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A COMMON SHAPE FOR NATIONAL SPACE LEGISLATION IN EUROPE

SUMMARY OF FINDINGS AND CONCLUSIONS OF THE PROJECT 2001 PLUS WORKSHOP

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ABSTRACT

National Space Legislation are enacted in eleven States, among them Norway, Sweden and UK. Almost as many States – first of all in Europe and Asia – are drafting assimilable legislation.

Because of the international public law based sphere of application of such (draft) legislation, activities might fall under the jurisdiction of more than one of those laws. Moreover, entities undertaking such activities might be tempted for whatever reason to found or move its headquarter under a special jurisdiction. In any case, harmonised space legislation might to some extent on the one hand foster national industries by ensuring legal security and comparable administrative requirements if different legislation apply and on the other hand avoid "licence shopping" tendencies.

Based on the Project 2001 Building Blocks for National Space Legislation, four aspects of harmonisation might be identified: administrative procedure and fees for an authorisation, technical safety evaluation, indemnification regulation and third party liability insurance.

These aspects need to be dealt with at least on a European level. Since there is no competence of the European Union and since there will be no adequate competence within the (draft) Treaty establishing a Constitution for Europe, a realistic approach might be seen in cooperation and coordination of legislating States, maybe through intergovernmental agreements.

I. BACKGROUND

Whenever nongovernmental activities are undertaken in outer space, the "appropriate" State is obliged to authorise and supervise them, Art. VI Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (OST).

Based on this obligation, some States have enacted National Space Legislations.[1] Other States are engaged in drafting such legislation.[2]

Having discussed and analysed these (draft) legislation, a working group within the Research Project 'Project 2001 – Legal Framework for the Commercial Use of Outer Space' identified (based on international law requirements) a common structure of these legislation, the so called *building blocks*. These building blocks were presented by the authors at this forum in 2001.[3]

Project 2001 was succeeded by another Research Project, jointly organised by the Institute of Air and Space Law of the University of Cologne and the German Aerospace Center, DLR: Project 2001 Plus – Global and European Challenges for Air and Space Law at the Edge of the 21st Century.

Within the scope of Project 2001 Plus, work on the building blocks for national space legislation was resumed. On January 29/30, 2004 the Workshop "Towards a Harmonised Approach for National Space Legislation in Europe" took place in Berlin. About sixty European experts from governments, space agencies, industries and universities discussed which aspects of the building blocks might be subject to (European) harmonisation, shaped recommendations and analysed potential methods of implementation.

II. NEED FOR HARMONISATION

"Appropriate" in terms of Art. VI OST has to be interpreted as being a State which has personal, territorial or quasi-territorial jurisdiction over such activity.[4]

An activity may be undertaken in international cooperation in such a way that several States are "appropriate" States, e.g. because an entity acting under the personal jurisdiction of State A undertakes the activity from the territory of State B (German launcher from Russian territory). The same is true for an entity being subject to several personal jurisdictions, as matter of the respective corporation law. In either case States should be interested in having to some extent harmonised legislation in order to facilitate international cooperation and to foster national industries, since firms are not faced with differences in administration requirements.

Moreover a non-governmental entity might be tempted to move its headquarter from one jurisdiction into another (which is especially easy under the legal form of a *sociedas europeanis*).[5] Against that background States should be interested in harmonised space legislation in order not to provide any means for "licence shopping".

III. ASPECTS OF HARMONISATION

A great deal of authors recently claimed harmonisation of National Space Legislation.[6] Likewise, the Working Group of the Legal Subcommittee of the UN COPUOS on the "Review of the Concept of the 'Launching State'" suggested harmonising national space legislation.[7]

However, definitions of aspects of harmonisation and further details were missing up to now. Purpose of the Project 2001 Plus Workshop therefore was to fill this gap.

Based on (four of) the building blocks for National Space Legislation speakers and participants identified several aspects of harmonisation, such as (1) the administrative procedure, including fees for granting an authorisation, (2) the technical safety evaluation within the

requirements for granting an authorisation, (3) the possibility of (liable Launching) States to take recourse against the actor, who directly caused the damage for which the State is held liable and (4) the matter of compulsory third party liability insurances.

Having identified the above mentioned aspects, participants singled out crucial normative regulations and wordings and partly suggested recommendations for a harmonised "handling".

1. Administrative Procedure

The applicant for an authorisation will be faced with an administrative procedure of the appropriate authority. Such is subject to national peculiarities, especially with regard to general administrative law. Nevertheless, some aspects might be worth harmonising. Thus, the aspects of duration (period between application and denial or grant), fees and acceptance of foreign authorisations were identified. But it is understood that these are minor aspects, as long as those are a matter of reasonable proceedings.

a. Duration

The duration of such a procedure is closely linked to the requirements and conditions for an authorisation, which have to be evaluated. The most time consuming aspect is the safety evaluation, which will be dealt with below. Practice of existing legislation is as follows: Sweden 2 – 4 month[8], UK 2 – 6 month[9], US 6 month[10] and Russian Federation 1 or 2 month[11]. Especially the European legislation claim a simple authorisation regime, but involving essential technical checks.[12] Considering these experiences, Project 2001 Plus recommended that the decision to grant or deny an authorisation shall be made not later than six month after receiving the application.

b. Fees

Fees are based on the cost for evaluation of the requirements and conditions for an authorisation, mainly considering the safety checks. In Sweden no fees are charged. In UK the applicant is faced with fees of 6.500 £ (roughly 9.300 €). In Australia fees are 44.000 Au$ (roughly 26.800 €)[13]. In Russia fees are calculated on a case by case basis on a net cost price. Considering these differences, some sort of harmonisation might be desirable. But it seems to be more appropriate to set up various stages and to offer some sort of discretion, than to set up a strict amount of fees. Project 2001 Plus recommended that fees should be calculated on the basis of complexity with regard to reasonable and safe evaluation of all requirements, but not exceeding a certain amount. With regard to scientific activities and repeated activities of a similar data-basis, fees might be less.

c. Acceptance of foreign authorisations

Since an authorisation has to be granted by the "appropriate" State (Art. VI OST) and the appropriate State is such a State which has personal, territorial or quasi-territorial jurisdiction (cf. above), an activity typically has to be authorised by more than one State. E.g. a UK satellite launched from Australia would need an authorisation from both States. Thus it might be worthwhile considering a simplification. In the UK, a foreign authorisation will be accepted if there are arrangements with other responsible States.[14] The same is true for Australia if this does not cause substantial harm to public health and property and does not cause any liability risk for the

Commonwealth.[15] Such regulation would simplify national procedures, especially if comparable requirements were already evaluated by another (foreign) authority and thus avoid unnecessary obstacles for space industries. Project 2001 Plus recommended that an authorisation should not be required for activities authorised by another State, if such authorisation is granted under comparable requirements und conditions as set up in the national Act and deem securing compliance with international obligations existing with regard to space activities.

2. Technical safety evaluation

Technical safety evaluation is a focal point within every authorisation procedure. Also as an end in itself States focus on this issue in order to prevent any damage caused through the activity, especially in order to avoid being liable for those damages caused by the respective space object as a Launching State.[16] On the other hand, industry claims for less regulation with regard to technical safety in order to avoid disproportionateness with foreign industries regulated to a fewer extent.[17]

In the process of the Project 2001 Plus Workshop it became evident, that quality standards (e.g. ECSS) exist, which are drafted for similar purposes. It was discussed whether and to what extent national legislation might refer to those standards instead of laying down a separate procedure for a similar evaluation. This is done for instance in the UK.

Project 2001 Plus recommended that authorisation requirements should be drafted allowing quality standards to be part of such evaluation (e.g. reference to "acknowledged rules of technology" or "status of technology"). They should be substantiated by more flexible, harmonised regulations. Evaluation should primarily be based on paper documentation submitted by the applicant.

In order to investigate ways and means of ECSS standards to endorse and support administrative evaluation, Project 2001 Plus agreed with representatives of ECCS to envisage cooperation and coordination. In the meantime, a work item proposal on "Support of harmonized technical / implementation regulations for national space legislation in Europe" was suggested to the Executive of ECSS.

3. Matters of liability

Different matters of liability were raised at the Workshop: State indemnification, cross-waiver of liability, absolute liability and state guarantees. Only the first two aspects should be mentioned here.

a. State recourse

States are liable for damages caused by space objects if they are Launching States (Art. VII OST and Art. I (c) Convention on International Liability for Damage Caused by Space Objects (LIAB)). One might imagine several constellations for which the State is liable without either knowing of an activity taking place or without having jurisdiction to authorise and control such activity.[18] This is because of the speciality of the Outer Space Treaties to "tie in" the liability with the moment of the launching of the object, neglecting the actual causation of the damage (in order to highly protect uninvolved third parties). All national space legislation provide a legal basis for state indemnification, in case the State was held liable according to public international law, but the damage was caused by a private actor.

In Sweden and UK such indemnification is unlimited, i.e. the operator has to pay the full amount of indemnification claimed by the damaged person. In contrast, other States limit their indemnification, e.g. the US, Russian Federation and Australia to the insured sum (cf. below: the coverage itself is limited) respectively to the maximum probable loss.[19] This is to foster national industry and as well as in order to make activities insurable.

Project 2001 Plus recommended that States should take recourse against a private entity that caused damages for which the State is held liable as a 'Launching State'. Such recourse should be limited to a certain amount and drafted aligned with the maximum insurance cover required. Exceptions might be established if the private actor did not act in line with the national space legislation, contravened the terms of the authorisation or caused the damage by wilful misconduct or gross negligence.

b. Cross-waiver of liability

Cross-waiver clauses are very common, commendable and of special importance, especially in launch service agreements.[20] Problems might entail because some legislation do not fully accept some sort of waivers.[21]

Nevertheless, cross waivers are compulsorily required for activities under a US launch licence.[22] Also Australian legislation provides a basis for such waivers.[23]

Project 2001 Plus recommended that cross-waiver of liability are widely proved and accepted – this should be acknowledged by legislating states by comprehensively validating them.

4. Compulsory 3rd party liability insurance

Third party liability insurance is an essential aspect within national space legislation. If all safety evaluation und supervision activities could not prevent the occurrence of damages to uninvolved third parties, only the existence of a sound debtor can protect the creditor in his liability claim.[24] Minimum cover respectively maximum cover required, as well as special terms required for the policy vary between the different legislation. Sweden does not require third party liability insurance at all. In the UK, a minimum cover of 100 million £ (roughly 143 million €) is required, including coverage in favour of the government.[25] A minimum cover is also required by the Russian Federation (100-300 million $, i.e. roughly 82-248 million €).[26] Australia requires an insurance covering the maximum probable loss, including coverage in favour of the Commonwealth.[27] The US require a maximum cover of 500 million $ (roughly 415 million €) or the maximum insurable cover available on the world market at reasonable costs.[28] Primarily insured is the government. Cover term varies between 30 days following the launch (Australia) and three years plus extension (UK).

Project 2001 Plus recommended that National Space Legislation should deal with third party liability insurance for the whole duration of the activity. Coverage should be determined with regard to the peculiarities of the activity, but not exceeding a certain amount. Some specification of the cover note should be required.

IV. METHODS OF HARMONISATION

At the time being, a competence for a European harmonisation of national space

legislation cannot be identified. General policy statements within the EC cannot fulfil the need of a clear and reliable legal basis e.g. for restraining activities in outer space or for obliging an entity to reimburse a liable Launching State.

Assuming that the European Draft Constitution might enter into force as it stands now, difficulties arise to identify such competence, too. One might argue that the European Union can impose policy statements to the extent that a framework law is given. But still this has to be filled in by states according to their national competence.

As far as the European Union takes the decision to implement a European competence for space activities or space transportation, the well known instruments (especially directive and decision) are to their disposal in order to harmonise National Space Legislation. With regard to the aspect of the technical safety evaluation one might consider the existing practice of the European Union to make reference to technical regulations of non-governmental organisations, here e.g. of ECSS.

But so far states are reliant on national (formal or informal) consultations and co-ordination. To the maximum, states might agree within intergovernmental agreements, MoU's or LoI on harmonisation of their national space legislation (projects) – being aware of the necessity and reasonableness of National Space Legislation as far as discussed above.

V. SUMMARY

In summary, the workshop "Towards a Harmonised Approach for National Space Legislation in Europe" came to the following conclusions:

BUILDING BLOCKS FOR NATIONAL SPACE LEGISLATION FILLED IN BY ASPECTS OF HARMONISATION

1. Authorisation of space activities

(with regard to all space activities carried out by nationals or from the territory of the respective state / with regard to the observance of the OST principles as well as the inherent risk of liability)

Aspects of harmonisation

- duration of an administrative procedure to grant authorisation: should not exceed an upper limit, e.g. six month
- fees: should be calculated on the basis of complexity with regard to reasonable and safe evaluation of all requirements – maybe including a maximum amount suitable
- exemption: authorisation should not be required if there exists another appropriate State for the same activity, which has already authorised the activity under comparable requirements and conditions
- evaluation of safety requirements: reference to existing (contractual) quality standard rules, e.g. ECSS

2. Supervision of space activities

(via periodical information required concerning the terms of the authorisation / via sanctions, revocation or suspension of the authorisation in case of non-observance of its terms)

Aspects of harmonisation

- matters of the administrative procedure (duration and fees) as above
- supervision of safety: utulisation of inter alia existing procedures set up for securing (contractual) quality standards

3. Registration of space objects

(setting up a national registry, content: the five pieces of information as required by Art. IV (2) REG as well as additional information/ information on re-entry and other changes of registered information/ accessibility)"

4. Indemnification regulation

(implementation of a right of recourse/ limited to a certain fixed sum)

Aspects of harmonisation

- right of recourse: every legislating – and potentially liable – Launching State should set up a provision, allowing to take recourse

against an entity which caused the damage for which the Launching State was held liable

- limitation of recourse: support of national industry by limiting this recourse should be assimilable, e.g. by determining an upper limit

5. Additional regulation (all points mentioned linked to the problem of "fair competition")

*(Regulation of the insurance and liability related issues/ patent law and other international property issues/ export control regulation/ financial security/ transport law/ dispute settlement)**

Aspects of harmonisation

- liability related issues: a common understanding should be established of what kind of fault might be waived
- insurance related issues: compulsory third party liability insurance should be required for every space activity; a minimum coverage should be determined, (maybe as well a maximum coverage)
- insurance related issues: if a maximum insurance cover was determined, this should be in line with the limitation of indemnification of the liable Launching State
- insurance related issues: requirements of the cover note should be adequate in order to safeguard claims of third parties

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Methods of Harmonisation

- at the time being no competence of the European Union – such will not be set up by the Draft Treaty establishing a Constitution for Europe (only for general policy decisions, to the maximum very general framework legislation)
- European States should realise the aspects discussed above and implement them by coordination and cooperation with other states on an informal level or through intergovernmental agreements

** Aspects of harmonisation with regard to the third building block "Registration of Space Objects" are left to the next Project 2001 Plus Workshop on the Registration Practice, to be held in autumn 2004. Aspects of harmonisation with regard to the fifth building block "Additional Regulations" were not dealt with other than insurance and liability related issues.*

For further details on the issues please cf. the report of the workshop.[29] Additional information are published on the website of Project 2001 Plus http://www.Project 2001plus.uni-koeln.de or can be enquired at the Project Office, Project 2001 Plus, c/o Institute of Air and Space Law, University of Cologne, Albertus Magnus Platz, D-50923 Cologne or sekretariat-hobe@uni-koeln.de. The issue will be resumed within the session of "National Space Legislation" at the Project 2001 Plus Symposium taking place on 8-10 June 2005 in Cologne.

[1] Norway, Sweden, United States of America, United Kingdom, South Africa, Russian Federation, (Argentine), Ukraine, Australia, Hong Kong and Brazil.

[2] E.g. France, Germany, the Netherlands, Belgium, Italy, Indonesia, China, Malaysia.

[3] Michael Gerhard / Kai-Uwe Schrogl, Project 2001: recommendations of the Working Group on National Space Legisaltion (IISL-01-IISL1.21), IISL Proceedings of the 44th colloquium on the law of outer space 2001, pages 160 et seq.

[4] *Horst Bittlinger*; Private Space Activities, in: IISL Proceedings of the 30th colloquium on the law of outer space 1987, pages 191(193); *Bin Cheng*, Revisited: International responsibility, national activities and the appropriate State, in: Journal of Space Law 1998, pages 7(24 et seq.); *Martin Howald*, Private space activities and national legislation, in: IISL Proceedings of the 32nd colloquium on the law of outer space 1989, pages 344/345); *Armel*

Kerrest; Remarks on the responsibility and liability, in: IISL Proceedings of the 40th colloquium on the law of outer space 1997, pages 134(139); *Peter Nesgos*, International and domestic law applicable to commercial launch vehicle transportation, in: IISL Proceedings of the 27th colloquium on the law of outer space, pages 98(100); *Frans G. von der Dunk*, Private enterprise and public interest in the european 'spacescape', Leiden 1998, page 297.According to *Stephan Hobe* (Die rechtlichen Rahmenbedingungen der wirtschaftlichen Nutzung des Weltraums, Berlin 1992,. Seite 158); *Valérie Kayser* (An achievement of domestic space law, in Annals of Air and Space Law 1991, pages 341 et seq) and *Henri Wassenbergh* (The law governing international private commercial activities of space transportation, in: Journal of Space Law 1983, pages 97(109)) the "appropriate" State is not the State which has jurisdiction over an activity but the registering Launching State of the space object, which is being used for the space activity.

5 Samples of National (Draft) Legislation and Harmonisation, in: *Stephan Hobe / Kai-Uwe Schrogl / Bernhard Schmidt-Tedd ed.)*, Towards a harmonised approach for national space legislation in Europe, Proceedings of the Workshop, Cologne 2004, page 155.

6 E.g. *Herman Ersfeld*, National Space Legislation, Industry Views, in: *Susanne Reif / Michael Gerhard (ed.)* Need and Prospects for National Space Legislation, Proceedings of the Project 2001 Workshop on National Space Legislation, Cologne 2001, page 39(46); *Edward E. Frankle*, Panel on International Law Making and Harmonisation of National Laws: Remarks, in: *Karl-Heinz Böckstiegel (ed.)*, 'Project 2001' – Legal Framework for the Commercial Use of Outer Space, Cologne 2002, page 669; *Norbert Knittlmayer*, Harmonize Europe's Space Laws, in: Space News 12/02/2001, page 15; *Patricia M. Sterns / Leslie I. Tennen*; Space Law in the 21st Century: The Outer Space Treaties revistited, IAC-03-IISL.2.07. Further references by *Michael Gerhard / Kristina Moll*, The gradual change from 'building blocks' to a common shape of National Space Legislation in Europe, Summary of findings and conclusions, in: Stephan Hobe / Kai-Uwe Schrogl / Bernhard Schmidt-Tedd, Towards a Harmonised Approach for National Space Legislation in Europe, Proceedings of the Workshop, Cologne 2004, page 7(12).

7 UN Doc. A/AC.105/787 of 19 April 2002, Annex IV, Appendix.

8 *Niklas Hedman*, Vertices of administrative procedures – the Swedish experience, in: *Stephan Hobe / Kai-Uwe Schrogl / Bernhard Schmidt-Tedd ed.)*, Towards a harmonised approach for national space legislation in Europe, Proceedings of the Workshop, Cologne 2004, pages 75(76,77).

9 *Roger Close*, Outer Space Act 1986: Scope and Implementation, in: *Susanne Reif / Michael Gerhard (ed.)* Need and Prospects for National Space Legislation, Proceedings of the Project 2001 Workshop on National Space Legislation, Cologne 2001, page 141(144).

[10] 49 USC 70105 (Commercial Launch Activities), resp. CFR 14/III/413.5 (Commercial Space Transportation).

[11] Sec. 12 Statute No. 104 on Licensing Space Operations.

[12] *Niklas Hedman*, Vertices of administrative procedures – the Swedish experience, in: *Stephan Hobe / Kai-Uwe Schrogl / Bernhard Schmidt-Tedd ed.)*, Towards a harmonised approach for national space legislation in Europe, Proceedings of the Workshop, Cologne 2004, page 75(77).

[13] Sec. 59 Space Activities Bill and Sec. 9.02 Space Activities Regulations.

[14] Sec. 3 (2)(b) Outer Space Act.

[15] Sec. 46 Space Activities Bill and Sec. 6.01. Space Activities Regulation.

[16] In most cases the appropriate State responsible for the authorisation and supervision of a space activity (Art. VI OST) is at the same time a liable Launching State for a space object (Art. VII LIAB). For a more detailed analysis cf. *Michael Gerhard,* Nationale Weltraumgesetzgebung, Köln 2002, pages 50 – 56.

[17] *Herman Ersfeld*, National Space Legislation, Industry Views, in: *Susanne Reif / Michael Gerhard (ed.)* Need and Prospects for National Space Legislation, Proceedings of the Project 2001 Workshop on National Space Legislation, Cologne 2001, page 39(46).

[18] Cf. *Michael Gerhard / Kristina Moll*, The gradual change from 'building blocks' to a common shape of National Space Legislation in Europe, Summary of findings and conclusions, in: Stephan Hobe / Kai-Uwe Schrogl / Bernhard Schmidt-Tedd, Towards a Harmonised Approach for National Space Legislation in Europe, Proceedings of the Workshop, Cologne 2004, pages 7(30 et seq.); *Kai-Uwe Schrogl / Charles Davies*, A new look at the Concept of the 'Launching State', in: German Journal of Air and Space Law (ZLW) 2002, pages 359 et seq.; Final Statement of the working group on the "Review of the concept of the 'Launching State'", UN Doc. A/AC.105/787 of 19 April 2002. Recommendations outside of the discussion on National Space Legislation were made by *Michael Gerhard, T*ransfer of operation and control with respect to space objects – Problems of Responsibility and Liability of States, in: German Journal of Air and Space Law (ZLW) 2002, pages 571 – 581.

[19] USA: 49 USC Sec. 70113; Australia: Sec. 74, 69 (3) Space Activities Act.

[20] Cf. e.g. *Valérie Kayser*, Launching Space Objects: Issues of Liability and Future Prospects, Dordrecht 2001, pages 262 – 283; *Norbert Knittlmayer*, Der kommerzielle Startdienstleistungsvertrag, Baden-Baden 1998, pages 156 – 211.

[21] *Valérie Kayser, ibid. page 266 et seq.*

[22] 49 USC Sec. 70112(b).

[23] Sec. 65 Space Activities Act.

[24] *Michael Gerhard / Kai-Uwe Schrogl*, Report of the Working Group on National Space Legislation, in: *Karl-Heinz Böckstiegel (ed.)*, 'Project 2001' – Legal Framework for the Commercial Use of Outer Space, Cologne 2002, pages 529(535-537); *Jean-Louis*

Magdelénat, Spacecraft insurance, in: Annals of Air and Space Law (AASL) 1982, page 363(368).

[25] Sec. 5 (2)(f) Outer Space Act – For the implementation of this rule cf. *Roger Close*, Outer Space Act 1986: Scope and Implementation, in: *Susanne Reif / Michael Gerhard (ed.)* Need and Prospects for National Space Legislation, Proceedings of the Project 2001 Workshop on National Space Legislation, Cologne 2001, page 141(145).

[26] *Yana Toshchenkova,* Insurance matters, in: *Susanne Reif / Michael Gerhard (ed.)* Need and Prospects for National Space Legislation, Proceedings of the Project 2001 Workshop on National Space Legislation, Cologne 2001, page 53(569:

[27] Sec. 47, 48 Space Activities Act; for the calculation of the maximum probable loss cf. the Maximum Probable Loss Methodology, ISBN 0 642 72144 0, ITR 2002/063 also published under http://www.asicc.com.au/Documents/MPLmethodology10702.pdf or cf. *Michael Davis*, The Australian Experience, in: Susanne Reif / Michael Gerhard (ed.), Need and Prospects for National Space Legislation, Proceedings of the Project 2001 Workshop on National Space Legislation, Cologne 2001 (ISSN 1616-6272), pages 165 (176, 177).

[28] 40 USC Sec. 70112 (Commercial Space Launch Activities).

[29] *Michael Gerhard / Kristina Moll*, The gradual change from 'building blocks' to a common shape of National Space Legislation in Europe, Summary of findings and conclusions, in: Stephan Hobe / Kai-Uwe Schrogl / Bernhard Schmidt-Tedd, Towards a Harmonised Approach for National Space Legislation in Europe, Proceedings of the Workshop, Cologne 2004, pages 7 – 49.