

TOWARDS A EUROPEAN SPACE AGENCY, MARK II?

The Space Program of the Former Soviet Union and the Commonwealth of Independent States

Frans G. von der Dunk
Co-Director
International Institute of Air and Space Law
Leiden University, The Netherlands
Member IISL, Member AIAA

Abstract

Out of the many historical political events of the last few years, in terms of outer space and outer space law the final demise of the Soviet Union in December 1991 no doubt was the most important. One of the two superpowers in space disappeared as a state never to return. The fifteen republics formerly comprising the Soviet Union entered the international community of states more or less in its stead, eleven of them willing - so far - to remain together within a framework for cooperation ominously named "Commonwealth of Independent States".

As to outer space, nine of those eleven states within a week of the final demise of the Soviet Union concluded the Minsk Space Agreement. The Agreement was in force instantly, which is rather unique and points to the importance attached by the states involved to continuation in principle of conducting space activities together. It is in the framework of this Agreement that the future of the space program of the former Soviet Union is to be analyzed in legal terms, both as to programs already in operation, as to programs which are really only in a phase of development. In this respect comparisons with the European Space Agency have indeed already been made.

Furthermore, as one of the key-elements in the historical events concerning the Soviet Union consists of the transfer to a sort of capitalist society, a glance at the role private enterprise is supposed to play and is allowed to play under the Minsk Space Agreement is in point. Once again, the European Space Agency may provide an interesting example. Thus, some light might be shed on the question as to whether the former Soviet Union will witness the development or creation of a European Space Agency, Mark II, or a fundamentally different legal framework for space activities.

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1. Introduction

The death blow was dealt to the Soviet Union in December 1991. On the 1st of that month, in a referendum in the Ukraine, after Russia the most important of the Soviet Republics, an overwhelming majority of 90,32% voted for Ukrainian independence. Russia and its President Boris Yeltsin amongst others drew the obvious conclusion that a Soviet Union without the Ukraine was not a viable option; and on the 8th of December, in Minsk an agreement on a Commonwealth of Independent States (CIS) to replace the former Soviet Union was concluded by Russia, the Ukraine and Byelorussia.¹ Although President of the USSR Mikhael Gorbachev tried to keep whatever was effectively left of the Soviet Union alive, the other former republics quickly choose sides with the CIS, and eight of them (Georgia in the end not being included) on the 21st of December in Alma Ata officially joined the CIS.² On Christmas 1991 Gorbachev accepted these realities and stepped down; exit the Soviet Union, enters the Commonwealth of Independent States.

2. The Soviet Union is dead, long lives the Commonwealth of Independent States: the Transition

One of the two superpowers in space, in fact the first to enter outer space and the first to introduce men into outer space, had thereby disappeared. The problem is that, despite the suggestion that the role of successor would be assigned to the CIS, it actually were the fifteen republics formerly comprising the Soviet Union which entered the international community of states more or less in its stead. The CIS namely is not a state under international law to any extent, and therefore not in the position for instance to simply succeed to the former Soviet Union's international legal obligations.³ The CIS is based on an agreement, the so-called Minsk Agreement of 8 December 1991, as amended by a protocol to that Agreement, the so-called Alma Ata

Protocol of 21 December 1991, with High Contracting Parties, and not on a Constitution. For space endeavours and space law that has important consequences. The space industry of the former Soviet Union was spread over almost the whole of the territory of that Soviet Union, in other words over most of the presently independent republics⁴. Russia is still by far the most important of those, accounting for the largest part of the industry (heavily concentrated around Moscow moreover) of launchers, satellites, equipment and other items to be used in outer space activities, most ground tracking stations, spacecraft control centres and design bureaus. The Ukraine however has an important space industry too, plus two ground tracking stations at Ternopol and Evpatoria. Kazakhstan is even more important: although Russia has two launching facilities at Plesetsk and Kapustin Yar, the by far biggest and best placed cosmodrome is that of Bajkonur in Kazakhstan. Other republics are of lesser importance in terms of space activities, although their existence in principle for the purpose of space activities must indeed be acknowledged.

The falling apart of the Soviet Union and the important consequences arising therefrom for the space industry involved happened to coincide more or less with another string of developments. Since glasnost and perestrojka have been gaining ground commercialization to a slowly but increasing extent was introduced in the field of space activities.⁵ No doubt, the tendency thus apparent in Soviet space industry to commercialize, which inevitably will lead to a significant amount of privatization too, will only grow stronger in the coming years, due to the increasing introduction of capitalist ideas and elements in the economy of the former Soviet Union⁶, the downgrading of defense as a consequence of the end of the Cold War⁷ and the otherwise prevailing financial and economic difficulties making it unlikely for much public money to be spent in outer space - relative to the extents to which such money used to be spent in the old Soviet Union⁸.

3. Former Soviets in Space: the Minsk Agreement

Nevertheless, space remains a big issue in the republics of the former superpower in space. Nine of those eleven states participating in the CIS within a week of the final demise of the Soviet Union concluded the Minsk Space Agreement⁹, whereas the Ukraine has joined later, in July 1992¹⁰. The Agreement was in force instantly¹¹, which is rather unique and points to the importance attached by the states concerned to continuation in principle of conducting space activities together. It is in the framework of this Agreement that the future of the space program of the former Soviet Union is to be

analyzed in legal terms, wherefore an analysis of the Minsk Space Agreement is now in point.¹² This analysis is to take place along the lines provided for by a few basic elements of that Agreement; notably the organizational structure possibly arising from it, the programs to be covered by it, the financial framework (both on the expenditure- and on the income-sides), the special question of the infrastructure and the use thereof, some specially important issues of space law as far as reflected (and, as far as not reflected, the consequences thereof), and the question of accessions to the Agreement.

The Minsk Space Agreement to begin with does not, to any extent, create an international organization, with independent legal personality at least in municipal legal systems and powers distinct from those of the totality of the 'member states'. Yet, an embryonic structure is present in the Agreement, just as it is the case in the Minsk Agreement on the Commonwealth at large. In view moreover of the actual interdependence of the former Soviet Union's space endeavours and the resulting interdependence in space activities of the states concerned, a kind of community-of-necessity is existing more or less covered by the framework developed in the Minsk Space Agreement; a community of ten states which I will call, for lack of better words, the 'Space Commonwealth'.

The basis of future space research and exploitation within this 'Space Commonwealth' is to be formed by interstate programs¹³, to be coordinated by the Interstate Space Council¹⁴. This does not mean that states can be active in outer space only in the framework of the Space Agreement: their right to have independent space programs is explicitly confirmed¹⁵, although the states pledged to bring at least all activities concerning rocket technology within the ambit of the interstate programs¹⁶. Then, all military and dual purpose (meaning both military and civilian) space research and exploitation programs are to be "ensured/assured by the joint strategic armed forces"¹⁷, which is a rather ambiguous formula.

Finally, as to the activities which are envisaged indeed under the Space Agreement, a difference is made here as to "interstate programs for space research and exploitation" in Article 4, and "the exploitation of existing and the setting up of new space systems for economic, scientific and military purposes and the maintenance of the unique testing base" of Article 5¹⁸, apparently focussing on the large launchers, launching facilities, satellite systems and the space station "Mir".

The distinction thus introduced becomes especially important when we turn to the financial issues of interstate cooperation. The costs of 'Article 4-programs' are to be "financed by means of proportionate contributions by the states participating in the present agreement"¹⁹. This

leaves a number of questions open, however, as to what proportions would be chosen etcetera. Such legal uncertainty has been avoided on the issue of 'Article 5-programs', for on a specific program "expenditure (...) [is to be] distributed in accordance with the proportionate participation"²⁰ in such a program. This would almost be a superfluous tautology, if it did not also cover potential profit gained from such exploitation activities.

If independent programs of states, the only alternative to interstate programs as defined under the Agreement, are planned to make use of the infrastructure of other states, the interested parties have to determine such use by separate agreements²¹, no doubt providing for a different financial settlement than envisaged under the Minsk Space Agreement itself. The latter provides concerning interstate programs that they are to be "implemented on the basis of existing space complexes and space infrastructure facilities", just as those programs which are "being set up"²². The states concerned in this respect oblige themselves "not to make decisions or carry out actions which entail the cessation (impediment) of the normal functioning of space centers and facilities in the space infrastructure sited on their territories"²³.

Space law, and especially its important responsibility- and liability-regimes, is also dealt with in the Minsk Space Agreement, be it in summary fashion. The states of the 'Space Commonwealth' are to develop their activities "in accordance with existing international (legal) norms"²⁴, but the contents of their state responsibility, other than that it is acknowledged in general, need elaboration in a special agreement²⁵, whereas the procedure for assigning "compensation for damages associated with the use of space equipment"²⁶ also depends upon further decisions. Reference in this respect may be had to the Preamble, although this does of course not provide for a binding legal obligation.²⁷

Nevertheless, the general principles of state responsibility for national activities not in conformity with international space law²⁸ and liability of a state for damage caused by objects launched by it, with its help, or from its territory or facility²⁹, will of course continue to apply to these ten states of the 'Space Commonwealth'³⁰, irrespective of the precise content of the Minsk Space Agreement³¹. It will also be clear that, the CIS itself, being no state and no state successor to the Soviet Union, can never be held responsible or liable under space law for material breaches of obligations or damage occurring, nor will it be able to act as a registration state and exercise some kind of 'quasi-jurisdiction' as long as it does not at least become an international organization.

In this respect it is to be noted that both Russia and Kazakhstan, the two only republics with launching facilities and therefore very liable to become liable as launching states³², are among the ten parties to

the Minsk Space Agreement. Their international obligations under Articles VI and VII of the Outer Space Treaty, of special importance in this light, are thus reinforced at least in a principled way by the commitments under the Minsk Space Agreement, especially of course Articles 6 and 7 as dealt with above.

As to Moldova, although no party to the Minsk Space Agreement itself, it is nevertheless still bound to the international obligations arising for instance from Articles VI and VII of the Outer Space Treaty, as firstly, those Articles are codifications of customary law valid outside of the treaty framework, and secondly, Articles 12 and 13 of the Minsk Agreement establishing the CIS confirm a general duty to abide by legal international obligations applicable to the former Soviet Union.

For those four former Soviet republics remaining outside of the Commonwealth-framework and its subframework for space activities, Georgia, Lithuania, Latvia and Estonia, at least the first remark on customary validity of the Outer Space Treaty's principles would apply, even apart from questions concerning state succession to obligations of the former Soviet Union.

Finally, it is to be noted that Article 1 of the Minsk Space Agreement allows for accession by other states, be it in such a general way³³ that it is not clear whether accession can only be in respect of "the present agreement" as a whole, or whether "the consent of the participating state" would also allow for adherence to specific programs only. This question will for the time being be perhaps of an academic character, and moreover probably be solved in the end rather by practice than by legal refinement, yet the point is to be noted.

This then is the general legal framework for space activities of the former Soviet Union, as it evolved from the dramatic developments of last December, 1991. Before turning to consecutive developments and their relationship with, and relevance for this legal framework, it will be very interesting to reflect on the latter by way of comparing it to that other existing general legal framework for cooperation in outer space activities between independent sovereign states in Europe, that of the European Space Agency.

4. Western Europeans in Space: the European Space Agency

The European Space Agency (ESA) evolved out of two prior international European organizations in the field of space activities, the European Space Research Organization (ESRO) and the European Organization for the Development and Construction of Space Vehicle Launchers (ESRO), which had been established in 1962-4. ESA, more or less merging these two organizations, was established in 1975 by way of the Convention for the Establishment of a European Space Agency (hereafter ESA

Convention), which entered into force in 1980.³⁴ At present, ESA consists of thirteen member states (Austria, Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland, Spain and the United Kingdom), one further associate member state (Finland, since 1987) and one non-European state participating *ad hoc* in specific projects (Canada).³⁵ Thus, it may be said that more or less all western European states interested in space activities are members of ESA and parties to the ESA Convention.

This brings us to the fact that analysis of the ESA Convention, for the purpose of comparison to the Minsk Space Agreement, should start with the important remark that, unlike that Agreement of course, the ESA Convention provides for a veritable international organization to be established thereby.³⁶ ESA consists essentially of two organs. First there is the Council, composed of representatives of the member states³⁷, and in that regard similar to the Interstate Space Council, although the ESA Council, both in legal theory³⁸ and in developed practice, provides for a much more elaborated and detailed example. Second there is the Director General assisted by a staff³⁹, comprising the true organizational aspect of ESA as illustrated furthermore for instance by the provisions of Article XV on legal personality and diplomat-like privileges and immunities in accordance with Annex I, aspects which are conspicuously missing in the Minsk Space Agreement. Coordination of cooperation in the framework of ESA⁴⁰ is therefore infinitely more structured and smooth than it will be the case under the Minsk Space Agreement - at least as soon as old Soviet habits have withered away under the force of decentralizing tendencies, and new relationships in practice concerning space activities have been established among the states concerned.

This conclusion becomes even more apt if one looks at the activities that are to take place under the respective frameworks. ESA, just like the 'Space Commonwealth', allows of course for space programs to be executed outside of its framework.⁴¹ Furthermore, where the Minsk Space Agreement to say the least is somewhat ambiguous when it comes to military and dual purpose activities, the ESA Convention is unequivocal in its exclusion of military activities, whatever the precise meaning of that phrase.⁴² This evaluation is especially important in the light of the other side of the coin: whereas with ESA it is effectively excluded that any military organ or organization is undertaking space activities in its framework (the North Atlantic Treaty Organization (NATO) and the Western European Union (WEU) taking over these functions), that is not so clear in respect of the the 'Space Commonwealth'.⁴³

When it comes to the programs to be executed within its framework, the ESA Convention also provides for a somewhat clearer and much more

elaborated distinction than the Minsk Space Agreement does, almost implicitly, in its Articles 4 and 5. Article V of the ESA Convention is crucial here, as it makes the basic distinction between "mandatory activities" and "optional activities", while adding a specific sub-category of the latter, of "operational activities". Final comparison on the Article 4-Article 5-Minsk Space Agreement respectively Article V(1.a)-Article V(1.b)-ESA Convention congruency must wait until developments or amendments have clarified these points; whereas the remaining incongruity perhaps is solved by the introduction in the ESA Convention of "operational activities" with respect to "space applications"⁴⁴.

In this respect it must also be noted that Europe has witnessed the coming into existence of two commercial companies nurtured by ESA making use of the developed hardware for launching respectively remote sensing activities (Arianespace⁴⁵ respectively SPOTImage⁴⁶) and two international organizations of a mixed character using ESA-developed space hardware for operational activities (EUTELSAT⁴⁷ and EUMETSAT⁴⁸); in all these cases different measures of participation and involvement, with varying degrees of privatization, were allowed for and indeed envisaged.

The structure created for financing space activities under the ESA Convention is closely related to the distinction between the various sorts of activities⁴⁹ - just as it is the case with the Minsk Space Agreement. Mandatory activities, to be participated in by all member states, are to be financed in accordance with an elaborate system of division of contributions, with the average national income of the member states as the decisive criterion.⁵⁰ This sounds similar to a large extent to the phrase of Article 4 of the Minsk Space Agreement, on "proportionate contributions by the states participating in the present agreement" in regard of "interstate programs for space research and exploitation", and would thus be a reason for comparing the respective sets of activities to be undertaken thereunder.

Likewise, or rather mirrorwise, for the moment the suggested similarity between "the proportionate participation" (which may be zero, in theory) as to expenditure concerning specific activities under Article 5 of the Minsk Space Agreement, and the possibility to opt out of the activities covered by Article V(1.b) of the ESA Convention and the concurrent proportionate financing⁵¹ of systems remains noticeable.

The same remark holds more or less true for the special category of "operational activities", where it is bluntly stated that "[t]he cost of such operational activities shall be borne by the users concerned", and this, "under conditions to be defined by the Council by a majority of all Member States"⁵².

Needless to say, these conditions have been shown to entail proportionality of expenditure to involvement. Once more, reference may be had here also to such special examples as Arianespace and SPOTImage, where 'expenditure' relates to the investments by states, directly or indirectly, in these companies, and EUTELSAT and EUMETSAT, where in yet another way states are spending in proportion to the use they are making of specific systems and services.⁵³

For ESA, the issue of profits potentially resulting from certain space activities is not directly dealt with in the Convention. The succinct phrase that "operational activities", the only ones liable to realize profits under normal circumstances, are to be allowed under specific conditions to be provided for by the Council - as quoted before - nevertheless leaves ample room for the most logical division of any profits eventually accruing directly or indirectly from a specific activity, namely in proportion to the expenditure on that same activity, as is the case in the 'Space Commonwealth'. In case of profits arising under (other) mandatory and optional activities, it still seems that for example Annex III would also allow for the logical solution of proportionate division of eventual profits.

Furthermore, although neither specifically nor exactly related to the rather general provision concerning operational activities, it is interesting to note Annex V, as an extension of Article VII of the ESA Convention on industrial policy. This Annex provides for the principle of "just return" as it has been dubbed, of an "overall return coefficient"⁵⁴, meaning that a minimum percentage (Annex V provides for an absolute minimum of 80%, while at present it lies at 96%⁵⁵) of sums invested by a certain state in a certain program will have to accrue, in the form of value of contracts, to companies of those respective states. If one envisages international contracts - coupled with the potential to realize profits of course - granted to one's own private companies as an indirect kind of profit accruing to oneself, one could speak of an indirect kind of proportionate sharing of profits.

At the same time, in the light of this elaborate system it becomes already clear to what little extent the Minsk Space Agreement did already reckon with the possibility of private entities becoming involved in activities directly under that Agreement. No doubt, the absence of any significant organizational structure in the 'Space Commonwealth' will mainly account for this fact, yet, the difference in this respect with ESA is telling.

The infrastructure and facilities of ESA may, just as infrastructure and facilities falling under the Minsk Space Agreement, also be used for programs not regulated by the relevant convention, i.e. especially national programs. This allowance however is with the caveat that ESA's use for its own activities and programs should not be prejudiced thereby, providing for a clear priority of international

programs in this respect missing from the Minsk Space Agreement. In general, these clauses are formulated in a stricter and more straightforward sense, but this is perhaps only logical as the independent existence of an organization such as ESA provides for a clear and direct 'target' for the use of 'common' facilities. Otherwise, the issue of infrastructure and the use thereof is of much less importance in the case of ESA than it is in the case of the 'Space Commonwealth'.

The other side to the use of infrastructure finally is dealt with under Article VIII(1) of the ESA Convention, where emphasis is laid on the priority of the use of ESA's infrastructure for its programs and those of the member states, rather than an absolute obligation to do so as suggested in the Minsk Space Agreement⁵⁶.

Issues of general international space law are not reflected in the ESA Convention itself. However, the European Space Agency has made Declarations whereby it accepted the rights and obligations of the three principal treaties emanating from some of the principles of the Outer Space Treaty, notably the Rescue Agreement⁵⁷, the Liability Convention⁵⁸, and the Registration Convention⁵⁹. Finally, with the repeated assertion that ESA will be active only for "exclusively peaceful purposes"⁶⁰, compliance with another cluster of principles (this time material ones) is guaranteed.⁶¹ In conclusion, ESA through the years has been able to take into account to a considerably greater extent and much more explicitly as of yet than the 'Space Commonwealth' the existing rights and obligations of space law.

Like the 'Space Commonwealth', ESA allows for accession, but unlike it, the ESA Convention allows for other interesting opportunities in this area than the rather summary formula of the Minsk Space Agreement that "[o]ther states can join the present agreement"⁶². ESA's counterpart to that formula is found in Article XXII, which allows for accession "following a decision of the Council taken by a unanimous vote of all Member States". Apart from ordinary, full membership the possibility of "associate membership" is allowed for states whose only fixed obligation incurred thereby is "to contribute at least to the studies of future projects under Article V(1.a.i)", i.e. one kind of mandatory activities, whereas other rights and obligations are to be "defined by the Council by a two-thirds majority of all Member States"⁶³. As already mentioned, since 1987 Finland has made use of this possibility to become involved with ESA projects in a fundamental, yet not comprehensive way.

For another kind of mandatory and for all optional activities another possibility of cooperation is envisaged: that of "participation by non-member States or international organisations in one or more of the programmes"⁶⁴ concerned. Again, detailed arrangements are to be defined by the Council in this respect. Canada is the prime example of a non-

ESA member state having taken the chance for cooperation in a lot of programs without fundamental involvement in ESA's day-to-day business.

Finally, Article XIV leaves ESA and its member states even more leeway in defining forms of cooperation by the general formula that "[t]he Agency may, upon decisions of the Council taken by unanimous votes of all Member States, cooperate with other international organisations and institutions and with Governments, organisations and institutions of non-member States, and conclude agreements with them to this effect"⁶⁵. Thus, for instance ESA in 1988 has entered into the large international project of realizing and operating the space station "Freedom" together with the United States, Japan and Canada, and recently has realized several agreements with Russia on cooperation in specific space projects⁶⁶.

In short: a large range of forms of participation and cooperation with non-ESA member states is possible under the ESA Convention, down to participation in a specific program only. Of course, complementary to this large range of forms of participation is a large range of financial involvement. The history of the past years has shown how well this flexible approach has worked.

5. A "Commonwealth In Space": Developments of 1992

With that we arrive back in 1992, and at the same time we are back in the Commonwealth of Independent States, and the 'Space Commonwealth' of states parties to the Minsk Space Agreement. The most important developments in terms of space activities since the conclusion of that Agreement on 30 December 1991 roughly fall into three categories: internal-institutional, actual-internal and international-cooperational.

As to the institutional developments taking place on the territory of the former Soviet Union, the most fundamental was the establishment of five space agencies⁶⁷. Three of those were Russian, and on closer look only one of those would qualify as a 'real' (national) space agency: the Russian Space Agency RSA, the Statute of which was approved by a Decree of 9 April by the Government of the Russian Federation.⁶⁸ It confirms the preponderance of the military, while leaving rather unclear what role private organizations can play here. Two other organizations, NPO Energia and Glavkosmos, are supposed to take care of the commercial aspects of Russian space endeavours somehow under the aegis of the RSA; but it remains to be seen to what extent they can be called private companies.

Thus, the situation within Russia seems not so much to resemble the American one⁶⁹, where NASA actively conducts numerous space activities itself, as it does the French one, with the CNES as a spider in

the web regulating and stimulating activities while itself the governmental and responsible body, and "Les Sociétés Commerciales Filiales"⁷⁰ such as Arianspace and SPOTImage, actually undertaking activities in outer space - be it with international, *in casu* ESA and ESA-member involvement.

Outside Russia, the Kazakhstan Space Agency (KSA) has been formed⁷¹, also dubbed Kazakhstan Kosmos⁷², already in September 1991. Little can be said as to its role and functions, however, as the main Kazakh asset Bajkonur still seems not to be operated by it. Furthermore, in May 1992 the National Space Agency of the Ukraine (NSAU) has been established⁷³. The NSAU's budget and direction will be discussed in the Ukrainian parliament in October 1992; as to the latter issue, a similar relationship between NSAU and NPO Yuzhnoye (the factory of Zenit ballistic missiles in Dnepropetrovsk) may be envisaged as between the RSA and NPO Energia/Glavkosmos, but of course final analysis will have to wait here, too.

In general it may be concluded that the setting up of these agencies and the elaboration thereof in theory, although important, is really no more than a first step on the road to creation of a true 'Commonwealth In Space' along the lines of the Minsk Space Agreement. Moreover, the example developed furthest, that of the RSA⁷⁴, seems to point in quite a different direction that such a 'Space Commonwealth' is to take than ESA has shown so far: military authorities and activities having been shown to remain inseparable from civilian ones in the CIS-framework; opportunities for commercial - and certainly private commercial - activities remaining vague and insecure.

Actual developments in this field likewise seem to provide us with ambiguous conclusions. Thus, the Ukraine, by later acceding to the 'Space Commonwealth', has evidently recognized the impossibility to be active in space without its traditional partners in Russia and the launching base in Kazakhstan. On the other hand, historical and psychological reasons as evidenced for instance by the Black Sea Fleet controversy⁷⁵, as well as economic and financial reasons may very well force the Ukraine to look elsewhere in terms of cooperation.⁷⁶

The most important issue of controversy within the 'Space Commonwealth' moreover seems to have been dealt with in a rather haphazard and reactive fashion: the preponderance of Russia at the Bajkonur site in Kazakhstan and the apparent absence so far of any substantial Kazakh authority over the base. What meanwhile should be noted, is that one way or another for the time being it will remain the military, i.e. the joint strategic armed forces, alternatively the Unified Armed Forces, which will be in control of Bajkonur.⁷⁷

In this respect, in May 1992 an agreement had been signed in Tashkent by all CIS member states except

Moldova, on the rights over ground infrastructure, in conformity with the provisions of Articles 5 and 10 of the Minsk Space Agreement. From what is known so far, the strategic forces of the CIS indeed basically remain in control of all ground segment elements, although the property thereof legally has been 'transferred' to the respective republics on whose territories they are situated⁷⁸.

The most undisputed conclusion which can therefore be drawn from actual developments within the CIS in 1992 so far, is that the traditional interlinkage of various parts of the former Soviet Union, leading to the present dependence of the CIS-republics on each other, is a very important, if not indeed crucial aspect in whatever 'Commonwealth In Space' is going to develop. As of yet rather little evidence is found in the developments discussed of a framework arising according to the spirit and principles of the Minsk Space Agreement or its individual articles.

On the other hand, space law did not need to be invoked as of yet by third states in order to remind CIS-states that their international obligations under Articles 5, 6 and 7 were not kept. The promise apparently made to Kazakhstan⁷⁹ on refunding any damage arising to that republic as a consequence of launching activities from Bajkonur is a first confirmation of these fundamental principles. That, however, has of course not really much to do with an ESA-like structure.

Mutatis mutandis, the same applies to relations with non-'Space Commonwealth' and non-CIS member states. Experience so far has shown, that whatever international cooperation efforts were devised, the partner for third states was not the CIS or the 'Space Commonwealth', but rather the Russian Federation and its Russian Space Agency, and, exceptionally, other individual member states of the CIS. With ESA that is different; many cooperational efforts were directed at ESA rather than at its individual member states.

Russia for all practical purposes indeed seems to have taken the place of the former Soviet Union, and not the Commonwealth of Independent States. This conclusion may perhaps seem a little rash and not very juridical, but the neglect shown by both US and ESA space officials in regard of for instance the Ukraine's hardware, efforts and plans⁸⁰, in spite of the potential of that state in terms of its Zenit rockets, scientific satellites and instruments, seems a little too strange to be overlooked.

6. Conclusion

The main conclusion that can be drawn so far from the above analysis, is that it seems to be too early for all practical purposes to compare the 'Space Commonwealth' with the European Space Agency on an equal footing. The basic legal framework of the former as provided by the Minsk Space Agreement,

through factual ties perhaps still including to some extent the five non-adherents as well, is far too little elaborated in this respect. At the same time, the effort of comparing does indeed highlight some of the most important aspects of the 'Space Commonwealth', and it must be said, of the most important shortcomings thereof - and thus may provide a tool for amelioration.

The organizational structure of the 'Space Commonwealth' is fundamentally different from that of ESA, and a new Agreement (or related amendment) would be necessary to create a true international organization on the basis of the Minsk Space Agreement instead of a 'mere' Commonwealth. The potentially disruptive effects of the absence so far of any institutional structure is shown by the direction actual developments have taken since December 1991: the 'Space Commonwealth' has no 'body', with all due consequences thereof. It can only be said that it may present a beginning, and as such of course is better than nothing at all.

On the issue of programs, and the related one of financial arrangements some kind of similarity may be detected between ESA and the 'Space Commonwealth'. For the moment however the differences, especially for instance concerning the respective roles of military authorities, and, largely the other way round, the role envisaged for private enterprise, seem the more telling. Actual developments seem to relate more to a historically developed background than to the structure, however vague, envisaged by the Minsk Space Agreement. This at the same time means of course that it is not totally out of the question for future developments to take yet another direction - for instance, of closer similarity to ESA.

The relevance of the historical background, of military preponderance and virtual absence of private activities, is shown even more clearly when the issue of infrastructure is considered, where the respective rules have no relation to each other whatsoever because of the diametrically opposite positions of departure, in terms of regulatory relevance. As a consequence, the rather well-organized and -coordinated use over the years by ESA of old and new infrastructure contrasts significantly with the central problem-generating role which especially existing infrastructure seems to have in the context of the 'Space Commonwealth'.

Finally, perhaps the flexibility of both ESA-arrangements and the Minsk Space Agreement in terms of possible variations in intensity and form of international cooperation, although not identical when closely scrutinized in a legal way, by being similar in potentiality, may in the end also provide the best instrument for safely and peacefully resolving existing and future conflicts within the 'Space Commonwealth' and the CIS at large, and steer that 'Space Commonwealth' more in the direction of a 'Commonwealth In Space'. For international cooperation, after all a fundamental

principle of the Outer Space Treaty and outer space law, especially if it on the one hand is to include not only Russia and on the other hand is yet to include ESA, can be a particular apt means in the context of the 'Space Commonwealth' for experiencing the advantages of developing some kind of European Space Agency, Mark II.

Notes:

1. Agreement Establishing the Commonwealth of Independent States (hereafter Minsk Agreement), of Dec. 8, 1991, effective immediately (cf. Artt. 1, 11 and 14), text in 31 I.L.M. 143 (1992).

2. Protocol to the Agreement Establishing the Commonwealth of Independent States (hereafter Alma Ata Protocol), of Dec. 21, 1991, effective for each of the parties from the moment of ratification (cf. 2nd para.) (which is in noticeable disconformity with the provisions of the Minsk Agreement of which the Alma Ata Protocol is to form an integral part according to the 4th para.), text in 31 I.L.M. 147 (1992); UN/DOC A/47/60 S/23329 of 30 Dec. 1991. Therefore the Commonwealth of Independent States as of that date consisted of Azerbaijan, Armenia, Belarus (formerly Byelorussia), Kazakhstan, Kyrgyzstan (formerly Kirgizia), Moldova, Russia (or the Russian Federation), Tajikistan, Turkmenistan, the Ukraine and Uzbekistan. The four remaining former Soviet republics Estonia, Latvia, Lithuania and Georgia did not participate at all.

3. See e.g. Alma Ata Declaration, of Dec. 21, 1991, text in 31 I.L.M. 148 (1992); UN/DOC A/47/60 S/23329 of 30 Dec. 1991, Annex II, p. 4; stating *inter alia* that "the Commonwealth (...) is neither a State nor a supra-State entity".

4. See e.g. V. Kiernan, "Five Space Agencies Emerge From Soviet Chaos", Space News Dec. 16-22, 1991, pp. 3, 21; L. David, "The rush to buy Russian", Aerospace America 32-6 (1992), pp. 38-41, at p. 39; S. Chenard, "Twilight of the machine builders", Interavia Space Markets 7-5 (1991), pp. 11-9, at p.14; C. Covault, "Russians Forge Space Pact, But Military Transition Chaotic", Aviation Week & Space Technology Jan. 13, 1992, pp. 20-1, at p. 21.

5. V.S. Vereshchetin & G.V. Silvestrov, "Space Commercialization in the Soviet Union: Facts, Policy and Legal Issues", in Legal Aspects of Space Commercialization, ed. K. Tatsuzawa, 1992, pp. 32-40, at pp. 34-6; also B. Schmidt-Tedd, "MIR '92-Mission und Perspektiven der Kooperation", Zeitschrift für Luft- und Weltraumrecht 41 (1992), pp. 63-73, at p. 65; G.E. Perry, "Perestroika and Glasnost in the Soviet space programme", Space Policy 5 (1989), pp. 279-87.

6. Cf. e.g. Vereshchetin & Silvestrov at pp. 36-9 ; David; "NASA and Aerospace Firms Prepare for Russian Visits", European Space Report July 13, 1992, pp. 1-2; J.M. Lenorovitz, "Stockholding Company Proposed To Raise Funds For Energia M", Aviation Week & Space Technology June 29, 1992, pp. 66-7; and various articles in Space News.

7. Cf. e.g. for an excellent survey and analysis of the consequences of the end of the Cold War for space activities: K.S. Pedersen, "Thoughts on international cooperation and interests in the post-Cold War world", Space Policy 8 (1992), pp. 205-20; further "International cooperation in space - new opportunities, new approaches", Space Policy 8 (1992), pp. 195-203; E. Crawley & J. Rymarcsuk, "US-Soviet cooperation in space", Space Policy 8(1992), pp. 29-38, at p. 30; S. Chenard, "Budget time in Moscow", Interavia Space Markets 7-5 (1991), p. 10; Chenard, "Twilight", p.13 especially; "Le Spatial Sovietique en Crise", Air & Cosmos Dec. 23, 1991-Jan. 5, 1992, pp. 28-9.

8. Cf. e.g. Vereshchetin & Silvestrov at p.33, quoting then-prime minister Ryzhkov's figure of 6.9 billion rubles (including military expenditures) for 1989 (which was akin to US \$ 3.8 billion); G. Ojalehto, "In a changing world, civil space pursuits continue", Aerospace America 32-6 (1992), pp. 12-15, at p.15 already signalling an 8.7% decline as for 1990 the space program received "only" 6.3 billion rubles (some US \$ 3.7 billion), including military expenditures. The figure of 8.7% decline, together with more detailed information, reappears in "Aggressive Soviet Space Program Threatened by Budget, Policy Changes", Aviation Week & Space Technology Mar. 18, 1991, pp. 153-4. Chenard, "Budget time" and "Twilight", confirms the two basic figures for 1989 and 1990 while adding more figures still - such as a planned budget for 1991 of the same magnitude as that of 1990; see finally also Air & Cosmos.

9. Signed 30 December 1991 in Minsk, by Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Uzbekistan. The Ukraine and Moldova at the time abstained from participation. Text in Aerospace Daily Jan. 7, 1992, pp. 31-2; ECSL News Sept. 1992, pp. 6-7. See e.g. V. Kiernan, "Minsk Accord Struck On Space", Space News Jan. 6-13, 1992, pp. 1, 20; Covault.

10. See E. Kamenetskaya, "Space Activities of Russia and Member States of the Commonwealth of Independent States", ECSL News Sept. 1992, pp. 3-4, at p. 4.

11. Art. 12.

12. A warning should be issued here: the following analysis is based on the translations provided in Aerospace Daily and ECSL News, which are not authorized translations of the authentic Russian copy.

13. See Art. 1.

14. See Art. 2, 1st sentence.
15. See Art. 2, 3rd sentence.
16. See Art. 10, 2nd sentence.
17. Art. 3.
18. According to the Aerospace Daily-version; ECSL News translates this Article somewhat differently.
19. Art. 4.
20. Art. 5. ECSL News translates this phrase as "expenditure (...) [is to be] allocated proportionately among the States Parties to the present Agreement".
21. See Art. 4, 2nd sentence.
22. Art. 4; ECSL News translates the second phrase here as "being established". Article 4 moreover according to Aerospace Daily and ECSL News even mentions Bajkonur and Plesetsk by name.
23. Art. 10, 1st sentence. ECSL News translates "cessation" as "interruption" here.
24. Art. 6.
25. See Art. 5, 2nd sentence.
26. Art. 7.
27. The Preamble of the Minsk Space Agreement speaks *inter alia* of confirmation of "the need for rigorous observation of international agreements and obligations in the sphere of space research and exploitation earlier taken upon itself by the U.S.S.R."; see also Kiernan, "Minsk Accord", p. 20.
28. See 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 (hereafter Outer Space Treaty), of Jan. 27, 1967, entered into force Oct. 10, 1967; text in 610 UNTS 205; 18 UST 2410.
29. See Art. VII, Outer Space Treaty.
30. Cf. also Art. 12, Minsk Agreement: "[t]he High Contracting Parties undertake to discharge the international obligations incumbent on them under treaties and agreements entered into by the former Union of Soviet Socialist Republics".
31. Cf. also Art. 13, Minsk Agreement.
32. See the definition of Art. I(c), Convention on International Liability for Damage Caused by Space Objects (hereafter Liability Convention), of March 29, 1972, entered into force Sept. 1, 1972; text in 10 I.L.M. 965 (1971); 961 UNTS 197.
33. Art. 11 provides: "[o]ther states can join the present agreement with the consent of the participating states".
34. See e.g. Zeitschrift für Luft- und Weltraumrecht 358 (1981). Cf. also Preamble and Artt. XIX and XXI, Convention for the Establishment of a European Space Agency (hereafter ESA Convention), of May 30, 1975, entered into force Oct. 30, 1980; text in Space Law - Basic Legal Documents, C.I.1.1.
35. Space Law - Basic Legal Documents, C.I.1.2. As to the case of Canada, see e.g. M.G. Bourély, "Les Nouvelles Relations entre le Canada et l'Agence Spatiale Européenne", Annals of Air and Space Law 9 (1984), pp. 201-16; G. Lafferranderie, "L'affermissement des relations entre le Canada et l'Agence spatiale européenne", Annals of Air and Space Law 14 (1989), pp. 369-75.
36. See e.g. already its full title, Artt. I and II.
37. See Art. XI(1).
38. Cf. Art. XI(2)-(8), ESA Convention, filling two-and-a-half pages.
39. See Art. XII, ESA Convention.
40. Cf. e.g. Artt. V, VI, VII, IX and XIV, ESA Convention.
41. Cf. e.g. Art. II(c), speaking of "national programmes"; Art. V(3), speaking of "internationalisation of programmes" and referring to Annex IV called "Internationalisation of National Programmes"; and Art. IX(1) and (2), speaking *inter alia* of "its own programmes" in regard of member states.
42. Art. II speaks of "exclusively peaceful purposes"; I refer here to the well-known discussion on the dichotomy of "exclusively peaceful purposes" and "military purposes" for instance in respect of the Outer Space Treaty's provisions.
43. Cf. e.g. Covault.
44. Art. V(2), ESA Convention.
45. See e.g. Declaration by Certain European Governments Relating to the Ariane Launcher Production Phase, of Jan. 10, 1980, entered into force Apr. 14, 1980, text in 6 Annals of Air and Space Law 723 (1981), and a related Convention between ESA and Arianespace itself; see also M.G. Bourély, "La Production du Lanceur Ariane", Annals of Air and Space Law 6 (1981), pp. 279-314; M.G. Bourély, "Institutional Arrangements for Space Cooperation in Europe", Proceedings of the Twenty-Fourth Colloquium on the Law of Outer Space, 1982, pp. 159-67, at p. 161; T.L. Zwaan & W.W.C. de Vries, "The Creation and Impact of a European Legal Framework for Space Activities", Proceedings of the Thirty-First Colloquium on the Law of Outer Space, 1989, pp. 198-207, at p. 200; O. de Saint-Lager, "L'Organisation des Activités Spatiales Françaises: une Combinaison Dynamique du Secteur Public et du Secteur Privé", Annals of Air and Space Law 6 (1981), pp. 475-87, at pp. 483-5; M. Harr & R. Kohli, Commercial Utilization of Space, 1990, p. 52. Arianespace is a private company registered under French law, but with 11 governments, one governmental agency and 49 international banking and space industry entities being involved; it thus provides for a very specific means of taking part in a specific space activity.
46. See e.g. Harr & Kohli, pp. 39-42; De Saint-Lager, p. 485; Space Activities in France, 1989, Chapter 7; K. Madders, "European Commercial Space: an Overview", ECSL News Dec. 1991, pp. 1-2; "SPOT Image distributes First Dividend to Owners", Space News July 20-26, 1992, p. 13. SPOTImage is also a private company with some international

involvement, so that the final remark of the previous note holds true here as well.

47. The European Telecommunications Satellite Organization EUTELSAT has been established in 1985 by a Convention, with at present more than 30 states as parties (i.e. a number of non-ESA members!), and an Operating Agreement, with the same number of national PTT's as parties. Convention Establishing the European Telecommunications Satellite Organization "EUTELSAT", of July 15, 1982, entered into force Sept. 1, 1985, text in 11 Annals of Air and Space Law 416 (1984); Space Law - Basic Legal Documents C. II.1; and Operating Agreement relating to the European Telecommunications Satellite Organization "EUTELSAT", of July 15, 1982, entered into force Sept. 1, 1985, text in 11 Annals of Air and Space Law 451 (1984); Space Law - Basic Legal Documents C. II.2. See e.g. Zwaan & De Vries, p. 199.

48. The European Organization for the Exploitation of Meteorological Satellites EUMETSAT has been established in 1986, by a Convention, with at present more than 15 states as parties (i.e. again a number of non-ESA members!), and involvement of the same number of national meteorological services. Convention for the Establishment of a European Organization for the Exploitation of Meteorological Satellites "EUMETSAT", of May 24, 1983, entered into force June 19, 1986, text in 36 Zeitschrift für Luft- und Weltraumrecht 270 (1987); Space Law - Basic Legal Documents C.III.1. See e.g. Zwaan & De Vries, p. 199; J.A. Leese, P.F. Noar & C. Pastre, "Operational continuity of the global meteorological satellite network", Space Policy 5(1989), pp. 12-24, at p. 13; M.G. Bourély, "EUMETSAT - A New European Space Organization for Cooperation in the Field of Meteorology", Proceedings of the Twenty-Sixth Colloquium on the Law of Outer Space, 1984, pp. 195-6.

49. See in general Harr & Kohli, pp. 47-51.

50. See Art. XIII and Annex II, ESA Convention.

51. If in theory under Art. XIII(2) the division of expenditure on an optional program according to the same elementary scheme as mandatory programs would be the rule, the discretion allowed for as an exception by the phrase "[u]nless all participating states decide otherwise" became the rule in practice. Thus, with respect to ESA's three largest projects to date, to wit Ariane 5, Hermes and Columbus, particular states choose not to participate at all in certain projects, such as the United Kingdom concerning Ariane 5 and Hermes (while it undertook to contribute 5.5% to Columbus), whereas those states that did participate, did so to differing financial extents for the different projects; France for instance under the original plans as agreed at the ESA Ministerial Council of The Hague of December 1987 taking a 44.7% share in Ariane 5, a 43.5% share in Hermes and a 13.8% share in Columbus, whereas Germany's shares were to be

respectively 22%, 27% and 38% and Italy's shares respectively 15%, 12.1% and 25%. See e.g. S. Hobe, "Quo Vadis - Europäische Weltraumfahrt?", Zeitschrift für Luft- und Weltraumrecht 35 (1992), pp. 74-85, at p. 78; also Space Law - Basic Legal Documents C. I. 2, p. 11.

52. Art. V(2), ESA Convention.

53. Cf. e.g., as to EUTELSAT, the division of initial investment shares among the states involved, in Annex B to the Operating Agreement, Space Law - Basic Legal Documents C.II.2, p. 22; as to EUMETSAT, the division of expenditure among the states involved, in Annex II to the Convention, Space Law - Basic Legal Documents C.III.1.1, p. 19.

54. Art. IV, Annex V, ESA Convention.

55. See ESA Council Resolution (C-M/LXXX/Res. 1) on the European Long-Term Space Plan and Programmes, Space Law - Basic Legal Documents C. I. 2, pp. 9-10, Chapter IX, para. 7, 2nd sentence.

56. Cf. Art. 4: "interstate programs (...) are implemented on the basis of existing space complexes and space infrastructure facilities and of those being set up".

57. Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (hereafter Rescue Agreement), of Apr. 22, 1968, entered into force Dec. 3, 1968, text in 672 UNTS 119; Declaration of June 25, 1975, effective as of Dec. 31, 1975, in accordance with the provisions of Article 6. E.g. G. Lafferranderie, "L'Application, par l'Agence Spatiale Européenne, de la Convention sur l'Immatriculation des Objets Lancés dans l'Espace Extra-Atmosphérique", Annals of Air and Space Law 11 (1986), pp. 229-36, at p. 230.

58. Declaration effective as of Sept. 23, 1976, in accordance with the provisions of Article XXII, Liability Convention. E.g. Lafferranderie, "L'Application", p. 230.

59. Convention on Registration of Objects Launched into Outer Space (hereafter Registration Convention), of Jan. 14, 1975, entered into force Sept. 15, 1976, text in 1023 UNTS 15; Declaration of Dec. 12, 1987, effective as of Jan. 2, 1979, in accordance with the provisions of Article VII. See Lafferranderie, "L'Application"; including the text of the Declaration at p. 235.

60. Preamble and Art. II, ESA Convention.

61. Cf. e.g., regarding the Outer Space Treaty, "the benefit and interest of all countries" and "the province of all mankind" of Art. I, "the interest of maintaining international peace and security and promoting international cooperation and understanding" of Art. III and the provisions of Article IV.

62. Art. 11.

63. Art. XIV(3), ESA Convention.

64. Art. XIV(2), ESA Convention.

65. Art. XIV(1), ESA Convention.

66. David, p. 41, mentions the placement of contracts with 30 space research institutes and industrial companies in Russia. Cf. also "Approve the ESA Council's Plan", Space News Nov. 11-18, 1991, p. 14; "ESA Formulates Proposal For Scaled-Down Space Plan", Aviation Week & Space Technology June 1, 1992, pp. 69-70.

67. Kiernan, "Five Space Agencies", p. 21.

68. Abbreviated version of the text in 20 Journal of Space Law 106 (1992). See also "New Russian Space Agency to Compete for Power with Industry", European Space Report Febr. 10, 1992, pp. 1, 5; M.Y. Marov, "The new challenge for space in Russia", Space Policy 8 (1992), pp. 269-79, at p. 273-5; Kamenetskaya, pp. 3-4.

69. It must be noted here, that Kiernan's remark, "Five Space Agencies", p. 21, that the "Russian space agencies" ("[u]nlike NASA!") "will be allowed to retain money earned from commercial space efforts", will either have to be seen as applying only to NPO Energia and Glavkosmos, or as distinguishing RSA from NASA in a diametrically opposite sense as suggested by my analysis.

70. De Saint-Lager, p. 483.

71. Kiernan, "Five Space Agencies", p. 21.

72. "New Russian Space Agency to Compete for Power with Industry", European Space Report Febr. 10, 1992, pp. 1, 5, at p. 1.

73. A. Lawler, "Ukraine Struggles To Keep Its Space Program Alive", Space News Aug. 17-23, 1992, p. 11.

74. The RSA has at least a well known Director now - Yuri Koptev - and has been provided with a budget for 1992, being about 10 billion rubles (US \$ 100 million), according to V. Kiernan & A. Lawler, "Koptev Confident About Russian Space Program", Space News June 15-21, 1992, pp. 3, 20, at p. 20.

75. This controversy was seen by some as one important reason for the Ukraine's not directly joining the 'Space Commonwealth' in the first place; in that sense e.g. Ojalehto, p. 15.

76. See once more Lawler.

77. In Tashkent, on May 25, 1992, Russia and Kazakhstan signed an agreement on Bajkonur, more or less transferring the right of property over Bajkonur to Kazakhstan; cf. Kamenetskaya, p. 3. Since however no further details have been made public so far, e.g. as to whose (military) forces exactly will be in control, and Russia furthermore will be paying for 94% of Bajkonur's operating costs and earning 85% of eventual profits from trips of foreigners to "Mir" (as against 6% respectively 15% for Kazakhstan), it still remains to be seen what this right of property actually means. See e.g. P.B. de Selding, "Republics To Share Profits From Mir", Space News Aug. 10-16, 1992, pp. 4, 21.

78. See Kamenetskaya, p. 3; De Selding, pp. 4, 21.

79. Kiernan, "Minsk Accord", p. 20.

80. Cf. Lawler.