

[45] Sagar, n 42.

[46] See Davenport, T, 'Submarine Communication Cables and Law of the Sea: Problems in Law and Practice', (2012) 43 Ocean Development & International Law, 201–242.

[47] ICPC Presentation, 'About submarine telecommunication cables: Communicating via the ocean', kindly made available to the author, July 2008.

[48] See Burnett, R, 'The legal status of out-of-service submarine cables', Maritime Studies, No 137, July/August 2004.

In terms of legal issues and regulatory regimes, submarine cabling can be divided into:

- the process of laying (at sea) and landing (on land) of the cable and its subsequent maintenance;[49]
- the provisioning of capacity in the form of IRUs (Indefeasible Rights of Use) and, subsequently, as International Private Leased Circuits (IPLCs);[50]
- the operation of, and access to, the cable landing station; and
- the facilities required to connect the operator's domestic network to the cable landing station, commonly referred to as 'backhaul'.

The issue of cable laying concerns issues of public international law and national marine law, in respect of landing rights. The establishment of cable landing stations usually involves a complex array of national and (or) local planning, development and environmental laws. The provisioning of capacity and 'backhaul' facilities, as well as access to landing stations, has come to the attention of telecommunications regulatory authorities in terms of competition concerns.

In similar fashion to satellites, the international law of the sea governs the laying of submarine cable and associated liabilities for damage, where such cable lies outside the territory of a state. The primary international treaty establishing a legal order for the seas is the United Nations Convention on the Law of the Sea 1982 (UNCLOS), which came into force in November 1994.[51] There are 168 parties to the UNCLOS, which does not include the United States. The Convention divides the sea into five different zones, each subject to different legal regimes:

- *internal waters* are 'on the landward side of the baseline of the territorial sea' and are part of a state's sovereign territory (Article 8);
- *territorial waters* extending 12 nautical miles in breadth and over which the coastal State has sovereignty (Article 3), subject to the right of 'innocent passage' (section 3);
- *continental shelf*, comprising 'the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea' up to 200 nautical miles (Article 76), and over which the coastal state exercises 'sovereign rights for the purpose of exploring it and exploiting its natural resources' (Article 77);

[49] See generally Burnett, D, Beckman, R, and Davenport, T, *Submarine Cables: The Handbook of Law and Policy* (Leiden: Martin Nijhoff, 2014); see also Hogan & Hartson, *Submarine Cable Landing Rights and Existing Practices for the Provision of Transmission Capacity on International Routes*, Report to the European Commission, August 1999.

[50] For a consideration of the commercial aspects of IRUs, see Chapter 11, at Section 11.2.

[51] See UN General Assembly Resolution A/48/263 of 28 July 1994. The Convention came into force in the UK on 24 August 1997 (TS No 81 (1999), Cm 4524). The European Community has acceded in respect of those matters for which it has competence (Council Decision 98/392/EC, OJ L 179/1, 23 June 1998).

- *exclusive economic zone* extending over a 200 nautical mile zone, where the state has the right to declare exclusive economic interests in the resources (Part V); and
- *high seas* which are open to all States, both coastal and land-locked (Article 87).

A coastal State is entitled to lay submarine cables in its territorial waters, provided that they do not obstruct the rights of use of others, such as innocent passage (Article 21(c)). Any State is entitled to lay cables on the continental shelf, subject to the rights of other users already present; as well as the right of the coastal State to take reasonable measures in respect of exploitation, controlling pollution, and the imposition of conditions on cables entering its territory or territorial waters (Article 79). States are also free to lay cables in the exclusive economic zone (Article 58) and the high seas (Article 87), subject to an obligation to respect existing cables and pipelines (Article 112).

The need to protect submarine cables from damage caused by other uses of the sea, such as fishing, dredging, or anchoring, gave rise to the Convention for the Protection of Submarine Cables (CPSC) in 1884,[52] which is applicable outside of territorial waters.[53] The CPSC was implemented in English law by the Submarine Telegraph Act 1885, although any incompatible provisions within the UNCLOS now supersede its provisions (Article 311(2)). Under the Submarine Telegraph Act, it is an offence to unlawfully and wilfully, or by culpable negligence, break or injure a submarine cable under the high seas, attracting a maximum tariff of five years' imprisonment (s 3). Conversely, where a ship owner can prove damage to his equipment in order to avoid damaging a submarine cable, then the ship owner may claim compensation from the cable owner, provided that 'all reasonable precautionary measures' were taken.[54] In 1958, the International Cable Protection Committee was established as an industry body comprising owners and operators of submarine telecommunications cables, including government administrations, in order to promote the protection of submarine cables against man-made and natural hazards.[55] It has produced a number of recommendations on issues such as 'Cable Routing and Reporting Criteria', concerning the placing of new cables near existing systems, which members comply with on a self-regulatory basis.[56]

[52] Paris, 14 March 1884 (75 BFSP 356; C 5910). It has 40 state parties.

[53] Art 1. Primarily in the continental shelf zone: Wagner, E, 'Submarine Cables and Protections Provided by the Law of the Sea', (1995) 19(2) Marine Policy 127, at 132.

[54] UNCLOS, Art 115. See also CPSC, Art VII. Under UK law, see the Continental Shelf Act 1964, s 8(1), referring to CPSC. Section 8(1A) extends the protection to submarine cables under territorial waters and the exclusive economic zone. See *Agincourt Steamship Co Ltd v Eastern Extension, Australasia and China Telegraph Co Ltd* [1907] 2 KB 305, CA.

[55] <http://www.iscpc.org>. There are also national committees, such as the UK Cable Protection Committee <http://www.ukcpc.org.uk/>.

[56] <https://www.iscpc.org/publications/recommendations/>.

Although recognition of the public interest need to protect submarine cables dates back to the CPSC, our increasing dependence on cable infrastructure, especially for internet traffic, has led to them being designated as 'critical communications infrastructure',[57] with some countries implementing additional protective measures within territorial waters. In Australia, for example, the Australian Communications and Media Authority (ACMA) has declared a number of protection zones over submarine cables recognized as being of vital significance to the national interest, particularly in terms of the economy.[58] If carriers want to lay new cables within the zone, they are required to obtain a permit from the ACMA; while certain types of activity are prohibited, such as trawling, or restricted, such as navigational aids.[59] Conduct resulting in damage to a submarine cable constitutes an offence, attracting a maximum tariff of ten years, on the basis of strict liability if the cable is within a protection zone.[60] Similar protection schemes have been adopted in New Zealand[61] and Indonesia.[62]

In similar fashion to the international satellite organizations, the cooperative nature of the 'cable clubs' has raised competition concerns.[63] In a liberalizing environment, competing operators will want to purchase capacity on the cable and may need access to the cable landing stations to physically connect their networks to the international circuits. Cable owners, historically incumbent operators, may delay the provisioning of capacity on the cable, levy excessive tariffs, or make landing station access difficult, in order to obstruct a competitor's entry into the market.

In some EU Member States, national regulators have imposed access and interconnection obligations upon incumbent operators to their submarine cables.[64] While the Access and Interconnection Directive does not expressly refer to cable landing stations or 'backhaul' circuits, such facilities clearly fall within the concept of 'access', and operators could be required to provide access, either where the operator is designated as having SMP or as a general measure.[65] In the UK, the Office of Fair Trading (OFT) has investigated accusations made against the UK

[57] See UN General Assembly Resolution No A/Res/65/37, 7 December 2010, at para 121.

[58] See, for example, ACMA media release 126/2007: 'Protection zone declared for submarine telecommunications cable off the coast of Perth', 4 October 2007.

[59] Telecommunications and Other Legislation Amendment (Protection of Submarine Cables and Other Measures) Act 2005, No 104.

[60] Ibid, at Sch 1, Pt 1, ss 36–37.

[61] Submarine Cables and Pipeline Protection Act 1996.

[62] Regulation of Ministry of Maritime and Fishery Number 33/MEN/2002, at article 5(f),

[63] See also Chapter 10.

[64] See Commission, 'Implementation of the EU regulatory framework for electronic communication - 2015', SWD(2015) 126 final, 19 June 2015.

[65] Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, OJ L 108/7, 24 April 2002, under Art 12 and Art 5(1)(a) respectively.

Cable Protection Committee that it engaged in a collective boycott of an operator, Cityhook plc, and the collective setting of 'wayleave fees' paid to UK landowners for landing cables. The OFT eventually decided not to proceed with the case; although the decision was made on the grounds of administrative priority rather than non-infringement.[66] At an international level, US operators have complained in the past about access to submarine cable systems in the Indian market, particularly access to cable landing stations owned by VSNL the dominant international carrier, which resulted in changes in national rules.[67]

16.3 INTERNATIONAL TELECOMMUNICATION UNION

The International Telecommunication Union (ITU) was founded in 1932, through the merger of the International Telegraph Union and the International Radiotelegraph Union; although its origins can be said to date back to the establishment of the International Telegraph Union by 20 European States in 1865.[68] As such, the ITU is one of the oldest of the intergovernmental organizations, which illustrates the inherently transnational nature of the telecommunications industry, both in terms of the scope of services being demanded and the nature of the physical resources involved, specifically radio spectrum. It became a specialized agency of the United Nations system in 1947.[69] Based in Geneva, the ITU exists to further the development of telegraph, telephone, and radio services, to promote international cooperation for the use of telecommunications and the development of technical facilities, and to allocate radio frequencies. The basic principles for the conduct of international telecommunication services, the basis for membership of the ITU and its organization and permanent organs, are contained in the International Telecommunications Convention and Constitution, to which the UK is a party.[70]

The Constitution contains the fundamental principles of the ITU, while the Convention details the operational procedures, which may be subject to periodic review. The 'supreme organ' within the ITU structure is the Plenipotentiary Conference, which comprises every Member State and meets every four years

[66] *Cityhook Ltd v OFT and ors* [2007] CAT 18.

[67] See USTR, 'Results of the 2007 Section 1377 Review of Telecommunications Trade Agreements', at p 14–15. Available from <https://ustr.gov/sites/default/files/Resultsof%20the%202007%201377%20Review.pdf >.

[68] For a detailed history of the ITU, see Lyall, F and Larsen, PB, *Space Law: A Treatise*, (Farnham: Ashgate, 2009) pp 200–206.

[69] International Convention on Telecommunications, Atlantic City, 2 October 1947; 1950 UK Treaty Series No 76, Cm 8124.

[70] See the Constitution and Convention of the ITU, Geneva, 22 December 1992 (Treaty Series No 24, 1996, Cm 3145). The following text is based on the Constitution and Convention as of March 2015.

(Constitution, Article 8), the last being held in Busan, Republic of Korea, 2014 and the next being in Dubai in 2018. Between meetings, a Council, comprising no more than 25 per cent of the total membership, acts on behalf of the Plenipotentiary (Constitution, Article 10(3)). The work of the Union is sub-divided into three sectors:

- the Radiocommunications Sector (ITU-R);
- the Telecommunication Standardization Sector (ITU-T); and
- the Telecommunication Development Sector (ITU-D) (Constitution, Article 7).

The work of each sector is carried out by a series of organizational entities: world and regional conferences, boards, assemblies, and numerous study groups examining particular topics. An administrative 'Bureau', within the General Secretariat, supports each sector, and the General Secretariat is headed-up by the Secretary-General, currently Houlin Zhao.

The ITU comprises two categories of membership:

- 'Member States', ie national governments, of which there are currently 193, although governments may designate national regulatory authorities as their representative;[71] and
- 'Sector Members', representing all the various categories of player within the telecommunications industry, including regional and international organizations, such as the GSMA, and the intergovernmental satellite organizations, such as ARABSAT.[72] In total, these entities number over 700.[73]

Sector members have been involved in the work of the ITU since the Rome Telegraph Conference in 1871, with the sponsorship of a Member State (Convention, Article 19(1)(a), (b)). In 1998, the Convention was amended to enable Sector Members to apply directly to join the ITU; although the applicant's Member State must approve such a procedure (Convention, Article 19(4*bis*)-(4*ter*)). However, despite being eligible for membership, it was not until the Plenipotentiary in 1994 that Sector Members were able to formally participate in the decision-making processes of the ITU; and only in 1998 that Sector Members were recognized as having formal rights of participation under the Constitution:

[71] eg Ofcom in the case of the UK, as directed by the Secretary of State under the Communications Act 2003, s 22.

[72] Note that the international satellite organizations discussed in section 16.2.1.2, fall under Sector Members, according to where they are established: Intelsat (US), Inmarsat (UK), Eutelsat (France).

[73] See <http://www.itu.int/en/membership/Pages/sector-members.aspx>.

> In respect of their participation in activities of the Union, Sector Members shall be entitled to participate fully in the activities of the Sector of which they are members, subject to relevant provisions of this Constitution and the Convention:
>
> they may provide chairmen and vice-chairmen of Sector assemblies and meetings and world telecommunication development conferences;
>
> they shall be entitled, subject to the relevant provisions of the Convention and relevant decisions adopted in this regard by the Plenipotentiary Conference, to take part in the adoption of Questions and Recommendations and in decisions relating to the working methods and procedures of the Sector concerned. (Article 3(3)).

Under the Convention, the ITU Secretariat has obligations to 'encourage the enhanced participation' of Sector members (Article 19), while a Sector Member may also be authorized to act on behalf of a Member State (Convention, Article 19(9)), which may be the case where an operator continues to be part of the government, often under a specific ministry, or has been conferred with certain special or exclusive rights within the jurisdiction. Sector Members participate in those sectors of the ITU for which they apply, eg ITU-R, so participation in one sector does not confer authorization to participate in another.

Despite the enhanced status of the Sector Members, the fundamental legal instruments of the ITU, the Constitution, Convention, and Administrative Regulations,[74] continue to be under the exclusive jurisdiction of the Member States.

An industry player may also be invited by a Sector of the ITU to participate as an 'Associate' within a study group (Convention, Article 19(12)), with more limited rights of participation, although with an obligation to help defray the costs of the group in which they participate (Convention, Article 33(5)(4*bis*)). This category of participants was established within the ITU system in 1988, as a means of enabling participation by small entities in the work of the ITU.

With the liberalization of the telecommunications industry and the proliferation of commercial operators, tension has grown within the ITU over the position of industry members within the ITU structure. On the one hand, governments are wary of relinquishing their historic rights to control the organization; whilst on the other hand, they recognize industry's legitimate interests in the work of the Union, as well as wanting industry to contribute an ever greater proportion of the costs associated with its operations and activities.[75] The issue of industry involvement dominated the 1998 Plenipotentiary Conference in Minneapolis, where a single category of industry membership was finally recognized:

[74] See Section 16.3.4.

[75] See Resolution 110 (Marrakesh, 2002): 'Review of the contribution of Sector Members towards defraying the expenses of the International Telecommunication Union'.

> *Sector Member:* An entity or organization authorized in accordance with Article 19 of the Convention to participate in the activities of a Sector. (Constitution, Annex)

In terms of financing the work of the ITU, the Constitution was amended to place Sector Member contributions on an equal footing to those of Member States (Article 28). In addition, new 'Advisory Groups' were established for each Sector, with a broad remit to review the 'priorities, programmes, operations, financial matters and strategies' of the various bodies within each Sector (Convention, Article 11A, 14A, 17A). These new bodies have increased the influence of Sector Members within the ITU as Member States and industry participate on an equal footing.

As part of a broad review of the ITU's role and strategy for the future, an ITU Reform Advisory Panel was established at the end of the last decade, comprising both governmental and private sector members,[76] and made the following recommendation in 2000 with respect to the balance of influence between Member States and Sector Members within the ITU:

> The decision-making functions of the ITU should reflect the modern, competitive telecommunications environment in which the private sector plays the lead role while the regulatory agencies act as an arbitrator for the wider public interest.[77]

Whilst such sentiment was welcomed by the telecommunications industry, the degree to which Member States continue to intervene in the sector in the 'public interest' may give cause for concern. Currently, there are no institutional procedures to enable Sector Members to appeal against a decision made by Member States or arbitrate in a dispute with a Member State.

The work of the ITU can be distinguished into three major areas: standardization, spectrum management and orbital slots, and development issues.

16.3.1 Standards

It was the issue of technical standards that gave rise to the establishment of the International Telegraph Union in 1865, when governments recognized the need for standards to extend the telegraph network throughout Europe. Standards represent the cornerstone of the global telecommunications industry, and the ITU is one of the leading international institutions for *de jure* standards-making. Critically, the ITU's standards remit extends not only to technical issues, but also operational and tariff structures for international telecommunication services,

[76] For a full list of members, see <http://www.itu.int/newsroom/reform/rapmembers.html>.

[77] ITU Reform Advisory Panel (RAP), Observations and Recommendations for Reform, 10 March 2000.

which has extended its potential to influence or interfere (depending on your perspective!) in sectoral developments.[78]

Over recent years, the ITU's position in the standards-setting field has diminished in the face of regulatory 'competition' from regional organizations,[79] industry bodies,[80] and, most significantly, *de facto* standards organizations such as the Internet Engineering Task Force (IETF) which are able to develop standards much more rapidly that formal bodies such as the ITU. Recognizing such developments, the ITU instituted an 'alternative approval process' (AAP) in 2001,[81] to fast-track the adoption of certain standards; although the process is not available for recommendations that have 'policy or regulatory' implications.[82] Standards adopted under the AAP have the same status as those approved under the traditional process.[83]

In the standards arena, the ITU has also examined ways to reposition itself:

> ITU-T could become a facilitator for collaboration, convening meetings among different standards bodies and industry forums, in particular on interworking between the Internet and telecommunications networks, both fixed and mobile.[84]

As such its standards-development role would be focused on those areas where it currently leads: optical transmission, voice services, numbering, signalling, and network management. However, the sentiment expressed in this quote implies that the ITU is entirely neutral in its role as facilitator, which has not always been the case. First, the technical standards it has adopted have generally been created by commercial entities, which are submitted to the ITU process for endorsement. As such, there can be fierce commercial rivalry, sometimes with a clear national champion dimension (eg Huawei and China), between competing proposals for such international recognition. In the case of the development of the 3G Universal Mobile Telephone Service, for example, the ITU ended up adopting a standard that encompassed competing standards.[85] Second, work in other standards-making bodies may lead to open dispute between the ITU and the other entity. A leading example concerns the standard for Multiprotocol Label Switching (MPLS), a transport management protocol,

[78] ie ITU-T D-Series Recommendations: 'General Tariff Principles'. See further Section 16.3.5.

[79] eg the European Telecommunications Standards Institute (ETSI): <http://www.etsi.org>.

[80] eg the GSM Association: <http://www.gsma.com> comprises nearly 800 mobile operators.

[81] Recommendation ITU-T A.8 'Alternative approval process for new and revised ITU-T recommendations' (10/2008) .

[82] Ibid, at 1.1. See the Convention, Art 20.5*bis* 4, for guidance as to what may have policy or regulatory implications.

[83] Ibid, at 1.2. [84] RAP n 77, at 3.

[85] See Ryan, P, 'The ITU and the Internet's Titanic Moment', (2012) Stan Tech L Rev 8.

which resulted in the IETF and the ITU adopting different incompatible standards.[86]

16.3.2 Radiocommunications

The development of radiocommunications at the beginning of the twentieth century also gave rise to the need for international cooperation to avoid harmful interference. The International Radiotelegraph Union, established in 1906, adopted operating principles that have continued to form the basis of the ITU's regulation of radiocommunications: Member States were required to notify each other of any new service utilizing the radio spectrum and were obliged to ensure that such services did not interfere with other uses of the frequency.[87]

The Radiocommunications Sector of the ITU, primarily operating through the Radio Regulations Board, exercises a regulatory function in respect of the use of two scarce international resources, radio-frequency spectrum and orbital slots, both of which require management in order to maximize utilization, as well as prevent interference between services and space objects.[88] The ITU is responsible for the 'allocation' of bands of radio-frequency spectrum to particular services (eg broadcasting) and the 'allotment' of a given frequency or channel to a Member State administration or geographic region. The Member State administration then grants an 'assignment' of a frequency or channel to a specific operator, which is then registered in the 'Master International Frequency Register' (the 'Master Register'). The ITU records all satellite filings, both geostationary and non-geostationary, as well as the earth stations that communicate with those systems.[89]

Such procedures are designed 'to eliminate harmful interference … and to improve use made of the radio-frequency spectrum'.[90] The overriding objective of the ITU regulatory regime is the efficient use of the spectrum, while ensuring that public safety and emergency communication services, the only other policy concerns directly addressed in the Radio Regulations, are not adversely affected:

[86] See Bennett, R, 'The gathering storm: WCIT and the global regulation of the Internet', *Information Technology & Innovation Foundation*, November 2012.

[87] See Allison, A, 'Meeting the Challenges of Change: The reform of the International Telecommunications Union', (1993) 45(3) Federal Communications Law Journal 498.

[88] Constitution, Art 1(2)(a), (b); Chapter II (Arts 12–16) and Convention, Section 5 (Arts 7–12). The ITU's procedures cover both geostationary and non-geostationary satellite systems.

[89] See the ITU 'Space Network Systems Online', at <http://www.itu.int/sns/>.

[90] Harmful interference is defined as 'Interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with the Radio Regulations.' Constitution, para 1003. See also the Radio Regulations, Section 16.3.4.2, at Art 1(1.169). 'Harmful interference' is distinguished from 'permissible interference' (ie interference which falls within certain parameters) and 'accepted interference' (ie interference greater than certain parameters, but accepted by two or more administrations).

> Any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the international distress and emergency frequencies established for these purposes by these Regulations is prohibited. Supplementary distress frequencies available on less than a worldwide basis should be afforded adequate protection.[91]

The ITU regime should not, therefore, be viewed as a comprehensive governing framework for the provision of radiocommunication services, since national and regional policies and laws on radiocommunications will generally encompass a much broader remit of issues, including environmental concerns.

The ITU and Member States have the difficult task of reconciling, on the one hand, that these limited natural resources be used 'rationally, efficiently and economically' with, on the other hand, being expected to bear in mind that countries should have 'equitable access to [the resources], taking into account the special needs of the developing countries and the geographical position of particular countries'.[92] The latter phrase provision was introduced to reflect the interests of developing countries who were concerned to reserve a portion of the relevant resources until such time as they were in an economic position to exploit them. To address this tension, the ITU distinguishes between planned and non-planned spectrum bands. The former are subject to a plan developed at ITU regional or world conferences, against which administrations then submit their requirements and the spectrum is shared out; while spectrum in the unplanned bands is distributed on a first-come-first-served basis. The planned bands enable equitable access, but at the expense of rigidity and tied spectrum that is potentially unused; against the flexibility of non-planned bands that can exclude 'latecomers'.[93]

An additional dimension of this issue concerns the period for which any frequency and orbital assignment lasts, since a grant in perpetuity would seem akin to a sovereignty or title claim, the former of which is prohibited under the Outer Space Treaty (Article II). The RRs make clear that assignments are not perpetual and should be discontinued, by default, once the period of operation shown on the assignment notice expires, although an administration may extend the period or substitute another satellite.[94]

Despite these coordination procedures, one of the dominant issues of concern in the Radiocommunications Sector over the past two decades has been the problem of overfiling of requests for orbital slots with associated frequencies for

[91] Article 4, at 4.22. See further Section 16.3.4.

[92] Article 44(2). Introduced in the 1973 ITU Convention.

[93] ITU, 'Overview of the Radio Regulations', available at <http://www.itu.int/sns/radreg.html>.

[94] RRs (2016), Resolution 4 (REV.WRC-03), 'Period of validity of frequency assignments to space stations using the geostationary-satellite and other satellite orbits'.

satellite systems. In particular, Member State administrations have been accused of filing for 'paper satellites' that have little or no real prospect of becoming operational. The filing is designed to pre-empt competing claims to what is perceived as an ever-diminishing resource in the face of multinational private satellite consortia, such as Globalstar and Iridium. The administration may then be expected to realize the value of the allocation by re-selling or leasing the slot to the highest bidder at some later date. In the early 1990s, for example, Tonga applied to the ITU for 31 orbital slots and was awarded 6. Tonga then leased one of the slots to Columbia and auctioned off the remaining slots for US$2 million each.[95] Such warehousing practices not only subject orbital slots to financial speculation and give rise to disputes,[96] they substantially lengthen the procedure for genuine satellite systems to obtain the necessary allocations.[97]

To address the problem of overfiling, proposals were put forward at the World Radiocommunications Conference (WRC), in 1997, that administrations be required to provide specific evidence of the proposed satellite system, through administrative and financial 'due diligence' procedures. Under administrative due diligence, Member States are required to make regular submissions on the implementation of the system, including the contractual date of delivery, the number of satellites procured, and the proposed launch date.[98] In the event that a system does not get brought into operation, the Radiocommunications Board can decide to cancel the recorded assignment in the Master Register.[99] An example of the process operating effectively is *R (ICO Satellite Limited) and the Office of Communications*[100, 101] where the satellite operator unsuccessfully challenged a decision of Ofcom to request that the ITU cancel the operator's assignment after it failed to bring its system into operation within the regulatory period, ie nine years.

An alternative administrative possibility is that satellites may be launched without ITU co-ordination. Such a scenario occurred in July 2008, when the Protostar 1 satellite was launched from French Guiana without a valid slot allotment from the ITU. The launch was late and its orbital slot permission (ST-1B-CK), granted under the Administration of Singapore, had lapsed. Protostar was

[95] Jasentuliyana, N, *International Space Law and the United Nations* (Leiden: Martinus Nijhoff, 1999), at p 309–310.

[96] Indonesia placed one of its satellites in a slot registered with Tonga on the basis that the 'assignment' was 'wrong in law'. Ibid, at 310.

[97] See ITU Press Release, 'Scrambling for Space in Space' (Geneva, 16 September 2002), where it is stated that the backlog of satellites awaiting coordination stood at 1200, with between 400–500 new requests each year.

[98] Radio Regulations, Resolution 49, at Annex 2.

[99] Radio Regulations, Article 13.6(b).

[100] [2010] EWHC 2010 (Admin).

[101] See also ECJ Case T-441/08, *ICO Services Limited v European Parliament and Council*, 21 May 2010, in which the ICO sought unsuccessfully to annul Decision 626/2008/EC on the selection and authorization of systems providing mobile satellite services (MSS).

designed for DTH and broadband internet access services across the Asia-Pacific region. It was eventually granted a slot in September 2008 through Belarus, under the Intersputnik umbrella. Protostar required an alternative 'launch' state sponsor, which was the Republic of Belarus, the notifying administration for Intersputnik. Intersputnik ensured that Protostar was compliant with ITU rules, following complaints of harmful interference by China and orbital concerns expressed by the United Arab Emirates.[102] In April 2009, however, Intersputnik terminated its concession agreement based on continuing allegations of interference, which required Protostar to shut down its transponder operations and look for a new sponsoring administration, which it failed to do and so went in to administration.[103] Intelsat has since purchased the satellite asset.

The proposed financial constraints would have included an annual coordination and registration charge, as well as a refundable deposit. The financial due diligence proposals were, however, rejected over concerns that this would effectively represent a spectrum usage charge. Instead, it was agreed that the ITU would be able to recover its full costs for processing such applications.[104] Such procedures have helped reduce the filing backlog; although ongoing wrangles are taking place between the ITU and satellite operators about the true costs involved and the resulting high fees. This has led to substantial non-payment and arguments over the consequences, ie the cancellation of the filing, and who bears the liability for the outstanding invoice, either the operators or the Member States with whom the ITU has a formal legal relationship.[105]

In terms of the spectrum bands, the ITU is also the forum for Member States to debate the allocation or reallocation of newly or prospectively available spectrum. In November 2007, for example, at the ITU's WRC, it was agreed that spectrum within the UHF band, which has traditionally been the exclusive preserve of broadcasters, would be opened up for use by mobile broadband services.[106] Such spectrum is becoming available worldwide as a consequence of terrestrial television shifting from analogue to broadband signals, which use considerably less bandwidth; commonly referred to as the 'digital dividend'.[107] Such spectrum is highly sought after because of the quality of signal available and their propagation characteristics, which means the signals travel further and are more capable

[102] See ITU Circular Telegram of 21 July 2008 (CTITU A38 11S(SSD)O-2008-002171) and of 8 October 2008 (CTITU A45 11S(SSD)O-2008-003054).

[103] Bloomberg, 'ProtoStar Ltd., Satellite Operator, Files Bankruptcy', 29 July 2009.

[104] See ITU Resolution 91 'on cost recovery for some products and services of ITU' (Minneapolis, 1998).

[105] Sung, L, 'ITU's Cost Recovery: The Satellite Factor', *Satellite Today*, 1 September 2004.

[106] ITU Press Release, WRC-07, 'ITU World Radiocommunications Conference concludes after four weeks: International treaty sets future course for wireless', 16 November 2007.

[107] See further Chapter 6 and Chapter 14.

of penetrating buildings. The signal range means the cost of rolling out wireless broadband networks is considerably reduced, which is obviously beneficial for developing countries.[108] Further spectrum allocations for international mobile communications were agreed at WRC-12, in February 2012, and have been placed on the agenda for WRC-15.[109]

16.3.3 Telecommunications development

From 1947, membership of the ITU expanded rapidly among developing nations. As their numbers grew, so did their share of the votes and ability to influence the direction and activities of the ITU. At the Nairobi Plenipotentiary Conference in 1982, such increasing influence resulted in development issues becoming one of the basic purposes of the ITU:

> to promote and to offer technical assistance to developing countries in the field of telecommunications, and also to promote the mobilization of the material, human and financial resources needed for its implementation, as well as access to information. (Constitution, Article 1(1)(b))[110]

Therefore, since 1982, the ITU has given equal priority to telecommunications development with standards-setting and radiocommunications. The Telecommunication Development Sector operates through a Telecommunication Development Bureau, Telecommunication Development Conferences and associated Study Groups.

In particular, the ITU has worked with other development agencies, such as the World Bank and the International Bank of Reconstruction and Development, to improve the flow of technology, funds, and expertise into developing countries. The Reform Advisory Panel has proposed that the ITU's development focus should be expanded 'from technical assistance towards helping developing countries establish pro-market regulatory frameworks',[111] which reflects the influence of the WTO's work in the telecommunications sector.

16.3.4 Legal instruments of the ITU

As an international treaty, the Constitution and Convention of the ITU are legal instruments to which Member States are bound in respect of all telecommunications activities that 'engage in international services or which are capable of

[108] Financial Times, 'Radio spectrum freed for mobiles', 19 November 2007.

[109] ITU Press Release WRC-12, 'World Radiocommunication Conference sets future course', 17 February 2012.

[110] This provision was further amended in 1998.

[111] RAP, n 77.

causing harmful interference to radio services of other countries' (Constitution, Article 6(1)). Whilst primarily detailing the rules governing the establishment and operation of the ITU, the Constitution also embodies certain fundamental legal principles governing international telecommunications in Chapter VI. Members give recognition to certain rights of users, ie the 'right of the public to correspond by means of the international service' (Article 33). Member States also have an obligation for 'ensuring the secrecy of international correspondence', although subject to the right to ensure compliance with national laws (Article 37). The majority of the principles represent reservations that Members have the right to exercise, such as in respect of the 'stoppage of telecommunications' for reasons of national security, public order, or decency (Article 34) and the 'suspension of services' (Article 35). Member States are also protected from any liability arising from the use of international telecommunication services (Article 36).

There are three unique features of the ITU Constitution and Convention, which differ from traditional public international law. Firstly, the private sector has a specified role in decision-making activities of the ITU, as noted above. Secondly, to ensure legal certainty, Administrative Regulations have a fixed date for implementation and have immediate provisional application unless the revision is formally refused by a Member State (Constitution, Article 54, 3*penter*). In addition, a Member State is deemed to have consented to be bound by the revision to the Administrative Regulations, after a period of three years, if it fails to notify the Secretary-General otherwise (Constitution, Article 54, 5*bis*). Thirdly, any reservations by a Member State have to be notified prior to the signing of the final acts of a plenipotentiary, since subsequent reservations are not possible. These provisions are designed to ensure legal certainty, which impacts directly on technical implementation issues.

Complementing the Constitution and Convention are Administrative Regulations, sub-divided into:

- International Telecommunications Regulations; and
- Radio Regulations.

The Administrative Regulations comprise the general principles to be observed in the provision of international telecommunication services and networks and the assignment and use of frequencies and orbital slots. Such Regulations 'shall be binding on all Member States' (Constitution, Articles 4(3), 54). At the time of accession to the Constitution and Convention,[112] a Member State may make reservations in respect of any of the existing Administrative Regulations (Article 54(2)).

[112] ie 27 June 1994 in the case of the UK.

Any subsequent partial or complete revision of the Administrative Regulations requires a Member State to indicate their consent to be bound, by depositing an instrument of ratification, acceptance, or approval or by notifying the Secretary-General (Article 54(3)*bis*); although a Member State will be provisionally bound from the entry into force of the revision, if the Member State has signed the revision (Article 54(3)*penter*).

Under the Constitution, Member States are also required to:

> take the necessary steps to impose the observance of the provisions of this Constitution, the Convention and the Administrative Regulations upon operating agencies authorized by them to establish and operate telecommunications and which engage in international services or which operate stations capable of causing harmful interference to the radio services of other countries. (Article 6(2))

However, this blanket provision is qualified by the concept of a 'Recognized Operating Agency' (ROA):

> Any operating agency . . . which operates a public correspondence or broadcasting service and upon which the obligations provided for in Article 6 of this Constitution are imposed by the Member State in whose territory the head office of the agency is situated, or by the Member State which has authorized this operating agency to establish and operate a telecommunication service on its territory. (Constitution, Annex)

Historically, ROAs were generally the State-owned incumbent operator. However, in liberalized markets, the categories of ROAs could potentially extend to any provider of international services, including resale services. In the UK, for example, some ten operators are categorized as ROAs.[113]

16.3.4.1 *International Telecommunications Regulations (ITRs)*

Since the last edition of the book, the situation concerning the International Telecommunications Regulations has become complex and controversial. Currently, there are two versions of the ITRs in force, those adopted at Melbourne in 1988 (1988 ITRs) and the version adopted in Dubai in 2012 (2012 ITRs). The latter was signed by eighty-nine Member States and provisionally entered into force on 1 January 2015,[114] while the former remains applicable to the fifty-three non-signatories.[115] The 1988 ITRs comprise some ten substantive articles and

[113] <http://www.itu.int/cgi-bin/htsh/mm/scripts/mm.list?_search=SEC&_languageid=1>.

[114] Final Acts, at Art 14.1. By virtue of Art 54.5*bis* of the Constitution, signatories are deemed to have consented and become bound to the text if they do not notify the Secretary-General by 1 January 2018.

[115] There were 144 member states in Dubai, of which three countries have acceded subsequent to the signing: Antigua and Barbuda, Belarus, and Kenya (but only the latter two were signatories to the Melbourne ITRs).

three appendices,[116] while the 2012 ITRs comprise fourteen articles and two appendices.[117] In the event of conflict, where a party to the 2012 ITRs deals with a non-signatory member state subject to the 1988 ITRs, the latter should be the applicable regime.[118]

Since 1988, there were inevitable calls for the ITRs to be revised, reinterpreted, or abrogated, with, in the latter case, the provisions of continuing relevance being transferred into other ITU instruments, such as the Constitution. These calls for reform were driven, in part, by the considerable changes that have occurred in the telecommunications sector since 1988, but also by developing country concerns that the ITRs are too favourable towards richer nations and the dominant global players they represent. At the 1998 ITU Plenipotentiary, a resolution was adopted instructing the Secretary-General to establish an Expert Group to advise on the future of the ITRs.[119] No consensus on the way forward was reached by the following Plenipotentiary in 2002, or again by the 2006 Plenipotentiary, although the 2006 Resolution finally put a prospective end date on the negotiations, by resolving that the ITU convene a conference in 2012 to decide on recommendations to amend the ITRs: The World Conference on International Telecommunications (WCIT) held in Dubai, UAE, in December 2012.

In the lead up to the WCIT, Member States submitted their proposals for reform of the ITRs, representing a broad spectrum of opinion, from no change to radical expansion.[120] It was not possible to reconcile such divergent views at the WCIT so consensus could not be achieved and a vote was required—a very rare occurrence within ITU decision-making procedures. The reasons behind this failure are themselves contested, with accusations of a media campaign based on misinformation.[121]

It is beyond the scope of this section to engage in a detailed analysis of the changes that were made and the differing interpretations of their significance, although the 2012 amendments can be broadly sub-divided into updates to existing provisions to reflect the changing environment, and the insertion of new provisions. In addition, the Final Acts included five non-binding Resolutions.

[116] Available at <http://search.itu.int/history/HistoryDigitalCollectionDocLibrary/1.1.48.en.100.pdf>. They entered into force on 1 July 1990.

[117] Available at <http://search.itu.int/history/HistoryDigitalCollectionDocLibrary/1.42.48.en.101.pdf>.

[118] See <http://www.itu.int/en/wcit-12/Pages/treaties-signing.aspx>.

[119] Resolution 79 (Minneapolis, 1998): 'International Telecommunication Regulations'.

[120] See ITU CWG-WCIT12/TD-43, 'Draft compilation of options', 24 November 2011. See also Bennett, R, 'The Gathering Storm: WCIT and the Global Regulation of the Internet', ITIF, November 2012, at <http://www2.itif.org/2012-gathering-storm-wcit-regulations.pdf>.

[121] Hill, R, 'WCIT: Failure or Success, Impasse or Way Forward', (2013) International Journal of Law and Information Technology 1–16, 3.

Criticisms primarily revolve around concerns that the ITRs may disturb current governance arrangements for the internet, facilitating greater (repressive) governmental input, and the threat that rules designed to regulate the provision of telecommunication services may be used to control content sent over such services. In terms of the latter, a sentence was specifically inserted into the scope of the 2012 ITRs expressly stating that they 'do not address the content-related aspects of telecommunications' (Article 1.1(a)). Despite this, however, two new provisions addressing network security (Article 6) and controlling 'unsolicited bulk electronic communications' (Article 7) have been viewed as granting Member States a right to monitor traffic content for the purpose of ensuring compliance.[122]

One provision that has been of particular importance since 1988 has concerned 'Special Arrangements', which grants administrations the flexibility to enter into 'special arrangements' for the provision of international telecommunications networks and services, either on the basis that they 'do not concern Members in general' or based on 'special mutual arrangements' with other Members (1988 ITRs, Article 9, and retained in almost identical terms in the 2012 ITRs, at Article 13). Based on Article 42 of the ITU Constitution, this provision has been used by Member States to tailor national and regional laws to reflect the evolving policy of a liberalized market, such as the application of interconnection regulations to intra-EU traffic, without reference to the other substantive provisions of the 1988 ITRs. The provision has also given ROAs considerable freedom to enter into private agreements that have effectively established an alternative regulatory environment, which has been particularly relevant to the explosive growth of the internet.

While the majority of the text in the 1998 and 2012 versions of the ITRs address similar subject matter, the controversial additions (said to be contained in six of the seventy-seven paragraphs of the main text[123]) meant that the ITRs, which had become increasingly irrelevant over the years, are now a symbolic illustration of a lack of consensus and lines of tension within the international community in the age of the internet.

16.3.4.2 *Radio Regulations ('RRs')*

The RRs contrast sharply with the ITRs as an instrument of public international law. First, in terms of size and complexity, the RRs are extensive, contained in four volumes; comprising some fifty-nine articles, twenty-five appendices, and numerous resolutions and recommendations. Second, although they contain no enforcement or dispute resolution mechanisms, compliance remains high primarily

[122] eg Internet Society submission to the WCIT, <http://www.internetsociety.org/doc/WCITSubmission> October 2012.

[123] Hill, n 121.

due to the 'law of physics',[124] since non-compliance can result in harmful interference for all relevant parties. The current edition of the RRs was published in 2016.[125]

The RRs distinguish between three distinct acts in relation to frequency: 'allocation', 'allotment', and 'assignment' (RRs, Article 1, 1.16–1.18). 'Allocation' consists of an entry in the 'Table of Frequency Allocations' for use in respect of one or more terrestrial or space radiocommunication service. Such services may be categorized as 'primary' or 'secondary' services, on a regional or global basis; with the latter being required to comply with the interference rules laid down for the former, as well as being unable to claim protection from interference from the former. 'Allotment' indicates the use of a designated frequency by administrations for a service in certain countries or geographical areas and under specified conditions. The 'assignment' of frequencies is carried out by Member States, under their sovereign authority, through an authorization or licensing procedure, such as under the UK's Wireless Telegraphy Act 2006.[126] Such assignment is then notified to the ITU for recording in the Master Register.[127] When granting an assignment, Member States are free to derogate from the ITU allocation, but only to the extent that it does not cause harmful interference to others operating in accordance with the RRs (Article 4.4).

To ensure compliance with the RRs, particularly the elimination of harmful interference, an international monitoring system has been established (RRs, Article 16). The scheme comprises the operation of a network of monitoring stations, operated by Member States, either alone or in conjunction with others, and international organizations, such as the ISOs. The system is voluntary in nature.

16.3.4.3 *Recommendations, resolutions, and decisions*

In addition to the binding legal instruments, the various bodies of the ITU adopt recommendations, resolutions, and decisions. Whilst the Administrative Regulations comprise the general principles to be complied with, the manner in which they are to be implemented are detailed in ITU-T and ITU-R Recommendations, which represent the bulk of ITU rule-making.[128] Such recommendations do not have 'the same legal status as the Regulations' (ITR 88, Article 1.4), although 'administrations' 'should comply with, to the greatest extent practicable, the relevant' recommendations (Article 1.6).[129] Draft recommendations are prepared within

[124] Lyall, F and Larsen, P, *Space Law: A Treatise* (Ashgate, 2009), at 230.

[125] Available free of charge at <http://www.itu.int/pub/R-REG-RR/en>.

[126] See further Chapter 7.

[127] eg Ofcom, Procedures for the Management of Satellite Filings, 27 March 2007.

[128] eg over 2600 ITU-T Recommendations are currently in force.

[129] However, see also the opinion of the Advocate-General in *Italy v Commission* [1985] 2 CMLR 368, 373.

the various sectoral 'Study Groups' and enter into force either through approval at the relevant assemblies or conferences, or through direct correspondence with Member State administrations (Convention, Articles 11(2), 14(1)).

In the event of a dispute regarding the interpretation of any of the legal instruments, Constitution Convention or Administrative Regulations, settlement should either be achieved through mutually agreed bilateral or multilateral arrangements or, if not settled by such means, via an arbitration procedure (Constitution, Article 56). The decision of the arbitrator(s) shall be 'final and binding upon the parties to the dispute' (Convention, Article 41), although no enforcement mechanism is available in the event of non-compliance. A compulsory arbitration procedure is also provided for under an Optional Protocol to the Convention, between Members that are party to the Protocol.[130]

16.3.5 International accounting rates

As discussed above, the origins of the ITU in the International Telegraph Convention was the need to extend the operation of telecommunication networks beyond national borders. As well as the need for common standards for the transmission of messages between different networks, such international traffic also raised the issue of payments to be made between national operators for the carriage of each other's traffic. The historic regime established for the making of such payments is known as the 'International Accounting Rate system' and the principles of its operation are contained in the ITU's 1988 ITRs, at Article 6, and the 2012 ITRs, at Article 8.

The International Accounting Rate system comprises a series of related rates that are intended to provide for an equitable payment to the terminating operator for the termination of an international call and, where relevant, to any transit operators that have handled the call.[131] The 'collection charge' (ITRs, Article 2.9) is the retail price levied on the originating customer by the originating operator. The 'accounting rate' is essentially a wholesale rate representing the agreed cost of transmitting each unit of traffic between the networks (ITRs, Article 2.8).[132] The 'settlement rate' is the payment made by the originating operator to the terminating operator and was traditionally 50 per cent of the accounting rate. Obviously, such payments are made on a net settlement basis between operators, since traffic generally flows in both directions and therefore it is the operator that

[130] Constitution, Art 56(3). The UK has ratified the Optional Protocol, 27 June 1994.

[131] Either direct transit or switched transit.

[132] Usually expressed in terms of Special Drawing Rights (SDR), under the International Monetary Fund: Convention, Art 38; 1988 ITRs, at Art 6.3.1 and 2012 ITRs, at Art 8.2.4.

originates the most traffic that is required to make the periodic payments to the terminating operator.

Although the system is embodied in the International Telecommunications Regulations and has been elaborated as a series of recommendations from the ITU, the system operates through a series of bilateral agreements between telecommunication operators in each jurisdiction. Historically, such agreements would be between public administrations in each country, ie the state incumbent, which meant the agreements could be considered State measures subject to consideration under public international law, such as the General Agreement on Trade in Services.[133] With liberalization, the overwhelming majority of agreements are now negotiated privately between commercial entities, effectively taking them outside the international accounting rate system.[134]

Whilst the essential elements of the international accounting rate system have remained the same over many years, the system was in fact designed to operate under certain conditions, which are no longer present in most telecommunications markets:

- jurisdictional symmetry with respect to both charges and traffic flows;[135]
- collection charges higher than the accounting rate;
- relatively constant inflation and exchange rates; and
- monopoly operators in each jurisdiction providing the international service.

As these conditions either disappeared or altered significantly, the international accounting rate system gave rise to substantial payment flows between operators, representing invisible trade imbalances between countries. In 1996, for example, US operators were obliged to pay around US$6 billion to operators in other jurisdictions, of which it was estimated that 70 per cent constituted 'an above-cost subsidy from US consumers to foreign carriers'.[136]

Indeed, the co-existence of liberalized telecommunications markets with traditional monopolistic environments can actually reward the latter at the expense of the former. A practice known as 'whipsawing' developed, where monopolistic operators in one country were able to negotiate with competing operators in other countries to achieve substantially lower accounting rates for the termination of traffic originating in the monopoly country. Alternatively, the monopoly operator could lease their own circuit in the liberalized terminating regime, therefore

[133] See further Section 16.4.1. [134] This is expressly referenced in the 2012 ITRs, at Art 8.2.1.

[135] The 1988 ITRS state that 'administrations' should try to avoid too great a dissymmetry between the charges applicable in each direction of the same relation' (Art 6.1.1); which is reiterated in 2012 ITRs, at Art 8.2.5.

[136] Federal Communications Commission, In the matter of International Settlement Rates, Report and Order, IB Docket No 96–261, 7 August 1997 ('Benchmark Order'): para 13.

bypassing the accounting regime for outbound transmissions (commonly referred to as 'one-way bypass').

Payment imbalances were exacerbated by the fact that, historically, accounting rates were not been based on actual cost, but were often priced at a premium. As a consequence, for countries like the US, the accounting rate system came to be seen as unacceptable and positively disadvantageous to competitive markets. However, countries which are net creditors under the accounting rate system, often although not exclusively developing countries, often view the system as constituting an important source of foreign 'hard currency' revenue for investment into the domestic market, either in the form of network rollout or through subsidizing the cost of access (eg line rental). In effect such revenues have been seen as contributing to a universal service policy, at a global level as well as for individual countries.[137] Indeed, the ITU specifically recommends that accounting rate apportionment in favour of a developing country should be used for telecommunications improvements.[138] The ITU's Secretary General has noted that developing countries received more revenue from the accounting rate system than they received from development banks, such as the World Bank, for telecommunications programmes during the first half of the 1990s.[139]

Over recent decades, there has been significant pressure for the international accounting rate system to be reformed[140] to reduce trade deficits, as well as benefiting end-users through a reduction in the cost of international telecommunications. In addition, market liberalization and technological developments have resulted in a proliferation of alternative calling procedures designed, either directly or indirectly, to avoid the normal operation of the international accounting regime. Such procedures can be broadly distinguished into two categories:

- 're-origination' techniques, which take advantage of asymmetric rates on particular routes to minimize the cost of the accounting rates, eg call-back,[141] country-direct, calling cards, refile;[142]

[137] See Tyler, M, *Transforming economic relationships in international telecommunications*, Chapter 8, Briefing Report for ITU Regulatory Colloquium No 7 (1997). Also, Stanley, K, 'International settlements in a changing global telecom market', in *Telecom Reform* Melody (ed) Technical University of Denmark, 1997.

[138] Resolution 22: 'Apportionment of revenues in providing international telecommunication services' (Kyoto, 1994).

[139] Tarjanne, P, 'Reforming the International Accounting Rate System', (1998) 2 ITU News.

[140] See ITU Report of the Informal Expert Group on International Telecommunications Settlements, March 1997.

[141] Various forms of 'call-back' exist but it essentially involves a reversal in the direction of the call, eg a call from a country with high originating international tariffs is manipulated to appear to come from the terminating country which has low originating international tariffs, using features of call signalling systems.

[142] 'Refile' involves routing a communication from country A to country B via a third country, C, where the sum of the tariff rates for calls between A–C and C–B are less than A–B.

- 'by-pass' techniques, which completely circumvent the international accounting regime, eg international simple resale services, VSATs,[143] internet telephony.

These practices inevitably lead to a reduction in revenues for any monopoly provider of international telecommunication services and, in some cases, are considered infringements of national law.[144] The ITU is in an uneasy position in respect of such activities and has called upon Member States to take appropriate action against operators in their jurisdiction who are breaching the laws and regulations of other Member States.[145]

Reform of the accounting rate system has taken two main approaches. First, lowering accounting rates towards the actual cost of terminating international calls. Cost-based tariffing reflects the regulatory position in liberalized markets, as well as existing obligations under the 1988 ITRs, where Member States are required to revise accounting rates 'taking into account relevant [ITU-T] Recommendations and relevant cost trends' (Article 6.2.1).[146] The current governing recommendation outlines a cost-oriented approach, as well as containing indicative target rates and specified deadlines for each country.[147] A second approach is through the adoption of alternative rate systems that reflect the different conditions present in many markets. Five alternative models have been suggested:[148]

- *call termination charges*, where a single rate is charged to terminate into a country from any other country;
- *facilities-based interconnection charge*, as required under European Union law[149] and generally in operation for mobile roaming;
- *'sender keeps all' or 'bill and keep'*, where no payments are made between national operators, based on a presumption of near equality in traffic flows, such as 'peering' arrangements;[150]
- *international private leased circuits*, where the charge reflects the cost of leasing such capacity;
- *volume-based payments*, fixed per traffic unit carried, as currently used in internet-based transit arrangements.

[143] Very Small Aperture Terminals, used for satellite-based telecommunications direct to home.

[144] See ITU Resolution 21 of the Plenipotentiary Conference, Kyoto, 1994: 'Special Measures concerning Alternative Calling Procedures on International Telecommunication Networks' (revised at the Minneapolis Plenipotentiary, 1998), noted that 86 Member States prohibit 'call-back' (as of October 1998).

[145] Resolution 21, n 144. [146] Similarly under the 2012 ITRs, at Art 8.2.2.

[147] ITU Recommendation D.140, 6th edn, 'Accounting rate principles for the international telephone service' (06/2002).

[148] ITU-T Recommendation D.150, 'New system for accounting in international telephony' (06/99).

[149] See further Chapter 8. [150] Ibid.

Reform of the system has also been driven, in part, by decisions made by national regulatory authorities. In particular, the Federal Communications Commission (FCC) created considerable consternation in certain countries when it issued its International Settlement Rates 'Benchmark' Order in 1997.[151] The FCC recognized that the WTO 'basic agreement' had the potential to sharply worsen the US's balance of payments deficit on international services, since incumbent operators in non-liberalized markets would be free to establish US-based operations subsidized from their monopolistic international revenues. With the slow pace of reform within the ITU, the FCC decided to take unilateral steps to drive the pace of change towards cost-based settlement rates. The Benchmark Order laid down benchmark 'settlement rates that carriers subject to our [FCC] jurisdiction may pay for termination of US-originated traffic' (paragraph 312). Countries were categorized into three tiers, representing different stages of economic development. The rates were to be implemented over a transition period, over one to four years, and operators were able to appeal against a rate determination (paragraph 74). The regime came into effect on 1 January 1998 and the first targets were to be achieved by 1 January 1999. All US-licensed carriers were subject to the order, while for foreign-affiliated operators compliance was a condition of obtaining approval for the provision of long-distance services to the home jurisdiction (paragraph 207).

The Benchmark Order generated opposition in certain countries, especially in the Caribbean region, over the potential impact the order would have on domestic operator revenues. The European Commission and Japan also raised concerns about the compatibility of the Benchmark Order with the US's commitments under the General Agreement on Trade in Services, specifically the principle of 'most-favoured-nation'.[152] In 1998, Cable & Wireless brought an action before the US courts challenging the legality of the Benchmark Order. Over 100 other petitioners and intervenors, comprising national governments, regulators, and operators, soon joined the case on both sides. The main thrust of the complaint was that the FCC had exceeded its authority through the extraterritorial nature of the Order's provisions.[153] The court found overwhelmingly in favour of the FCC, holding that it had the requisite powers to make decisions regulating the actions of US-licensed operators, including the contractual arrangements entered into for international settlement rates:[154] the Commission does not exceed its authority simply because a regulatory action has extraterritorial consequences. Objections to the FCC's methodology were dismissed on the grounds that the FCC had acted reasonably, whilst

[151] Benchmark Order, n 136. It was reformed in 2004 (FCC 04-53) and 2012 (FCC 12-145).

[152] Ibid, at para 109. See also Section 16.4.

[153] *Cable & Wireless et al v FCC*, No 97–1612, DC Cir, 12 January 1999.

[154] See 47 USC §205(a), 211(a).

the petitioners were criticized for withholding actual cost data which could have been used as well as failing to propose alternative methodologies.

During the course of the proceedings, the Australian operator Telstra entered a petition against the Benchmark Order on the grounds that it did not address the issue of international internet connections. Telstra complained that the Order was based on a circuit-switched environment, where traditionally each correspondent operator is responsible for the provision of half of the international circuit. Telstra argued, however, that in an internet environment non-US operators were effectively forced to purchase a full-circuit in order to connect to the internet exchange points based primarily in the US.[155] As a consequence, US carriers were obtaining significant financial benefits from the current arrangements for international internet connections. The court denied Telstra's petition as constituting insufficient grounds for overturning the FCC Order, but the issue was subsequently pursued through the ITU.

In April 2000, ITU-T Study Group 3 approved a draft Recommendation on 'International Internet Connection' proposed by Australia. It was presented to the World Telecommunication Standardization Assembly (WTSA) for adoption in October 2000, but generated considerable opposition from the US and Europe over concerns that the asymmetric nature of Web traffic flows would generate new payment imbalances and outflows. An amended version was eventually adopted at WTSA, which recommended:

> the possible need for compensation between them for the value of elements such as traffic flow, number of routes, geographical coverage and cost of international transmission … (Recommendation D.50 (10/00) *International Internet Connection*)[156]

This represented a shift from the mandatory wording of the draft, ie 'will be compensated', to the possibility of compensation; although the US and Greece still submitted reservations and stated that the Recommendation would not be applied in their jurisdictions.

The international accounting rate system is gradually disappearing in its current form to be replaced by a multitude of different arrangements reflecting the state of liberalization in Member States, technological developments, and the commercial positions of the respective parties. In the US, for example, by 2008 only around 6 per cent of international traffic billed in the US was settled in accordance with the accounting rate regime detailed in the ITRs, compared to 86 per cent in 1998.[157] Political pressure to accelerate such change has shifted somewhat

[155] See further Chapter 8, at Section 8.7.1.2.
[156] The latest version, 3rd edition, is dated April 2011.
[157] Quoted in FCC Public Notice, IB Docket No. 10-67, 16 March 2010.

in recent years from the ITU to the WTO. A moratorium was agreed between certain Member States not to pursue a legal action before the WTO on accounting rates,[158] although that has not prevented accounting rate-related issues being argued before the Dispute Settlement Body.[159]

16.3.6 ITU as a regulatory institution

The status and future of the ITU in the international regulatory framework for telecommunications tends to divide opinions sharply. On the one hand, as a forum for managing orbital slots and spectrum, and as a resource for assisting developing countries, it continues to play an important role. However, as an initiator or facilitator of market developments, it is increasingly irrelevant, especially in the age of the internet. As a bureaucratic institution it has struggled to adapt to the rapidly changing environment in which it operates, coupled with a substantial reduction in its funding from some Member States, such as the US, while also trying to retain and bolster its status through attempts to extend its remit.

The debates over internet governance have been one arena in which the ITU has campaigned hard to claim a role. In 2003, at the World Summit on the Information Society (WSIS), the ITU was given responsibility to facilitate an action line on 'Building confidence and security in the use of ICTs',[160] upon which it has duly established a 'Global Cybersecurity Agenda'.[161] However, as evident from the WCIT process, the issue of cybersecurity can be fraught, with one nation's cybersecurity measures being seen as another's manifestation of a repressive regime.

16.4 WORLD TRADE ORGANIZATION

The WTO was established in 1994 as part of the final act embodying the results of the 'Uruguay Round' of multilateral trade negotiations.[162] The function of the World Trade Organization is to facilitate the implementation, administration, and operation of certain multilateral trade agreements (Article III(1)). One unique feature of the WTO is the establishment of a dispute settlement body to enforce the

[158] See WTO Report of the Group on Basic Telecommunications (S/GBT/4), 15 February 1997.

[159] See the *Telmex* case discussed at Section 16.4.5.1.

[160] See, Annex to ITU (2005), *World Summit on the Information Society Outcome Documents: Geneva 2003–Tunis 2005, December 2005*, Geneva.

[161] ITU, 'ITU Global Cybersecurity Agenda: Framework for International Cooperation in Cybersecurity', 2007.

[162] See the Agreement, Establishing the World Trade Organization with Understanding on Rules and Procedures Governing the Settlement of Disputes and Trade Policy Review Mechanism (Marrakesh, 15 April 1994; TS 57 (1996) Cm 3277; 33 ILM (1994); OJ L 336/1, 23 December 1994). The Treaties entered into force on 1 January 1995.

obligations accepted by member states within the context of the agreements.[163] The existence of an enforcement mechanism has been a key factor in pushing the WTO to the forefront of intergovernmental organizations.

For the telecommunications industry, the accelerating process of market liberalization coincided with the Uruguay Round, which commenced in 1986. A key feature of the Uruguay Round was that for the first time trade in services was included within the scope of the multilateral negotiations. With the increasing importance of trade in services, particularly for developed nations, telecommunications was recognized as a critical element both as a facilitator of trade in services, as well as an increasingly tradable service in its own right. Such recognition ensured that telecommunications issues moved towards the top of the agenda for countries such as the US and the UK.

At the conclusion of the Uruguay Round at Marrakesh in 1994, a series of trade agreements were adopted, of which only some are of direct relevance to the telecommunications sector. The General Agreement on Tariffs and Trade (GATT)[164] is concerned with trade in goods and, as such, impacts on trade in telecommunications equipment. In 1996, twenty-nine developed nation members adopted an agreement under GATT on 'Information Technology Products' (ITA), which eliminates customs duties on all specified products, including many forms of telecommunications equipment.[165] The concessions appear in members' schedules of commitment, thereby subject to the Most-Favoured Nation (MFN) non-discrimination principle, which benefits all WTO members, not just signatories to the ITA. The scope of the ITA has subsequently expanded to include eighty-two members, while the list of covered products was extended by 201 products in December 2015, and committed to by fifty-four of the members.[166] In respect to telecommunications equipment, there is an ongoing issue between India and the EU, Japan and the US over whether certain products, such as VoIP equipment, is within the scope of the ITA and therefore should not be subject to a 10 per cent duty.[167]

The Agreement on Trade-Related Aspects of Intellectual Property (TRIPS)[168] is also of obvious importance to an industry so heavily dependent on its investments in research and development. Other agreements that can and have impacted

[163] See Section 16.4.5. [164] TS 56 (1996) Cm 3282; 33 ILM 28 (1994).

[165] Ministerial Declaration on Trade in Information Technology Products (Singapore, 13 December 1996), at <https://www.wto.org/english/docs_e/legal_e/itadec_e.htm>.

[166] Ministerial Declaration on the expansion of trade in information technology products (WT/MIN/(15)/25), Nairobi, 16 December 2015.

[167] Questions from the European Union, Japan and the United States to India regarding Indian Customs Notification No 11/2014 (G/IT/W/42), 4 April 2016.

[168] TS 10 (1996) Cm 3046; 33 ILM 81 (1994).

on the telecommunications sector include the Agreement on Subsidies and the Agreement on Government Procurement.[169] However, this section will examine the General Agreement on Trade in Services (GATS)[170] as the primary WTO-agreement establishing a framework for international telecommunications law.

16.4.1 General Agreement on Trade in Services

In terms of the scope of GATS, a 'Services Sectoral Classification List'[171] places 'Communications Services' as the second category, which is then sub-divided into five sub-sectors: postal services, courier services, telecommunication services, audio-visual services, and other. Category C, 'Telecommunication services', is then further sub-divided into fifteen further sub-categories, including 'packet-switched data transmission services' and 'electronic data interchange (EDI)'. However, those fifteen services are further distinguished into 'basic' and 'value-added' services; the latter comprising:

> all telecommunication services, both public and private that involve end-to-end transmission of customer supplier information for which suppliers 'add value' to the customer's information by enhancing its form or content or by providing for its storage and retrieval.[172]

Such a binary distinction and the accompanying definitions seems distinctly archaic given the nature of modern communications technologies, although they have not seemingly created problems of interpretation within the WTO system. Telecommunication services can also be distinguished into a number of categories on the basis of geographical scope (ie local, long-distance, and international); mode of transmission (ie wire and wireless or radio-based); the use and ownership of infrastructure (ie facilities-based or resale); and to whom the services are provided (ie public or non-public).[173] Some 108 Member States have made commitments to liberalize trade in telecommunication services.

The GATS is concerned with four modes of supplying services:

1. from one territory to another, ie cross-border supplies;[174]
2. the provision to foreign consumers in the service provider's territory, ie consumption abroad;
3. the establishment of a commercial presence in another State; and
4. through the presence of a natural person in another State.[175]

[169] The Agreement on Government Procurement is a plurilateral agreement under the WTO system, therefore only involving some members; currently 47.

[170] TS 58 (1996) Cm 3276; 33 ILM 44 (1994). [171] MTN.GNS/W/120, 10 July 1991.

[172] <http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_coverage_e.htm#basic>.

[173] Ibid. [174] This concept was examined in the *Telmex* case at para 7.25 *et seq*.

[175] GATS, Art I(2).

In terms of the telecommunications sector, modes (1) and (3) are most relevant in terms of business practice.

The GATS contains an annex on telecommunications and, subsequently, a protocol establishing commitments in basic telecommunications. Taken together, these agreements have required Member signatories to substantially open up their telecommunication markets to international competition.

The GATS comprises a number of fundamental 'General Obligations and Disciplines' to which all Members are required to comply from the moment the agreement entered into force (Part II). These general obligations are then supplemented by specific commitments accepted by a Member in a Schedule of commitments appended to the GATS (Part III and IV). Each Schedule specifies:

(a) terms, limitations and conditions on market access;
(b) conditions and qualifications on national treatment;
(c) undertakings relating to additional commitments;
(d) where appropriate the time frame for implementation of such commitments; and
(e) the date of entry into force of such commitments. (Article XX)

These Schedules represent a baseline or codification of conditions in a specific national market upon which a foreign service provider can rely. In addition, they constitute the starting-point for future negotiations to further liberalize the sector. A commitment may only be modified or withdrawn by a Member after three years from the date it entered into force (Article XXI).

The GATS contains two non-discrimination standards, MFN and National Treatment. The former is best known and is a general obligation applicable across all measures adopted under the GATS, while the latter is a specific commitment made in respect of specific sectors. The MFN obligation states:

> … each Member shall accord immediately and unconditionally to services and service suppliers of any other Member treatment no less favourable than that it accords to like service and service suppliers of any other country. (Article II(1))

However, a Member may specify that this principle shall not be applicable to certain measures listed in an Annex on Article II Exemptions.[176] Such MFN exemptions are subject to review after a five-year period and should not exceed a period of ten years.[177]

There has been some debate whether the MFN principle should operate in respect of the international accounting rate regime (see Section 16.3.5), since in non-competitive markets the amount an incumbent operator charges for

[176] GATS, Art II(2). [177] GATS, Annex on Art II Exemptions, paras 5–7.

the termination of international calls will vary significantly between different originating jurisdictions. Member States have an obligation to ensure that any 'monopoly supplier of a service' does not act in a manner inconsistent with either the MFN principle or any of the specific commitments made by the Member (Article VIII(1)). However, settlement rates are the subject of bilateral contractual agreements between operators, therefore, it is questionable whether such agreements fall within the jurisdiction of the GATS. The MFN principle would seem to be applicable only if accounting rate agreements were considered to be a 'measure by Members', ie taken by governments and authorities or by 'non-governmental bodies in the exercise of powers delegated by central, regional or local government or authorities' (Article I(3)(a)). Where an operator falls into the latter definition, it may then be unclear whether a bilateral agreement constitutes the exercise of a delegated power, even if in compliance with an ITU recommendation to which the Member State administration has accepted.

In contrast to the GATT, the principle of 'national treatment' constitutes a specific commitment applicable to particular service sectors and detailed in a Members' Schedule to the GATS:

> … each Member shall accord to services and service suppliers of any other Member, in respect of all measures affecting the supply of service, treatment no less favourable than that it accords to its own like services and service suppliers. (Article XVII)[178]

Article VI of the GATS addresses 'domestic regulation'. It requires Members to ensure that any authorization procedures are handled 'within a reasonable period of time' (Article VI(3)) and are capable of 'objective and impartial review' by a judicial or administrative body (Article VI(2)). Such commitments are obviously applicable to licensing procedures for the provision of telecommunication services. In addition, there is an ongoing commitment to develop disciplines to ensure that 'qualification requirements and procedures, technical standards and licensing requirements do not constitute unnecessary barriers to trade' (Article VI(4)).

Competition law issues are addressed under Part II, 'General Obligations and Disciplines', in Articles VIII 'Monopolies and Exclusive Service Suppliers' and IX 'Business Practices'. Such rules may be used to prevent an abuse of dominant position or restrictive trade practices. These provisions can be seen as being of potential value to telecommunication operators trying to provide services into countries whose legal systems have historically had no legal rules addressing general competition issues.[179]

[178] See GATT (1947), Art III, 'National Treatment on Internal Taxation and Regulation'.

[179] eg Asian countries.

The other key specific commitment under the GATS concerns 'market access' (Article XVI), under which Members detail those service sectors into which service suppliers from other Members may enter.

The GATS permits members to derogate from these obligations, particularly the non-discrimination provisions, on certain grounds, provided they are 'necessary' and are not applied in a manner that would constitute an arbitrary or unjustifiable discrimination or disguised restriction (Article XIV). The grounds include the protection of public morals and public order, which could be used to justify the imposition of network blocking, as well as the protection of personal data, which could be relevant to data localization requirements or restrictions on transborder data flows.[180]

As an instrument of public international law, the obligations and disciplines contained within the GATS are strong, substantial, and impactful. However, they are only triggered in respect of those service sectors that members choose to commit to in their schedules, which remain relatively shallow, except in a few key areas, such as telecommunications.

16.4.2 Telecommunications Annex

At the time of the GATS, Members also adopted a supplementary Annex on Telecommunications. Its objective was to clarify the position of Members 'with respect to measures affecting *access to and use of* public telecommunications transport networks and services' (paragraph 1). The Annex is concerned with the supply of any service over such public networks and services, including the basic telecommunication services of another Member State,[181] rather than any right to provide the networks and services. These obligations are incurred, therefore, whether or not the Member has liberalized the provision of basic networks and services.

The Annex imposes obligations of transparency of conditions of access and use, including tariffs, terms and conditions, and specifications of technical interfaces with the public networks and services (paragraph 4). The first draft of the Annex stated that access and use should be on cost-orientated terms, but this was removed in the face of opposition.[182] Access should be 'non-discriminatory', a term which embraces both the MFN and national treatment principles. Service providers should be permitted to attach terminal equipment to the public network; interconnect private circuits and utilize any operating protocols that do not

[180] See further Chapter 13. [181] See *Telmex* (WT/DS/204/R) at paras 7.274–7.288.

[182] Stated in Zutshi, B, 'GATS: Impact on developing countries and telecom services', *Transnational Data and Communications Report*, July–August 1994, p 24.

interfere with the availability of the public network (paragraph 5(b)). In terms of restrictions, Members may only impose conditions that are necessary:

- to safeguard the public service responsibilities of the suppliers of public networks, ie the universal service obligation;
- to protect the integrity of the network; or
- to comply with a Member's commitments in its Schedule (paragraph 5(e)).

Such conditions may include restrictions on the resale of such services, compliance with any 'type-approval' regime,[183] or licensing and notification obligations. In addition, developing countries may impose conditions 'necessary to strengthen its domestic telecommunications infrastructure and service capacity and to increase its participation in international trade in telecommunications services' (paragraph 5(g)). To assist the growth of telecommunications in developing countries, developed Members are encouraged to make available information and opportunities concerning the transfer of telecommunications technology and training to the least-developed countries.

16.4.3 Fourth Protocol

At the conclusion of the 'Uruguay Round', ministers adopted a decision to enter into further voluntary negotiations on the liberalization of trade in the provision of basic telecommunication networks and services.[184] Pending the conclusion of these negotiations, Members were granted a MFN exemption for measures affecting the provision of such basic telecommunications.[185] These negotiations, carried out under the auspices of the 'Group on Basic Telecommunications', were scheduled to conclude no later than 30 April 1996. However, by the deadline there had been insufficient offers from Members to enable a conclusion to be reached; therefore negotiations were continued until an agreement was finally reached on 15 February 1997.[186]

This agreement is commonly referred to as the 'Basic Agreement on Telecommunications', although the term is somewhat misleading since the agreement consists primarily of a series of 'Schedules of Specific Commitments and a List of Exemptions from Article II concerning basic telecommunications' submitted by some 69 Members.[187] These commitments supplement or modify any

[183] See Chapter 4, at Section 4.4.3. [184] 33 ILM 144 (1994).

[185] GATS, Annex on Negotiations on Basic Telecommunications.

[186] For a detailed history of the negotiations, see Sherman, L, ' "Wildly Enthusiastic" about the first multilateral agreement on trade in telecommunications services', (1999) 5(1)1 Federal Communications Law Journal, pp 61–110.

[187] As of 15 May 2017, this number had risen to 99 members, see <https://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_commit_exempt_list_e.htm>. The then 15 EU Member States submitted one

existing submissions made by Members and are annexed to the existing schedules through a device referred to as a Protocol, which becomes an integral part of the GATS (Article XX). As such, these submissions constitute the fourth Protocol to have been entered into by certain Members of the WTO. The Fourth Protocol was intended to enter into force on 1 January 1998; however, further delays meant that it became effective on 5 February 1998.

Supplementary to the Schedules, the Chairman of the Group on Basic Telecommunications issued two explanatory notes clarifying certain issues applicable to the scheduling of commitments. First, a 'basic telecom service' was defined in the following terms:

(a) encompasses local, long-distance and international services for public and non-public use;
(b) may be provided on a facilities-basis or by resale; and
(c) may be provided through any means of technology (eg, cable, wireless, satellites).[188]

Second, any qualifications referring to market access being limited due to the availability of spectrum/frequency were compatible with the GATS and did not need to be specifically noted.[189]

The 'Basic Agreement' has been seen as the most significant development in the global liberalization of the telecommunications market. It has been estimated that the Member countries represent over 90 per cent of global revenues in telecommunications.[190] The commitments made by Members encompassed market access, foreign direct investment and, for the majority of Members, adherence to a set of pro-competitive regulatory principles. The Protocol addressed the introduction of competition into the four biggest bottleneck markets within telecommunications: satellite services, international public voice telephony, domestic long-distance, and the provision of the local loop.

In respect of the MFN exemptions, a number of countries specified accounting rates as outside the scope the 'Basic Agreement', including India, Pakistan, Sri Lanka, and Turkey. The US maintained a MFN exemption for DTH and DBS satellite services to enable the continuation of existing 'reciprocity' regulations.

Schedule: see Annex to Council Decision (97/838/EC) of 28 November 1997 concerning the conclusion on behalf of the European Community, as regards matters within its competence, of the results of the WTO negotiations on basic telecommunications services; OJ L 347/45, 18 December 1997.

[188] Note by Chairman, S/GBT/W/2/Rev.1, 16 January 1997.

[189] Note by Chairman, S/GBT/W/3, 3 February 1997.

[190] See Spector, PL, 'The World Trade Organization Agreement on Telecommunications', (1988) 32(2) Summer The International Lawyer, pp 217–222.

16.4.3.1 *Reference paper*

One unique feature of the Fourth Protocol was the adoption of a 'Reference Paper' by 57 of the 69 Member signatories as an 'additional commitment' under GATS (Article XVIII) and incorporated into the Schedules.[191] The Reference Paper comprises a set of definitions and principles on the regulatory framework governing the provision of basic telecommunications.[192] The principles address particular objectives for the establishment of a pro-competitive regulatory regime, rather than the mechanisms or processes for their achievement. As such, the Reference Paper represents an important body of international legal principles for the telecommunications sector, of considerably greater significance than the ITU constitutional principles.[193] In addition, where a Member State has incorporated the Reference Paper into its Schedule of Commitments, the principles are enforceable before the WTO Dispute Settlement Body.

In terms of competition law, the Reference Paper firstly defines two key concepts, 'essential facilities' and 'major supplier':

> *Essential facilities* mean facilities of a public telecommunications transport network or service that
> (a) are exclusively or predominantly provided by a single or limited number of suppliers; and
> (b) cannot feasibly be economically or technically substituted in order to provide a service.
>
> *A major supplier* is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of:
> (a) control over essential facilities; or
> (b) use of its position in the market.

The concept of 'essential facilities' originates in US anti-trust law, although it has also been embraced within European Union competition law.[194] The concept of 'major supplier' is similar to the traditional competition concept of dominance, and is similar to the current EU concept of an 'organization with significant market power'.[195] The perspective of the Reference Paper is the supplier's ability to affect access to the market by others, which reflects its international trade origins.

[191] This has since risen to 82 Member States.

[192] Council Decision, see n 187, at p 52.

[193] See Section 16.3.4.

[194] For US law, see *MCI Communications v AT&T*, 708 F 2d 1081 (7th Cir 1983), 464 US 891 (1983); for EU law, see Case C-7/97 *Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs-und Zeitschriftenverlag GmbH & Co KG and Others* [1998] ECR I-7791. See further Chapter 10.

[195] See further Chapter 5.

The first two substantive issues addressed in the Reference Paper concern controls to be placed upon the ability of a 'major supplier' to be able to restrict competition. First, a supplier who, alone or with others, constitutes a 'major supplier' must be subject to 'appropriate measures' to prevent anti-competitive practices, whether current or future. Three specific anti-competitive practices are then listed:

- cross-subsidization;
- the use of 'information obtained from competitors with anti-competitive results', such as the forecast traffic volumes in interconnection arrangements; and
- 'not making available to other services suppliers on a timely basis technical information about essential facilities and commercially relevant information which are necessary for them to provide services' (paragraph 1.2).

Second, interconnection with a major supplier should be 'ensured at any technically feasible point in the network'. Such interconnection should be on non-discriminatory terms and conditions, on the basis that such terms and conditions should be no less favourable than that provided for its own 'like services', echoing the 'national treatment' principle under the GATS. The interconnection must be achieved in a timely fashion and on 'cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided'. Interpretation of this critical concept of 'cost-oriented' is already the subject of international dispute. Finally, the request for interconnection may be in respect of points which are not offered to the majority of users.

Building on the Annex on Telecommunications, the procedures and arrangements for interconnection with a major supplier must be transparent, including publication of 'either its interconnection agreements or a reference interconnection offer'. A service supplier must have recourse to an independent domestic body to resolve any disputes that may arise in respect of interconnection.

The other four issues covered in the Reference Paper address broader aspects of a pro-competitive telecommunications market:

- defining a 'universal service obligation' will 'not be regarded as anti-competitive *per se*', provided they are addressed in a transparent and non-discriminatory manner and are necessary to achieve the universal service defined by the Member State (paragraph 3);
- reflecting Article VI of the GATS, any licensing criteria must be publicly available, as well as 'the terms and conditions of individual licences'; and the reasons for any licence denial must be made known to the applicant (paragraph 4);

- although the need for, and form, of any regulator is not addressed, the Reference Paper imposes an obligation upon a Member State to ensure that any such regulator(s) are 'separate from, and not accountable to, any supplier of basic telecommunications services' (paragraph 5);
- the allocation and use of scarce resources, 'including frequencies, numbers and rights of way', should be carried out in an objective, timely, transparent, and non-discriminatory way (paragraph 6).

Whilst the Reference Paper addresses 'ends' rather than 'means', its influence is likely to be considerable at both a national and international level. First, as part of the Schedules of Commitments, the Reference Paper represents a Member State commitment to which foreign service providers may refer. Second, over time national legislators are likely to reflect and incorporate such principles into domestic law. Third, the Reference Paper represents a baseline from which future multilateral negotiations depart.

16.4.4 Status of WTO law

The Reference Paper, as a unique set of international legal principles for the telecommunications sector, is not only pro-competitive, but would also seem sufficiently detailed to constitute possible grounds upon which to instigate legal proceedings in the event that a Member State failed to comply. However, this begs the question of the status of the WTO agreements in the legal order of those some eighty nations that have incorporated it into their Schedule of Commitments. This issue can be further distinguished into two questions:

- whether the WTO agreements, and in particular the Reference Paper, may be used in the interpretation and application of national or regional (eg EU) telecommunications regulations; and
- whether the Reference Paper could be used as the basis for initiating proceedings before a court in the event of a conflict with existing regulations, ie have direct effect?

Within the European legal order, the Court of Justice has addressed the first issue, that of interpretation, on a number of occasions. In *Commission v Germany (International Dairy Agreement)*[196], it was held that where the Community has entered into an international agreement, the provisions of secondary Community legislation 'must, as far as possible, be interpreted in a manner that is consistent with those agreements' (paragraph 52). Further, in *Hermès International v FHT*

[196] [1996] ECR I-3989.

Marketing,[197] the Court held that national courts, when interpreting a Community measure that falls within the scope of a WTO agreement, must apply national legislation 'as far as possible, in the light of the wording and purpose' of the agreement (paragraph 28). Therefore, a court should consider the principles contained in the Reference Paper when interpreting the application of European telecommunications laws implemented in national law.

With regard to the second issue, that of WTO law having direct effect, all the major trading nations have denied such an outcome,[198] of which the EU is one example, the final recital in the Community Decision adopting the WTO agreements stating:

> … by its nature, the Agreement establishing the World Trade Organization, including the Annexes thereto, is not susceptible to being directly invoked in Community or Member State courts.[199]

Despite this, the European Court of Justice has been required to consider the issue of the status of WTO agreements on a number of occasions, most significantly in *Portugal v Council*.[200] First, the Court addressed the status of the WTO agreements in the legal order of the Member States, concluding that:

> … the WTO agreements, interpreted in the light of their subject-matter and purpose, do not determine the appropriate legal means of ensuring that they are applied in good faith in the legal order of the contracting parties. (paragraph 41)

Second, their status within the Community legal order was examined. The Court considered that the WTO agreements were based on the 'principle of negotiation' which distinguished them from other international agreements that were recognized as having direct effect (paragraph 42). The Court also noted that the EC's major trading partners did not give direct effect to the agreements, which would effectively disadvantage the Community in future negotiations. Therefore, the Court concluded that:

[197] [1998] ECR I-3603.

[198] Ruiz-Fabri, H, 'Is there a Case—Legally and Politically—for Direct Effect of WTO Obligations', (2014) 25(1) Eur J Int Law 151–173.

[199] Final Recital in Council Decision 94/800/EC, of 22 December 1994, concerning the conclusion on behalf of the European Community, as regards matters within its competence, of the agreements reached in the Uruguay Round multilateral negotiations (1986–1994) OJ L 336/1, 23 December 1994.

[200] [1999] ECR I-8395. See also Case C-93/02 *Biret International v Council* [2006] 1 CMLR 17, where the court confirmed the existing position, but did leave open the possibility of private claims against EU institutions based on EU measures that are found to violate WTO law by the Dispute Settlement Body, a position which had been suggested by Advocate General Alber [2003] ECR 10, at para 24.

> the WTO agreements are not in principle among the rules in the light of which the Court is to review the legality of measures adopted by the Community institutions. (paragraph 47)

The Court's reasoning in this case has been heavily criticized for undermining the status of the WTO agreements.[201] However, the Court did confirm its previous jurisprudence that the GATT rules could have direct effect where either the adoption of the measures implementing obligations assumed within the context of the GATT is at issue; or a Community measure refers expressly to specific provisions of the general agreement (paragraph 111).[202] In this regard, it is interesting to note that the European Commission's 2002 package of measures in the telecommunications sector, make explicit reference to the commitments made by the Community and its Member States in the context of the Fourth Protocol to the GATS.[203]

In terms of UK law, the general applicability of the WTO agreements has been somewhat uncertain due to a lack of clarity as to which aspects of the 'mixed agreements' fall within the competence of the Community, as opposed to the individual Member States.[204] The problems raised by such joint competence were examined inconclusively in a dispute brought by the US against the Community, the UK, and Ireland, in 1997, in respect of the tariff classification of Local Area Network equipment.[205] Post-Lisbon, the EU's competence in the area of trade in services (TFEU, Article 207(1)), seems sufficiently extensive to address all GATS-related matter, including the provision of telecommunications services and networks.[206]

In the absence of direct effect, either under European or national law, the only mechanism under which a party could seek enforcement against a Member State for failure to comply with their obligations in respect of the telecommunications sector is through the WTO Dispute Settlement Body.

The UK's intended departure from the EU places the status of the WTO agreements back into the limelight, as the UK will be required to submit its own 'schedules' once it is no longer part of the EU's. The UK government has announced its

[201] See generally Zonnekeyn, G, 'The status of WTO Law in the EC Legal Order', (2000) 34(3) Journal of World Trade Law pp 111–125; and Griller, S, 'Judicial Enforceability of WTO law in the European Union: Annotation to Case C-149/96, *Portugal v Council*', (2000) 3(3) Journal of International Economic Law pp 441–472.

[202] See Case C-280/93 *Germany v Council* [1994] ECR I-4973, paras 103–112.

[203] eg Directive 02/21/EC on a common regulatory framework for electronic communications networks and services, OJ L 108/33, 24 April 2002 at Recital 29.

[204] See Opinion 1/94 of the Court of Justice [1994] ECR I-5267.

[205] Customs Classification of Certain Computer Equipment, WTO doc. series WT/DS62, WT/DS67 and WT/DS68. See also Heliskoski, J, 'Joint Competence of the European Community and its Member States and the Dispute Settlement Practice of the World Trade Organization' in (1999) 2 The Cambridge Yearbook of European Legal Studies, pp 61–85.

[206] See *Opinion 2/15* (C-376), 16 May 2017 re: Singapore FTA. See also Klamert, K, *Services Liberalisation in the EU and the WTO* (Cambridge University Press, 2015).

intention 'to replicate our existing trade regime as far as possible',[207] although this is dependent on 'certification' by the other 163 members. While objections are unlikely to arise in respect of the telecommunications sector per se, disagreements in other areas may cause substantial delay in the whole process.

16.4.5 Dispute resolution

One unique feature of the multinational trade negotiations concluded in 1994 was the establishment of a dispute settlement mechanism applicable to the trade agreements.[208] For the first time, disputes between Member governments about compliance with an international treaty can be submitted to an independent body, the Dispute Settlement Body (DSB), and a defaulting party may be made subject to enforcement procedures.[209] The 'Understanding' encompasses the GATS and therefore is applicable to disputes concerning commitments made in respect of national telecommunications markets.[210]

Under the agreed procedures, a Member government may request the establishment of a Panel by the Dispute Settlement Body with the following terms of reference:

> To examine, in the light of the relevant provisions in (name of the covered agreement/s) cited by the parties to the dispute, the matter referred to the DSB by (name of party) in document … and to make such findings as will assist the DSB in making recommendations or in giving the rulings provided for in that/those agreement/s. (Article 7.1)

However, it would not seem appropriate to characterize the DSB as a judicial body. The Panel shall comprise three individuals chosen by the DSB secretariat with the consent of the parties. In the absence of agreement, the Director-General may appoint the panellists. After an investigation, the Panel submits a report to the DSB for consideration, detailing the Panel's findings and conclusions. The DSB will usually adopt the panel report unless one of the parties notifies the DSB of its intention to lodge an appeal to the Appellate Body (Article 17). The Panel or Appellate Body will decide whether a particular Member State measure is inconsistent with the terms of the relevant agreement and may recommend ways of overcoming the

[207] Statement by Julian Braithwaite, FCO, 'Ensuring a smooth transition in the WTO as we leave the EU', 23 January 2017, <https://blogs.fco.gov.uk/julianbraithwaite/2017/01/23/ensuring-a-smooth-transition-in-the-wto-as-we-leave-the-eu/>.

[208] Understanding, n 162. See generally, Merrills, JG, *International Dispute Settlement* (3rd edn) (Cambridge: Cambridge University Press, 1998).

[209] The dispute settlement system under GATT 1947 was essentially a conciliation procedure.

[210] Ibid, at Appendix 1.

issue. A Member, against whom a decision has been reached, is obliged to implement the recommendations and rulings of the DSB within a reasonable period of time (Article 21).

In the event that a Member fails to comply, the Understanding allows for the payment of compensation or the suspension of concessions (Article 22). The ability to suspend trade concessions granted to an infringing Member is the real stick within the dispute settlement procedure under the WTO. A complaining party may be able to suspend concessions or obligations not only in the sector of dispute (eg telecommunications), but also, where appropriate, in other sectors under the same agreement (eg GATS), or even under another covered agreement. Any such concession must be authorized by the DSB and should be 'equivalent to the level of the nullification or impairment' (Article 22.4).

Whilst the WTO dispute procedures are between governments, industry obviously plays an important role in bringing such matters to the attention of governments. Under European law, complaints may be submitted in writing to the Commission and a formal examination procedure may be invoked prior to the decision to pursue a dispute.[211] In the US, the Office of the United States Trade Representative (USTR) is required to solicit comments from industry when conducting its annual analysis of the operation and effectiveness of any trade agreement regarding telecommunications products or services and determining any action.[212]

The dispute settlement procedures have so far been invoked in respect of very few disputes in the telecommunications sector. Formal proceedings before the DSB have been pursued by the European Commission against Korea[213] and Japan in respect of preferential trade practices in favour of US suppliers of telecommunications equipment, both of which were resolved by agreement.[214] Proceedings have also been brought by the US against Belgium, regarding telephone directory services,[215] which was settled. The only case to reach a Dispute Panel and a formal decision was a claim made by the US against Mexico, the so-called 'Telmex case', discussed at Section 16.4.5.1.

[211] See Council Regulation (EC) No 3286/94 of 22 December 1994 laying down Community procedures in the field of the common commercial policy in order to ensure the exercise of the Community's rights under international trade rules, in particular those established under the auspices of the World Trade Organization; OJ L 349/71, 31 December 1994 (as amended by Regulation (EU) No 654/2014). To date, some 24 'trade barrier regulation' complaint procedures have been initiated.

[212] 19 USC § 3106 and 3108.

[213] WT/DS40 'Korea—Laws, regulations and practices in the telecommunications procurement sector', 5 May 1996. See also Agreement on telecommunications procurement between the European Community and the Republic of Korea; OJ L 321/32, 22 November 1997.

[214] WT/DS15 'Japan—Measures affecting the purchase of telecommunications equipment', 18 August 1995.

[215] WT/DS80 'Belgium—Measure affecting commercial telephone directory services', 13 May 1997.

In the vast majority of situations, however, it is the threat of WTO proceedings that is used as a stick to encourage resolution through negotiations. The US has been particularly willing to issue such threats, such as against Canada, regarding discriminations against US-based carriers transmitting international traffic,[216] and Germany, regarding Deutsche Telekom's failure to meet interconnection obligations and discrimination against foreign carriers for call completion.[217]

Both the European Commission and the US have threatened to take action against Japan over the introduction of the Long-Run Incremental Cost methodology for interconnection rates, as current rates are not considered to meet the 'cost-orientated' principle required under the Reference Paper.[218] Such threats underpinned ongoing bilateral negotiations, which reached a successful conclusion in July 2000.[219]

16.4.5.1 *Telmex*

The *Telmex* case concerned a preferential arrangement between Telmex, the Mexican incumbent, and the US operator Sprint. Other US operators, such as AT&T and MCI, complained to the US Government that this arrangement was discriminatory, and therefore in breach of Mexico's commitments under the GATS, the Telecommunications Annex, and the Reference Paper. Following the lodging of a formal complaint before the WTO, the Mexican regulator, Cofetel, issued new regulations requiring Telmex to terminate the preferential arrangement and provide non-discriminatory treatment to all foreign long-distance operators. Despite this, the US decided to proceed with its request to the DSB for the establishment of a panel, which was duly formed in August 2002. The Panel was required to make determinations on a number of issues, both of fact and law, interpreting the various WTO agreements, as well as broader issues of international telecommunications law.[220]

In terms of findings of fact, the 'relevant market' was disputed, with Mexico arguing that the operation of a traditional accounting rate regime for international calls meant that the 'relevant market' had to be two-way traffic, not just the termination of communications into Mexico, as argued by the US.[221] The Panel accepted US evidence that demand substitution was essential to the market definition

[216] See 1998 Annual Report of the President of the United States on the Trade Agreements Program, at 257.

[217] See 'US warns on German telecoms', *Financial Times*, 12 August 1999. See also 1999 Annual Report, at 293.

[218] eg 'US uses WTO threat to challenge Japanese pricing' (20 September 1999): <http://www.totaltele.com>.

[219] See USTR Press Release: 'United States and Japan agree on interconnection rates', 18 July 2000.

[220] See 'Mexico—Measures affecting Telecommunication Services', Report of the Panel, WT/DS204/R, 2 April 2004.

[221] Ibid, at paras 4.151–4.158.

process and that an outgoing call was not a substitute for an incoming call.[222] In terms of market power, the Panel concluded that Telmex was a 'major supplier' on the basis of its position under applicable domestic rules, which granted Telmex the right 'to negotiate settlement rates' for the entire Mexican market.[223]

On matters of law, one fundamental issue to be determined was whether conduct of a major supplier could be considered 'anti-competitive' if such conduct was required by law. Surprisingly, the European Commission, as a third party to the proceedings, supported Mexico's position that State rules could not be considered an anti-competitive practice. However, the Panel held that 'a requirement imposed by a Member State under its internal law on a major supplier cannot unilaterally erode its international commitments' made under GATS and related measures.[224]

The Panel concluded that Mexico had failed to meet its commitments under both the Annex on Telecommunications and the Reference Paper. Under the Annex, Mexico had failed to comply with Articles 5(a) and (b) in respect of access to and use of the 'public telecommunications transport networks', on a facilities basis, on reasonable and non-discriminatory terms. Under the Reference Paper, Mexico's obligations to maintain 'appropriate measures' preventing anti-competitive practices (at 1.1) were held to have not been met, as well as its obligations to ensure that Telmex provided interconnection at 'cost-orientated rates' (at 2.2(b)). However, since Mexico had not made commitments for non-facilities based services, it was found not to have violated any of its obligations in respect of such services.

Both sides in the dispute had reason to be unhappy with aspects of the Panel's conclusions, but neither party chose to appeal and, in June 2004, the parties reached an agreement resolving the dispute;[225] with Mexico subsequently amending its resale regulations in August 2005 in full compliance with the DSB's recommendations.

16.4.6 The impact of the WTO and ongoing liberalization

In terms of bare numbers, the GATS and related agreements have seemingly had a huge impact on the telecommunications sector, facilitating market liberalization and regulatory harmonization across nearly all continents. The reality, however, is inevitably more complex. First, for the major industrialized nations, the liberalization process was already well underway, so the commitments made under the WTO simply represented policy decisions already made. Second, as a result of the former, the constraints and obligations accepted by signatories have had

[222] Ibid, at paras 7.149–7.152. [223] Ibid, at paras 7.153–7.155. [224] Ibid, at para 7.244.
[225] WT/DS204/7, S/L/162, 2 June 2004.

greater significance for the legal and regulatory frameworks of developed countries.[226] Third, while developing nations have adopted GATS-compliant regulatory frameworks 'on the books', often with expert input from developed nations funded by development organizations, regulatory performance 'on the ground' remains poor.[227]

As already noted, the process of trade liberalization under the WTO regime is an ongoing one, with multinational negotiations attempting to broaden and deepen the commitment of Member States to free trade. The current round of negotiations formally commenced at Doha, Qatar, in November 2001.[228] In parallel with these multilateral negotiations, Member States are negotiating and entering into regional and bilateral trade agreements with trading partners, at a level that generally goes beyond that which States are prepared to commit at a multinational level. Telecommunications forms a component of the current round, with the major industrialized countries calling upon other countries to make commitments to fully liberalize and the 'elimination of MFN exemptions for telecommunication services'.[229] Currently, proposals either comprise offers to improve existing commitments or to make an initial commitment to telecommunications liberalization.[230] In the current international political climate, further progress on trade liberalization has largely stalled, while the 'Doha Round' has effectively come to an end. However, the telecommunications sector has already made substantial progress towards full liberalization and the current agreements have fundamentally altered national and international telecommunications law.

16.5 CONCLUDING REMARKS

The international regulatory regime for the telecommunications industry can be seen to comprise a substantial body of principles, rules, and regulations. At the highest level, the international trade agreements address issues of market access,

[226] Henderson, A, Gentle, I, and Ball, E, 'WTO Principles and Telecommunications in Developing Nations: Challenges and Consequences of Accession', (2009) 29 Telecommunications Policy 205.

[227] Djiofack-Zebaze, C and Keck, A, 'Telecommunications Services in Africa: The Impact of WTO Commitments and Unilateral Reform on Sector Performance and Economic Growth', (2009) 37(5) World Development 919.

[228] WTO Ministerial Declaration, 14 November 2001 (WT/MIN(01)/DEC/1). See also Chapter 17, at Section 17.4.1 for a discussion of competition policy within the Doha Round.

[229] TN/S/W/50, 'Communications from Australia, Canada, the European Communities, Japan, Hong Kong China, Korea, Norway, Singapore, the Separate Customs Territory of Taiwan, Penghu, Kinmen, and Matsu and the United States', 1 July 2005.

[230] As of July 2008, some thirty-nine governments had made such offers; see <https://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_e.htm>.

promoting competition throughout the telecommunications sector. The treaties governing the use of space and the sea determine the obligations of operators, through their respective governments, when utilizing common resources in the provision of telecommunications services.

At the next level down, the ITU continues to represent a key source of rules and regulations detailing the manner and means by which operators in different jurisdictions cooperate to achieve international telecommunications services. Industry consolidation through global mergers and joint ventures are likely to have minimal impact on the need for such rule making. As such, the ITU is likely to continue to be one of the main international forums for the telecommunications industry.

The process of liberalization has resulted in the demise in importance of the international satellite conventions, which may eventually disappear as instruments of international telecommunications law, though not as operating entities. The rise of the WTO as *the* forum for telecommunications law over recent years has been very significant. However, over recent years its role has diminished somewhat, as open competitive markets have become the international norm and enthusiasm for trade liberalization has waned.