Black Holes BV 

Formation for Atmospheric Science and Technology demonstration (FAST)

WP 160

Technical Note 2: Dutch National Law

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1. Dutch national law aspects of FAST: Introduction

The project on a Formation for Atmospheric Science and Technology demonstration mission (FAST) concerns a cooperation project between a Dutch University, the Delft University of Technology (TU Delft), and a Chinese University, Tsinghua University. For reasons specifically of the involvement of a Dutch entity, it is important to survey the most important legal aspects following from Dutch national space law pertaining to the project, and point out where further research and analysis, alternatively certain further approaches or measures, might be required for it to go ahead as planned.

The present Technical Note, dealing with these Dutch national space law aspects, concerns the second of two such Technical Notes in the context of WP 160 of the FAST project; the first Technical Note deals with international space law aspects.

The key features of FAST from a legal perspective, as arising from the Mission Requirements Document[1], would be the following:

(1) The FAST project concerns the development, construction, launch and operation of two micro satellites, one developed, constructed and operated by a Dutch legal entity, the TU Delft (called "FAST-D") and one developed, constructed and operated by Tsinghua University (called "FAST-T"), a Chinese legal entity.[2]

(2) Both satellites will be launched by a Chinese launcher, which in view of current practice means by definition from the territory of the People's Republic of China and conducted by Chinese entities (whether governmental, private or hybrid).[3]

(3) Both satellites will operate in Low-Earth Orbits (LEO's) of approximately 650 km altitude.[4]

(4) At least two TT&C ground stations will be involved in monitoring and controlling the satellites' operations, one located in the Netherlands and one located in the People's Republic of China.[5]

(5) The satellites will undertake a specific set of scientific investigatory activities in outer space, as well as earth observation activities of the cryosphere; the results of which will be downloaded to relevant ground stations at regular intervals.[6]

This survey will focus on the key instrument of current Dutch national law relevant to the FAST project, which is the Dutch Space Activities Act[7] as accompanied by the Decision on the Register for Space Objects[8].

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[1]. FAST Mission Requirements Document, FAST-TUD-MRD-01, Issue 0.1, of 30 May 2008.
[2]. See FAST MRD, pp. 1-3, esp. MIS-CONS-100.
[3]. See FAST MRD, p. 3, MIS-CONS-120.
[4]. See FAST MRD, p. 11, MIS-ORB-100.
[5]. See FAST MRD, p. 10, MIS-GSO-100.
[6]. See FAST MRD, esp. p. 2 ('Mission Statement', also MIS-OBJ-100).
[7]. *Wet ruimtevaartactiviteiten* (Dutch Space Activities Act), or Law Incorporating Rules Concerning Space Activities and the Establishment of a Registry of Space Objects; 80 *Staatsblad* (2007), at 1.
[8]. *Besluit register ruimtevoorwerpen* (Decision on the Register for Space Objects); 492 *Staatsblad* (2007).

2. Towards a Dutch national space law

For a proper understanding of the Dutch Space Activities Act it is helpful to understand its background, which consists first of all of key elements of the international legal framework already discussed to some extent in Technical Note 1. Secondly, there were some 'practical' developments that triggered the Act to come into existence, which will also be briefly outlined below. Both, together, also may serve to some extent to pointers as to how the FAST project might come to be handled under the Dutch Space Activities Act.

2.1. The international background to the Dutch Act

The international background to most national space law that has been drafted over the last decades lies in the advent, in general, of commercial private companies in the space arena. The resulting challenge for international space law, in view of the almost exclusively public character and focus of the key treaties, was to ensure both that it would continue to be applied in the appropriate manner to non-governmental space activities, and that it would sufficiently take those into consideration.

In general terms, this is where national space law comes in. Domestic legislation dealing with private space or space-related activities in a certain measure of comprehensiveness, notably through a system of authorisation or licensing, would allow for a proper implementation of the space treaties on the national level, would be the appropriate level for dealing with private companies in this context, and would take both of the fundamental concerns expressed before into due account.

Already the UN space treaties discussed in Technical Note 1 provide some fundamental parameters at the international level within which such national space laws have to operate.

Firstly, Article VI of the Outer Space Treaty[9], *obliges* certain states to exercise authorisation and continuing supervision over private space activities, to wit: those that can be qualified as "national activities". Formally speaking, it merely *suggests* doing so by means of a national space law, but from a theoretical vantage point the latter certainly presents the most comprehensive and transparent tool for doing so.

Secondly, Article VII of the Outer Space Treaty[10] provides for state liability for damage caused by space objects, as part of space activities also if these are not undertaken by state agencies; a regime further elaborated by the 1972 Liability

[9]. Outer Space Treaty, or 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/Washington, done 27 January 1967, entered into force 10 October 1967; 610 UNTS 205; TIAS 6347; 18 UST 2410; UKTS 1968 No. 10; Cmnd. 3198; ATS 1967 No. 24; 6 ILM 386 (1967). Art. VI provides in relevant part: "States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty."

[10]. Art. VII, Outer Space Treaty, reads: "Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies."

Convention[11]. Thus, whilst there is no clear-cut *legal* obligation for a launching state resulting from this construct to draft a national space law or even deal with the liability consequences of private space endeavours, it at least strongly *suggests* dealing therewith if the state concerned does not want to find itself without proper legal means of recovery of any international claim *vis-à-vis* the entity in question. The most appropriate way to do so would be by means of some licensing or authorisation system, and the best means to achieve that in turn would again lie in the enunciation of a transparent and comprehensive national space law.

Thirdly, the 1975 Registration Convention[12] without further qualification *obliges* relevant states to undertake the proper registration of space objects nationally and provide key information thereon to the UN Secretary-General for the purpose of an international registration, which in turn under Article VIII of the Outer Space Treaty[13] results in a *suggestion* to use now-available jurisdiction for the purpose – for example as part of a national space law.

In short: states are invited to use their entitlement to exercise national jurisdiction, partly already in existence – such as jurisdiction over territory and nationals – partly created by the international space treaties through the concept of registration of space objects, to cover the consequences, financial and other, of their international responsibility and international liability for activities not conducted by themselves but by entities operating under their respective jurisdiction.

2.2. The practical background to the Dutch Space Activities Act

The situation within the Netherlands before discussion started in earnest on the desirability or even need to establish a national space law, or at least to tweak existing laws so as to take those new developments into account, could be summarised as follows.

As a state with a long-standing tradition of international cooperation with the help of international treaties and agreements, the Netherlands is one of only ten states to be party to all five of the UN space treaties. In addition, it is a member of many intergovernmental organisations in the field, one of the eleven European states to sign up to the Intergovernmental Agreement on the International Space Station, and for more than a decade member of the UN Committee on the Peaceful Uses of Outer Space (COPUOS).

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[11]. Liability Convention, or Convention on International Liability for Damage Caused by Space Objects, London/Moscow/Washington, done 29 March 1972, entered into force 1 September 1972; 961 UNTS 187; TIAS 7762; 24 UST 2389; UKTS 1974 No. 16; Cmnd. 5068; ATS 1975 No. 5; 10 ILM 965 (1971).

[12]. Registration Convention, or Convention on Registration of Objects Launched into Outer Space, New York, done 14 January 1975, entered into force 15 September 1976; 1023 UNTS 15; TIAS 8480; 28 UST 695; UKTS 1978 No. 70; Cmnd. 6256; ATS 1986 No. 5; 14 ILM 43 (1975). See in particular Art. II, which amongst others provides the following: "1. When a space object is launched into Earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain. Each launching State shall inform the Secretary-General of the United Nations of the establishment of such a registry. 2. Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with paragraph 1 of this article".

[13]. Art. VIII, Outer Space Treaty, runs in relevant part: "A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body."

In terms of its actual direct engagement in space activities however, as the trigger for application of most of the substantive treaty- or customary international law-provisions, the role of the Netherlands has usually been considerably more limited, especially since the launches of ANS in 1974 and IRAS in 1983. For example, the two Dutchmen that have so far entered into outer space did so in their capacity as ESA astronauts.

Alongside such highly-visible but non-frequent events, the long-time engineering traditions in the Netherlands did lead to some Dutch involvement in niche markets in areas like robotic arms and solar panels. This was not about space activities properly speaking, but rather about building hardware as subcontractors to other, non-Dutch, main contractors, or in the context of the Dutch membership of ESA and the various joint cooperative projects undertaken within its framework.

Also the formal incorporation in 2000 of the European industrial giant European Aeronautic Defence and Space Company (EADS) in Amsterdam under Dutch law, thereby – at the consortium level – giving it corporate Dutch nationality, did not change the picture, as it has so far been engaged essentially in manufacturing rather than offering actual space services or space activities.

There were therefore effectively only two Dutch companies truly engaged in space activities. One was KPN Telecom, which acted as the Dutch signatory to the INTELSAT Operating Agreement[14], INMARSAT Operating Agreement[15] and EUTELSAT Operating Agreement[16] prior to the privatisation of these organisations, and hence used their respective satellite infrastructure for its telecommunication activities. However, since KPN Telecom had never even procured the launch of satellites on its own account, there was no issue of liability for the Dutch government to take care of domestically.

The other Dutch company active in outer space itself was New Skies Satellites (NSS), the private spin-off of INTELSAT established in the Netherlands in 1998. Its incorporation under Dutch law and establishment of its headquarters in The Hague may unquestionably have given it Dutch nationality as a company for the purposes of international law; NSS started out with five satellites in orbit simply being handed over by INTELSAT as a birth-gift. This meant that under the terms of the Liability Convention the states that would qualify as launching states at the time of launch, that is in the context of INTELSAT, were to be held liable in case on of those five satellites would cause damage covered by that Convention – 'once a launching state, always a launching state' – not just, or even especially, the Netherlands.

In short, the Dutch government had not considered it necessary until recently to move towards establishment of national space legislation, since there was no need for it to cover its international liability by means of domestic regulation.

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[14]. INTELSAT Operating Agreement, or Operating Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), Washington, done 20 August 1971, entered into force 12 February 1973; 1220 UNTS 149; TIAS 7532; 23 UST 4091; UKTS 1973 No. 80; Cmnd. 4799; ATS 1973 No. 6; 10 ILM 946 (1971).

[15]. INMARSAT Operating Agreement, or Operating Agreement on the International Maritime Satellite Organization (INMARSAT), London, done 3 September 1976, entered into force 16 July 1979; 1143 UNTS 213; TIAS 9605; 31 UST 1; UKTS 1979 No. 94; Cmnd. 6822; ATS 1979 No. 10; 15 ILM 233, 1075 (1976).

[16]. EUTELSAT Operating Agreement, or Operating Agreement Relating to the European Telecommunications Satellite Organization (EUTELSAT), Paris, done 15 July 1982, entered into force 1 September 1985; Cmnd. 9154; Space Law – Basic Legal Documents, C.II.2.

This, however, changed fundamentally in the course of the 1990's.

The first development concerned the incorporation and establishment of a small company called MirCorp in the Netherlands, intent on brokering deals between the Russian Space Agency and wealthy tourists interested in a space station as their holiday destination. Though by the time the first-ever tourist in outer space, Dennis Tito, flew (in April 2001) MirCorp had been dismantled, the fact that MirCorp, as a Dutch company for the purposes of international (space) law, was actually the launch customer raised a fundamental question. Would such procurement by MirCorp in addition not raise the spectre for the Netherlands to be faced with claims that it would be jointly and severally liable for such damage?[17]

The second relevant change concerned NSS, which since its inception in 1998 had rapidly grown into a major – and successful – player in the burgeoning field of private satellite communications. Barely four years after its incorporation had been announced, in April 2002 NSS had become in sufficient need of new satellite capacity to have an additional satellite launched, and soon there would be more to follow. There was little doubt that the company would be considered to have procured the launch, hence most experts would agree that this would effectively mean the Netherlands would qualify as the procuring state for purposes of the Liability Convention.[18]

Further, more general developments underpinned the broad paradigm change of increasing private participation in space activities, with resulting calls for national space legislation duly following suit.

Both in the global and in the European arena first telecommunications in general, then specifically also satellite communications became a matter of commercial business, more suitably left to the private sector to take care of. In Europe, this development was spearheaded in legal terms by the 1994 Satellite Directive[19], to be followed in due course by more Directives and Regulations[20] gradually establishing an Internal Market for satellite communications within the European Union. On the global level, application of the General Agreement on Trade in Services (GATS)[21] to the telecommunications sector resulted in the 1997 Agreement on Telecommunication Services[22] with a complicated structure of individual schedules of commitment to open up national markets on a reciprocal basis. The resulting increasing pressure also

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[17]. Formally speaking, Art. I(c), Liability Convention, sub (i) only speaks of "*A State* which (…) procures the launching of a space object" (emphasis added); hence serious doubts could be raised whether this criterion would also apply to cases where it was *not* "a State" which procured such launch, but a private party.

[18]. See however the argument *supra,* at n. 17.

[19]. Commission Directive amending Directive 88/301/EEC and Directive 90/388/EEC in particular with regard to satellite communications, 94/46/EC, of 13 October 1994; OJ L 268/15 (1994).

[20]. Examples concerned the Commission Directive amending Directive 90/387/EEC with regard to personal and mobile communications, 96/2/EC, of 16 January 1996; OJ L 20/59 (1996); the Commission Directive amending Directive 90/388/EEC with regard to the implementation of full competition in telecommunications markets, 96/19/EC, of 13 March 1996; OJ L 74/13 (1996); and the Decision of the European Parliament and of the Council on a coordinated authorization approach in the field of satellite personal communications systems in the Community, No. 710/97/EC, of 24 March 1997; OJ L 105/4 (1997).

[21]. General Agreement on Trade in Services, Marrakesh, done 15 April 1994, entered into force 1 January 1995; ATS 1995 No. 8.

[22]. Agreement on Telecommunications Services, Geneva, done 15 February 1997, entered into force 5 February 1998; ATS 1998 No. 9; 36 ILM 354 (1997).

was not lost upon the public international satellite consortia INTELSAT, INMARSAT and EUTELSAT, and ultimately led to their privatisation by the turn of the century.

Also for the Netherlands, these developments brought the prospect of private space activities for commercial gain to the fore – and the possibility for the country to benefit from such developments. The privatisation process left its marks for example on the incumbent national telecommunication provider PTT, then KPN, both as to its own status and as to its hitherto exclusive access, for the Dutch market, to the international satellite communication infrastructures offered by INTELSAT, INMARSAT and EUTELSAT.

Finally, in particular the risk of being held liable on the international level for damage caused by an NSS satellite triggered the Dutch authorities into specific action to establish true national space legislation, which finally came about when, on 24 January 2007 the Dutch Space Activities Act (*Wet ruimtevaartactiviteiten*) was officially enacted by Dutch Parliament and published on 6 March 2007, and by decision of 30 November 2007, entered into force on 1 January 2008 together with the Decision on the Register for Space Objects (*Besluit register ruimtevoorwerpen*) which elaborated the relevant part on establishment of a national register.

3. The Dutch Space Activities Act

The Dutch Space Activities Act was accompanied by an explanatory memorandum[23], which outlined the background to the Act by specific reference to the Netherlands Space Action Plan (*Actieplan Ruimtevaart*)[24]. As elaborated by the Action Plan, Dutch space activities will continue to be conducted predominantly in an international context, focusing on science, operational usage of space activities (especially earth observation, satellite navigation and satellite communications), and infrastructure development (from launch vehicles to satellite platforms and the International Space Station).

The content of the Dutch Space Activities Act may be briefly described as follows. The Act deals with both space activities for which the Netherlands could be held internationally responsible and/or liable under the international space treaties (especially those conducted by non-governmental, including private entities), and the establishment of a formal registration process – which obviously has a bearing also on space activities licensed under the Act, since such registration brings with it an additional means to exercise jurisdiction for the purpose of implementing the relevant rules of the treaties.[25] The Act comprises 28 Sections, spread out over seven Chapters.

3.1. General provisions

Chapter 1, entitled 'General Provisions', amongst others provides some definitions of importance here. Thus, "space activities" is defined as "the launch, the flight operation or the guidance of space objects in outer space"[26], and "space object" as "any object launched or destined to be launched into outer space"[27]. Also, Section 2 defines the scope of the Act in terms of its licensing system, as follows:

> 1. This Act applies to space activities that are performed in or from within the Netherlands or else on or from a Dutch ship or Dutch aircraft.
>
> 2. By Order in Council this Act can also be declared wholly or partly applicable to:
>
> > a. designated space activities that are performed by a Dutch natural or juridical person on or from the territory of a State that is not party to the Outer Space Treaty or on or from a ship or aircraft that falls under the jurisdiction of a State that is not party to the Outer Space Treaty;
> >
> > b. the organization of outer-space activities by a natural or juridical person from within the Netherlands.

Thereby, the Space Activities Act applies two criteria in determining its scope of application.

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[23]. The Dutch version thereof can be found in *Tweede Kamer der Staten-Generaal, Vergaderjaar 2005-2006*, 30 609, nr. 3. For the unofficial English translation of the explanatory memorandum, reference may be had to http://www.agentschap-telecom.nl/ep/space_activities_act_explanatory_note.pdf.

[24]. See *Tweede Kamer der Staten-Generaal, Vergaderjaar 2004-2005*, 24 446, nr. 27.

[25]. See esp. Art. VIII, Outer Space Treaty & Art. II(2), Registration Convention.

[26]. Sec. 1(b), Space Activities Act. Interestingly, however, the term "space activities" as such is not found in the space treaties, only closely related ones such as "the exploration and use of outer space" (Art. I, Outer Space Treaty) or "activities in outer space" (Art. VI, Outer Space Treaty).

[27]. Sec. 1(c), Space Activities Act. Note that Art. I(d), Liability Convention, and Art. I(b), Registration Convention offer only a rudimentary definition of the term 'space object'.

Firstly, the principle of territoriality is applied in a broad sense in that it also encompasses activities to which Dutch jurisdiction applies on a quasi-territorial basis, such as Dutch ships and Dutch aircraft.[28]

Secondly, the criterion of nationality is only applied in case the territory of a state not party to the Outer Space Treaty is concerned, in order to fill any gaps in international responsibility resulting from that latter scenario.

Thus the Netherlands interprets the reference to "national activities in outer space" in Article VI of the Outer Space Treaty to refer principally to 'activities conducted from Dutch territory', and only under special circumstances also to 'activities conducted by Dutch nationals', whether juridical or natural.

For the FAST project, with a view to key feature (1) and (4) in particular, and in a more indirect fashion also key features (3) and (5), it is obvious that the Space Activities Act applies first of all to the FAST-D satellite, as (many of) its operations will be conducted from Dutch territory. Secondly, however, it would in principle apply also to those ground control activities conducted from Dutch territory for the benefit of FAST-T, as they (equally) concern the "guidance of space objects in outer space" under Section 1(b).

Thus, FAST is likely to require a license under the Act, although it may be worthwhile to initiate discussions on the issue with the responsible Dutch authorities at an early stage to investigate to what extent it could be possible to create an exception, or at least minimize the burden to be imposed by the license, with a view for example to the non-commercial character of the FAST project.

3.2. Licenses

Chapter 2, entitled 'Licences', comprises Sections 3-10 that outline the details of the licensing regime under the Act.

Firstly, it is provided that conducting any of the space activities falling within the scope of the Act without a license are illegal.[29]

Secondly, a license shall only be granted if (or more precisely, "Regulations and restrictions can be attached to the license" to ensure that) a number of key interests are properly taken into account.[30] These are listed as relating to the safety of persons and goods, the protection of the environment in outer space, financial security of the operations to be licensed, the protection of the public order, the security of the Dutch state, and the fulfillment of the international obligations of the Netherlands.

A further key requirement is for the licensee to take out insurance for himself against any liability "arising from the space activities for which a license is required", as far as judged reasonable by the Minister of Economic Affairs.[31] This last clause obviously leaves considerable discretion for the licensing authority to vary substantive terms in the license, for example with regard to the FAST project. The Minister has meanwhile delegated actual licensing authority to the *Agentschap Telecom*, or Telecom Agency, within the ministry.

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[28]. The terms "Dutch ship" and "Dutch aircraft" are defined by Sec. 1(d) and (e) respectively, in both cases with reference to Dutch law.
[29]. See Sec. 3(1), Space Activities Act.
[30]. Sec 3(3), Space Affairs Act.
[31]. Sec 3(4), Space Activities Act. See also Sec. 3(7), allowing imposition of further rules "in order to implement the provisions of subsection 4".

The licensing regime next provides for a list of grounds for refusing the grant of a license.[32]

Remaining fairly general in this listing of requirements, the Act essentially remains a framework law, with the necessary flexibility for the Dutch authorities to add further requirements as expertise grows.[33] The remainder of the Sections of Chapter 2 as a consequence is essentially procedural in nature.[34]

Thus, Section 10(1) deals with incidents, providing for a duty resting upon the licensee to take steps to prevent to the extent possible any jeopardy to safety of persons and goods, the environment of outer space, the maintenance of public order and national security or damage that might result from the licensed activities at issue.

For the FAST project, following from key features (1), (3), (4) and (5) the consequences of application of the general requirement to obtain a license are that the abovementioned specific procedures will have to be followed, and any requirements indicated above or introduced by the licensing authority would have to be adhered to. For example, in principle insurance for third-party liability will have to be acquired,[35] and specific assurances might have to be given that FAST activities will not endanger the safety of persons and goods, the protection of the environment in outer space, the public order or the security of the Dutch state, and be fully compliant with the international obligations of the Netherlands.

Yet, in view of the discretion available in many respects to the Telecom Agency as the licensing authority, it might be worthwhile to start discussions early on with it to seek precise indications of what might be expected in terms of actual requirements for the license once it would be applied for.

3.3. Registry of space objects

Chapter 3 of the Space Activities Act then provides for the establishment of a national 'Registry of Space Objects'.[36] Any space object launched where involvement of the Netherlands would quality it as a "launching State" obviously and immediately would raise the issue of whether the Netherlands should also act as the registration state (and in the – hypothetical – case the Netherlands would qualify as the only launching state, simply results in an obligation to do so).[37]

Under the Act, the registration obligation will be further elaborated by "rules (…)[to] be laid down by or pursuant to an Order in Council with a view to implementing this

[32]. See Sec. 6, Space Activities Act.
[33]. For example, the Act allows the Minister to impose additional requirements, which may relate to "a. the applicant's knowledge and experience; b. authorization for the use of frequency space"; Sec. 4(3), Space Activities Act.
[34]. It provides for example for a six months time limit within which a license application has to be decided upon (Sec. 5, Space Activities Act), reasons to revoke a license with the applicable procedures in such event (Sec. 7), and the non-transferability of licenses, though provision is made for the common business practice where a license would have been issued to "a juridical person that is merged, divided or changes its name" (Sec. 8). Similarly, under Sec. 9 the authorities may impose a fee for administrative services offered, where in the accompanying explanatory memorandum, a very rough estimate of relevant figures refers to application costs being in the range of 500-1,000 €, non-recurring costs in the range of 3,000-6,000 € and ongoing costs in the range of 2,000-4,000 € per year.
[35]. See further on the issue of insurance *infra*, section 3.4.
[36]. See Sec. 11, Space Activities Act.
[37]. Cf. esp. Art. II, Registration Convention.

Section"[38], where the explanatory memorandum to the Act makes clear that the information to be included in the national register is at any rate to encompass the information that the Netherlands in turn would be obliged to provide to the UN Secretary-General for the purposes of the Registration Convention.[39]

As for the FAST satellites, it has been discussed in Technical Note 1 that the procurement of the launch of the FAST-D satellite on top of a Chinese launcher to be launched from the territory of the People's Republic of China (key feature (2)) would very likely qualify the Netherlands on the international level as a launching state, hence raises – with a view also to the principally Dutch character of manufacture and operations of the satellite under key features (1) and (4) – the issue whether FAST-D should be registered by the Dutch authorities in conformity with this registration system.

If that were to be the case – which is a likely event, in view of the above analysis – this means that certain parameters will in due course have to be provided to the Telecom Agency, but this does not seem to present serious problems to the FAST project at this point.

3.4. Redress

Further to the possibility that licensed space activities might still cause damage, Chapter 4 deals with 'Redress'. It establishes the primary obligation of reimbursement: wherever the Netherlands "is obliged to pay compensation under Article VII of the Outer Space Treaty or the Liability Convention, the State is entitled to recover this sum, in full or in part, from the party whose space activity has caused the damage".[40]

Here, again reference should be had to the analysis in Technical Note 1, that the procurement of the launch of the FAST-D satellite on top of a Chinese launcher to be launched from the territory of the People's Republic of China might well qualify the Netherlands on the international level as a launching state, and hence under the Dutch Act also results in the above entitlement to full or partial recovery of any third-party liability claim paid out by the Netherlands under the Liability Convention.

The potential for the obligation to offer unlimited compensation however is qualified, or more precisely the burden resulting from that principle for the licensee is mitigated, by clauses limiting the liability of the licensee as well as the actual reimbursement of the Dutch government "to the value of the sum insured"[41], referring back to the clause calling upon the Dutch government to determine "the maximum possible cover"[42].

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[38]. Sec. 11(4), Space Activities Act.
[39]. See Art. IV(1), Registration Convention; also Art. III.
[40]. Sec. 12(1), Space Activities Act. Notably, the Liability Convention essentially provides for unlimited compensation, as Art. XII provides: "The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred."
[41]. Sec. 12(2), (3), Space Activities Act.
[42]. See Sec. 3(4), Space Activities Act.

As it transpires from the explanatory memorandum, a version of the Maximum Probable Loss (MPL) concept as this figures in comparable clauses in US and Australian national licensing regimes will be used.[43]

In the alternative, the Netherlands could exercise its right of redress directly against the insurer.[44] In doing so, it seems the Dutch government has covered rather extensively already by the Act itself the possibility of having to meet a claim for compensation under the Liability Convention that is actually the result of a licensee's activities.

As indicated, following especially from key features (1) and (2) these provisions for FAST would likely result in an obligation to take out insurance for third-party liability up to a certain amount indicated in the license to be granted. Also here, it might be appropriate to initiate discussions with the relevant Dutch authorities on the extent to which such obligations could perhaps be minimized in the license, in view of the scientific and non-commercial nature of the FAST project. Equally, it may be of value to initiate further research into the MPL-concept as it operates in the US and Australian contexts, to develop a general understanding of what it might mean in the Dutch context.

3.5. Enforcement

Chapter 5, entitled 'Enforcement', encompasses eleven Sections, dealing with just that.[45] By their nature, many of such provisions refer back to existing elements of Dutch national law. The potential international nature of any disputes to be dealt with by the Act is reflected in a clause referring to oral discussion of a dispute which may become necessary, where a person "who does not adequately understand the Dutch language" is entitled to an interpreter, "unless it can reasonably be assumed that this is not necessary".[46]

As to actual sanctions possibly imposed under the Act, violations of any of the licensing obligations contained in Sections 3, 7 and 10 can be sanctioned with administrative penalties with a maximum of 450,000 € or 10% of the "relevant annual sales of the company in the Netherlands, whichever is the greater".[47] Similarly, violations of the regulations pertaining to the registration of relevant space objects can be sanctioned with administrative penalties up to 100,000 €.[48]

Obviously, the consequences for the FAST project are simple: if, following previous analyses, a license will indeed turn out to be necessary, and will then be granted; and if then clauses of that license might be found to be violated, the FAST project – read the TU Delft – would have to bear the consequences thereof.

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[43]. Cf. for the United States, Sec. 16(a)(1)(A), Commercial Space Launch Act, Public Law 98-575, 98th Congress, H.R. 3942, 30 October 1984; 98 Stat. 3055; Space Law – Basic Legal Documents, E.III.3, as amended by Commercial Space Launch Act Amendments, Public Law 100-657, 100th Congress, H.R. 4399, 15 November 1988; 49 U.S.C. App. 2615; 102 Stat. 3900; Space Law – Basic Legal Documents, E.III.3, 13 ff. and now codified as Sec. 70112(a.3), Commercial Space Transportation – Commercial Space Launch Activities, 49 U.S.C. 70101 (1994); and for Australia, Sec. 48(3), An act about space activities, and for related purposes, No. 123 of 1998, assented to 21 December 1998; National Space Legislation of the World, Vol. I (2001), at 197, as amended by Act No. 100 of 2002.
[44]. See Sec. 12(4), Space Activities Act.
[45]. Cf. e.g. Sec. 17, Space Activities Act.
[46]. Sec. 20(2), Space Activities Act.
[47]. Sec, 15(1), Space Activities Act.
[48]. Sec. 15(2), Space Activities Act.

It should be noted, however, that the reference to "company" in Section 15 makes clear that the focus of the Act in this respect (as well as in most others) is squarely to deal with commercial or semi-commercial ventures, which might mean that such clauses may not be enforced as strictly upon a clearly non-commercial venture such as the FAST project. It would be difficult at the same time to take such an approach for granted, however.

3.6. Amendments to other legislation and concluding provisions

Chapter 6, on 'Amendments to Other Legislation', comprises a single Section ensuring coherence with existing Dutch national legislation, while maintaining the key benefit of the Space Activities Act of offering potential space entrepreneurs a one-stop licensing regime.[49]

Chapter 7 finally encompasses some 'Concluding Provisions'. The most interesting clause here provides for a transitional arrangement, which is a very succinct one in view of the fact that currently only New Skies Satellites could be the subject of such an arrangement.[50]

The consequences of these Sections for the FAST project, taking the general above analyses into consideration, are relatively simple once more: at this point, they would merely call for a superficial monitoring of any other legislation in the Netherlands which might be applicable – and hence might interfere with clear-cut rights and obligations under the license-to-be. It might be wise for efficiency's sake to discuss with the Dutch licensing authority ways and means to simplify or even shortcut such a process.

[49]. See Sec. 24, Space Activities Act.

[50]. It provides that activities already ongoing at the point in time when the Dutch Act enters into force are allowed to be continued for another twelve months without a license; see Sec. 25(1), Space Activities Act.

4. Concluding remarks: the way forward

Also as following from the Dutch Space Activities Act, the principal piece of Dutch legislation relevant in the current context, there are no principled show-stoppers to the FAST project as it is currently envisaged, nor to the role of the TU Delft in that framework. At the same time, once again analysis has shown there are a number of key parameters evolving from the legal framework that require specific actions in order to make the FAST project compliant with them. This results in the following list of considerations.

Firstly, as discussed in section 3.1, the FAST project is very likely in principle to require a license under the Dutch Space Activities Act at least for the FAST-D but probably also for the FAST-T satellite and attendant operations (following in particular from key features (1) and (4)). Thus, it may be worthwhile to initiate discussions on the issue with the responsible Dutch authorities at an early stage to investigate to what extent it could be possible to create an exception, with a view for example to the non-commercial character of the FAST project.

Secondly, to the extent that under the above and following from key features (1), (3), (4) and (5) as further discussed in section 3.2 a license would indeed be likely to be required, in view of the discretion available in many respects to the Telecom Agency it would be worthwhile to start discussing with it early on to seek precise indications of what might be expected once the license would actually be applied for. The clear scientific character of the FAST project under key feature (5) would be a major argument for limiting such requirements to the minimum necessary.

Thirdly, as indicated by the analysis of sections 3.2 and 3.4 and following especially from key features (1) and (2) the Space Activities Act's provisions on licensing for the FAST project would likely result in an obligation to take out insurance for third-party liability up to a certain amount indicated in the license to be granted. Here, it might be appropriate to initiate discussions with the relevant Dutch authorities on the extent to which such obligations could perhaps be minimized in the license, in view of the scientific and non-commercial nature of the FAST project.

Fourthly, in the same context of insurance obligations under a perspective license discussed in sections 3.2 and 3.4 and the consequences of key features (1) and (2) in that regard, it may be also of considerable value to initiate further research into the MPL-concept as it operates in the US and Australian contexts, to develop a general understanding of what it might mean in the Dutch context.

Fifthly, as concluded in section 3.6, the Section of the Space Activities Act on Amendments to Other Legislation means for the FAST project, taking the general above analyses into consideration, that at this point a superficial monitoring of any other relevant Dutch legislation which might interfere with clear-cut rights and obligations under the license-to-be, and a preliminary discussion with the Dutch licensing authority on this topic, may indeed be valuable.