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Point n. 12 de l'ordre du jour: Programme de travail triennal 2009-2011

(préparé par le Secrétariat)

Résumé	*Examen du Programme de travail pour la période triennale 2009-2011*
Décisions à prendre	*voir les paragraphes 12-17*
Documents connexes	*UNIDROIT 2003 A.G. (57) 3; 2005 A.G. (59) 4; 2005 A.G. (59)12; 2005 C.D. (84) 19*

I. Introduction: mandat, défis et critères de choix

1. Selon l'article 5(3) du Statut organique, il appartient au Conseil de préparer l'adoption du nouveau Programme de travail triennal (2009-2011) par l'Assemblée Générale à la fin de cette année, en analysant les propositions soumises par les Gouvernements membres, les Organisations internationales, le secteur privé et les Correspondants de l'Institut en vue de formuler des recommandations.

2. En parcourant un exemplaire récent du *Financial Times* (31 mars 2008), on relève un certain nombre d'articles (pp. 15, 16, 19) qui mettent en relief les défis du monde actuel et suggèrent que les travaux d'UNIDROIT, et les objectifs et les priorités qui ont été établis au cours des années qui viennent de s'écouler venaient au bon moment et répondaient aux besoins des Etats – notamment les pays en développement – et aux marchés globaux, et que l'Institut est bien placé pour affronter de nouveaux défis.

3. *Convention du Cap et Protocoles*

(a) L'article intitulé "un binôme de transport fait monter la pression sur ses concurrents" ('Transport duo step up heat on rivals') (p. 16) – rend compte de la fusion de deux opérateurs publics italiens de transport en concurrence avec deux sociétés françaises et une britannique en vue de la gestion de réseaux ferroviaires régionaux italiens. L'une des sociétés italiennes exploite le métro de Copenhague depuis le 1er janvier 2008. Son offre de prendre en charge l'exploitation du métro de Stockholm et de Miami est en cours d'évaluation. Elle a été devancée par une société britannique dans l'appel d'offres visant à l'adjudication de l'exploitation d'un système régional à Dubaï. (Le même jour, le bulletin de la *Communauté européenne du rail et des compagnies d'infrastructure* – CER – a rapporté qu'une société française avait acquis des sociétés de transport de fret ferroviaire aux Pays-Bas, en Suisse, en Pologne, en Belgique et en Allemagne et que le premier train de conteneurs depuis Beijing à Hambourg (via la Mongolie, la

Russie, le Bélarus et la Pologne) avait réduit le temps de transport de fret entre la Chine et l'Allemagne de 40 jours [par mer] à 15 jours. Ces opérations font appel à du matériel roulant ferroviaire financé par le secteur privé).

(b) "La Chine retarde la livraison de son nouvel avion" ('China delays its new jet flight') (p. 16) témoigne de la vente par un avionneur chinois d'un appareil pour le transport de 90 passagers à GE Aircraft Leasing (US/Irlande).

4. *Marchés de capitaux transnationaux*

(a) "BATS s'installe en Europe" ('*BATS set to land in Europe*') – rapporte qu'une plate-forme de courtage de titres basée à Kansas City (USA) détenue par les cinq principales institutions financières aux Etats-Unis et destinée à contribuer à abaisser les coûts transactionnels, est en train de constituer une tête de pont européenne à Londres pour profiter de la législation européenne la plus récente basée sur la "*best execution*".

(b) "La Bombay Stock Exchange – BSE – devrait marquer une progression sur la place internationale cette année" ('*BSE could list this year to raise global profile*') (p. 19) – rend compte des décisions prises par la bourse de valeurs de Bombay – deuxième marché de valeurs par ordre d'importance en Inde – qui s'inscrivent dans son plan de réformes pour élever son profil international. Depuis la démutualisation, BST a revendu 51 pour cent de ses parts à des actionnaires nationaux et étrangers, la Deutsche Börse allemande et la bourse indonésienne se portant chacun acquéreur de 5%. Ses actions à terme ont été lancées sur le *US Futures Exchange* à Chicago, de sorte que les avancées de BSE la placent à l'avant-garde des marchés émergents. D'autres bourses en Asie, Afrique et Amérique latine ne se sont pas encore dotées de l'infrastructure d'échanges minimum requise pour attirer les investisseurs nationaux et étrangers.

5. En vue d'établir les critères présidant au futur Programme de travail d'UNIDROIT, le Conseil et l'Assemblée Générale ont identifié les lignes directrices suivantes:

- *des avantages potentiels clairement établis* au regard des demandes des Gouvernements, des Organisations internationales, et du secteur privé qu'UNIDROIT entreprenne des travaux;
- *des arguments convaincants* qu'UNIDROIT est l'Organisation la mieux placée au regard des autres Organisations pour réaliser des travaux sur un projet déterminé;
- *l'absence de risque de duplication des* travaux *ou de recoupements malencontreux* avec les travaux entrepris au sein d'autres Organisations ainsi que des mécanismes appropriés en vue d'une coordination entre les Organisations;
- l'assurance qu'à tout moment au moins un sujet du Programme de travail soit clairement identifié comme destinée à *répondre aux besoins des pays en développement*;
- des délais réalistes et prévisibles pour l'achèvement des projets;
- *un financement adéquat* dans le cadre du budget ordinaire ou assuré de façon spécifique par des contributions extra statutaires ou provenant du secteur privé.

(Pour des précisions, voir les documents UNIDROIT 2005 C.D. (84) 19; A.G. (59)4).

II. Réponses à l'invitation du Secrétariat de formuler des propositions

6. Les Gouvernements membres ont été informés de l'avancement des travaux sur tous les sujets du Programme de travail actuel et des propositions concernant le Programme de travail futur par Note Verbale (refce: 280/WP) datée du 1er février 2008 (Annexe I). Au 14 avril 2008, les

Gouvernements suivants avaient répondu: Allemagne, Australie, Espagne (de façon provisoire et sous réserve de consultations plus étendues), Etats-Unis d'Amérique, Finlande, Italie, Lettonie, Luxembourg et Royaume-Uni.

7. Un certain nombre d'Organisations internationales ont été informées de l'état d'avancement des travaux sur tous les sujets du Programme de travail et des propositions pour le Programme de travail à venir, par lettre datée du 6 février 2008. Au 14 avril 2008, les Organisations intergouvernementales suivantes avaient répondu: la Banque centrale européenne (BCE), la Commission européenne, le Comité européen des régulateurs de marchés de valeurs mobilières (CESR), la Conférence de La Haye de droit international privé et la CNUDCI. En outre, les Organisations non-gouvernementales suivantes avaient répondu: *International Swaps and Derivatives Association (ISDA), Académie Internationale de Droit Comparé/*International Academy of Comparative Law, Institut Max Planck pour le droit international privé et comparé.

8. Sept Correspondants de l'Institut ont présenté des commentaires: M. Cuming (Canada), M. Boudahrain (Maroc), M. Kozuka (Japon), M. Özsunay (Turquie), M. Morán Bovio (Espagne), Mme Fresnedo (Uruguay), M. Zumbo (Australie).

9. Quatre des cinq membres du comité consultatif sur les projets concernant les opérations sur les marchés de capitaux transnationaux ont présenté des commentaires: M. de Vauplane (France), M. Kanda (Japon), M. Hopt (Allemagne), M. Wymeersch (Belgique).

A. Recommandation de ne pas procéder sur de nouveaux projets législatifs

10. Le Gouvernement de l'Australie recommande que l'on donne priorité aux travaux qui n'ont pas été achevés durant la période triennale 2006-2008. Il demande expressément qu'une priorité spéciale soit donnée à l'*avant projet de Protocole portant sur les questions spécifiques aux biens spatiaux* et à l'achèvement des cinq chapitres additionnels aux Principes d'UNIDROIT relatifs aux contrats du commerce international avant 2010 si possible.

B. Recommandations de nouveaux projets législatifs, de travaux de suivi à l'adoption, et d'activités non législatives

11. Les propositions de travaux futurs présentés par les Gouvernements membres, les Organisations internationales et les autres personnes ou institutions indiquées par le Secrétariat apparaissent dans le tableau figurant en Annexe II.

III. Commentaires du Secrétariat et décisions à prendre

12. En ce qui concerne les *Principes relatifs aux contrats du commerce international*, qui ont donné une grande visibilité à l'Institut et auxquels le Conseil a donné à sa 84ème session le statut de sujet permanent, le Groupe de travail et le Secrétariat continueront de déployer les efforts appropriés en vue d'achever les chapitres actuellement en préparation et de continuer à divulguer l'instrument.

Le Conseil est invité à confirmer son évaluation et ses recommandations concernant le niveau de priorité des Principes d'UNIDROIT.

13. En ce qui concerne *la Convention du Cap et ses Protocoles*, le Secrétariat suit actuellement un plan d'action approuvé par l'Assemblée Générale à sa 61ème session visant à achever dès que possible l'avant-projet de *Protocole spatial*. En ce qui concerne les travaux portant sur un Protocole additionnel portant sur les *questions spécifiques au matériel d'équipement agricole, de construction*

et minier, le Conseil, à 86ème session, a décidé de différer toute décision à la présente session. Le Secrétariat a achevé ses recherches préliminaires (cfr. Document C.D. (86) 8(d) et Annexe III), et les enquêtes supplémentaires auprès des Gouvernements n'ont pas été concluantes. Des questions restent ouvertes: (a) les différences significatives entre les trois catégories de matériel; (b) l'identification spécifique du matériel et la faisabilité d'établir un système international d'inscription; (c) les relations entre le "système du Cap", le projet de Loi type d'UNIDROIT sur le *leasing* commercial et les instruments de la CNUDCI.

Le Conseil est invité à se prononcer sur les décisions à prendre.

14. En ce qui concerne *les opérations sur les marchés financiers interconnectés et transnationaux*, le Conseil ainsi que l'Assemblée Générale ont accordé à de nombreuses reprises un haut niveau de priorité à des travaux sur un *Guide législatif portant Principes et Règles susceptibles d'accroître les transactions sur les marchés financiers émergents* (le dernier en date étant: C.D. (86) 9(b)), sous réserve de la disponibilité des ressources appropriées. Un tel Guide, ainsi qu'un *instrument sur la compensation*, sont ceux qui ont recueilli le plus de soutien de la part des Gouvernements, des Organisations internationales et des secteurs professionnels concernés (cfr. la lettre de l'ISDA datée du 15 mars 2008, jointe en Annexe IV – en anglais seulement). Les membres du comité consultatif sur les travaux en matière de marchés de capitaux les ont placés en première place. Les deux projets sont fort différents, mais sont liés:

(a) la compensation est un sujet clairement défini et fait l'objet de contrats types du secteur bancaire, certains aspects sont déjà couverts dans le Chapitre VI du projet de Convention sur les titres intermédiés, et elle fait partie des *principes nécessaires* au développement des marchés émergents. Un comité d'étude pourrait être rapidement constitué.

(b) Tandis qu'une liste de sujets qui pourraient être inclus dans le *Guide législatif* a été élaborée en 2005 (C.D. (84) 19 para 23), des recherches préliminaires approfondies seraient nécessaires avant qu'un groupe de travail (ou plusieurs groupes régionaux) soit constitué avec un mandat susceptible de produire des résultats dans la période triennale 2009-2011. Il est intéressant de noter que le Gouvernement du Royaume-Uni a proposé un projet visant à faciliter la convergence des systèmes de classification des investisseurs nationaux par la standardisation – sujet qui pourrait également faire partie du Guide législatif.

Si le Conseil accepte la proposition du Gouvernement de Luxembourg d'établir conjointement un Centre pour le droit des marchés financiers transnationaux, conçu comme une extension des ressources de l'Institut ainsi que l'a recommandé le Plan stratégique mis à jour (C.D. (87) 6)), les perspectives pratiques et à moindre coût pourraient être: (i) la constitution d'un Comité d'étude chargé de préparer un instrument sur la compensation; (ii) de demander au Centre d'entreprendre les recherches fondamentales nécessaires en vue de permettre au Conseil et aux Gouvernements membres de prendre des décisions informées relativement au Guide législatif dès que possible dans la période triennale.

Le Conseil est invité à formuler des recommandations à soumettre à l'Assemblée Générale.

15. En ce qui concerne les travaux proposés concernant un instrument sur la responsabilité civile pour le dysfonctionnement des services satellitaires, le Conseil, sur la base d'un document de base préparé par M. Carbone *et al.,* a demandé au Secrétariat de commissionner une étude plus approfondie centrée sur les questions de droit privé. Il a en outre demandé à M. Bollweg et à d'autres membres intéressés du Conseil de réfléchir plus avant aux questions soulevées, et au Secrétariat de procéder à des consultations informelles avec les Gouvernements concernés (C.D. (86) 22). Une étude a été remise par le Professeur Ulrich Magnus (Institut Max Planck et Université

de Hambourg) qui est jointe en Annexe V au présent document, tandis qu'un autre document de discussion, présenté par M. Bollweg, est joint en Annexe VI (en anglais seulement).

Le Conseil est invité à se prononcer les décisions à prendre.

16. Les Gouvernements membres, comme les Organisations intergouvernementales, ont souligné l'importance des activités non législatives de l'Institut.

Le Conseil est invité à se prononcer sur la priorité à accorder aux différentes activités non législatives (Revue de droit uniforme, Programme de coopération juridique et de bourses, Base de données UNILAW autres publications).

17. Ainsi que cela a été fait précédemment, le Conseil pourrait souhaiter formuler ses propositions de telle sorte à laisser une certaine marge de discrétion permettant au nouveau Secrétaire Général d'évaluer personnellement la situation et de mettre au point le Programme de travail conformément au Plan stratégique et selon son meilleur jugement personnel.

ANNEXE I

280/WP

NOTE VERBALE

Objet: nouveau Programme de travail triennial (2009-2011)

L'Institut international pour l'unification du droit privé (UNIDROIT) présente ses compliments à l'Ambassade de … en Italie et a l'honneur de transmettre en pièce jointe un document du Secrétariat concernant l'état de mise en œuvre, au 15 janvier 2008, du Programme de travail d'UNIDROIT pour la période triennale 2006-2008 tel qu'adopté par l'Assemblée Générale d'UNIDROIT à sa 59ème session. L'information qui y est contenue vise à commencer les consultations en vue de l'adoption du nouveau Programme de travail pour la période triennale 2009-2011 par l'Assemblée Générale à la fin de 2008.

Au cours des trois dernières années, les travaux se sont centrés sur quatre domaines, dont les projets correspondants ont été portés à terme.

En premier lieu, le sujet n° 1 dans le cadre du projet très large portant sur les "Opérations sur les marchés financiers interconnectés et transnationaux": le projet de *Convention sur les règles de droit matériel applicables aux titres intermédiés* a été transmis pour son adoption à une Conférence diplomatique. La Conférence se tiendra du 1 au 13 septembre 2008 à Genève (Suisse).

Ainsi que le Gouvernement … pourra se souvenir, l'Assemblée Générale a autorisé le Secrétariat à constituer, sous réserve de la disponibilité des ressources nécessaires (a) un (des) Comité(s) d'étude sur les sujets n° 2 à 5 du projet portant sur les marchés financiers. Le sujet n° 2, auquel a été accordé le plus haut niveau de priorité s'intitule: *Guide législatif portant Principes et Règles susceptibles d'accroître les transactions sur les marchés financiers émergents*.

Deuxièmement: les travaux se sont poursuivis relativement aux protocoles spécifiques à des types particuliers de matériels à la Convention du Cap de 2001 relative aux garanties internationales portant sur des matériels d'équipement mobiles. La Convention a 20 Etats contractants, et son Protocole aéronautique, 19. Le *Protocole de Luxembourg portant sur les questions spécifiques au matériel roulant ferroviaire* a été adopté le 23 février 2007 et le registre international pour les garanties sur le matériel roulant ferroviaire devrait être opérationnel dès le deuxième trimestre de 2008. Des réunions informelles en 2006/2007 et une réunion du Comité pilote début mai 2008 permettront aux Gouvernements de se réunir à nouveau et de mettre au point l'avant-projet de Protocole spatial à la fin de 2008 ou au début de 2009. Des recherches préliminaires ont été effectuées relativement à un protocole proposé sur le financement garanti portant sur les questions spécifiques aux matériels d'équipement agricole, de construction et minier.

Troisièmement: les invitations à la 2ème session du Comité d'experts gouvernementaux chargé de la préparation d'une loi-type sur le *leasing* (Mascate, Oman, 6 au 9 avril 2008) ont déjà été envoyées, et il est prévu d'organiser une Session Conjointe du Comité et de l'Assemblée Générale pour l'adoption de la loi-type sur le *leasing* commercial à la fin de 2008.

Quatrièmement: le Groupe de travail chargé de la préparation de cinq chapitres additionnels aux *Principes d'UNIDROIT relatifs aux contrats du commerce international*, a tenu deux sessions et devrait terminer ses travaux sur la nouvelle édition élargie en 2010.

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A l'Ambassade de … en Italie
ROME

Cinquièmement: à la demande du Gouvernement italien, soutenue par le Conseil de Direction à sa 86ème session, des études préliminaires sont conduites par des chercheurs indépendants sur des questions de responsabilité en cas de mauvais fonctionnement des services de navigation et autres services satellitaires.

Etant donné que les Gouvernements membres, le Conseil de Direction et le Secrétariat, souhaitent que les travaux de l'Institut restent centrés dans les domaines dans lesquels UNIDROIT a acquis une expertise particulière et que soient établies des priorités, le Secrétariat recommanderait que les travaux continuent de porter sur les domaines sus indiqués (à savoir, le crédit, le financement, les marchés de capitaux, le droit général des contrats, et peut-être la responsabilité pour les services dérivant d'activités spatiales) et suggérerait la prudence à l'égard de l'ajout de trop nombreux nouveaux sujets ou domaines d'intervention.

Le Secrétariat suggère en conséquence que, outre les travaux en cours et sous réserve de la disponibilité des ressources, le Programme de travail triennal 2009-2011 pourrait comporter:

(1) Des sujets additionnels soigneusement sélectionnés dans le cadre du projet des marchés de capitaux, mais adaptés à la lumière des recommandations faites par les délégations et les Observateurs aux sessions sur les titres intermédiés ainsi que par le Comité consultatif sur les travaux en la matière (à savoir: le Guide sur les marchés émergents; une Convention sur la compensation par des intermédiaires dans les services financiers; les droits des actionnaires étrangers; le traitement des droits liés aux droits de vote et aux revenus (*corporate action processing*), en prenant comme point de départ l'article 8 du projet de Convention sur les titres intermédiés).

(2) La promotion déterminée de la Convention du Cap et des Protocoles aéronautique et ferroviaire. Si un intérêt assez fort se faisait jour et à condition de disposer des ressources nécessaires, des travaux pourraient être entrepris, avec la constitution d'un Comité d'étude, en vue de la préparation d'un quatrième protocole à la Convention di Cap, sur le financement garanti portant sur du matériel d'équipement agricole, de construction et minier.

(3) Des travaux sur la responsabilité en cas de mauvais fonctionnement des services de navigation et autres services satellitaires.

Quant à l'objectif de l'Organisation d'assurer, en principe, que le Programme de travail comporte au moins un projet tourné vers les besoins des pays en développement, le Secrétariat suggère que le sujet portant sur les marchés émergents (voir *supra*, 1), la préparation d'un quatrième protocole à la Convention du Cap ou la responsabilité pour certains services satellitaires qui revêtent une importance particulière pour les pays en développement (dans le contexte des prévisions météorologiques et des catastrophes, par exemple) pourraient être considérés comme remplissant ce critère.

L'Assemblée Générale sera invitée à approuver formellement le Programme de travail triennal, tel que proposé par le Conseil de Direction, lors de sa 62ème session qui aura lieu en novembre/décembre 2008. Le Conseil de Direction discutera les propositions au cours de sa 87ème session (21 – 23 avril 2008) et les Gouvernements sont invités à indiquer leurs priorités spécifiques par rapport aux sujets sus indiqués ou encore à des sujets non mentionnés.

Dans ces conditions, le Secrétariat serait reconnaissant à l'Ambassade de … en Italie de bien vouloir porter la présente Note Verbale ainsi que le document qui l'accompagne à l'attention des Autorités compétentes de son Gouvernement et de communiquer au Secrétariat, si possible avant le 20 mars 2008, toute éventuelle observation et/ou proposition sur le Programme de travail pour la période triennale 2009-2011.

UNIDROIT saisit enfin cette occasion pour renouveler à l'Ambassade de … en Italie les assurances de sa très haute considération.

Rome, 1er février 2008

ETAT DE MISE EN OEUVRE DU
Programme de Travail d'UNIDROIT 2006-2008

au 15 janvier 2008

I. Préparation d'instruments de droit uniforme

Sujet	Etat des travaux
1. Opérations sur les marchés financiers interconnectés et transnationaux	(a) *Projet de Convention sur les règles de droit matériel applicables aux titres intermédiés* : transmis à une Conférence diplomatique (Genève, 1 - 13 septembre 2008 pour adoption) (b) *Guide législatif portant Principes et Règles susceptibles d'accroître les transactions sur les marchés financiers émergents* (sujet n° 2) : approuvé par le Conseil de Direction et l'Assemblée Générale, mais ayant fait l'objet seulement de recherches très préliminaires ; travaux en suspens dans l'attente de la disponibilité des ressources nécessaires (probablement : Comité(s) d'étude à constituer après la Conférence diplomatique *supra* 1(a)). (c) *Sujets 3-5 : approuvés, mais reformulés à la lumière des commentaires des Gouvernements, du secteur professionnel et du Comité consultatif*. A savoir : une Convention sur la compensation par des intermédiaires dans les services financiers; les droits des actionnaires étrangers; le traitement des droits liés aux droits de vote et aux revenus (*corporate action processing*) (en prenant comme point de départ l'article 8 du projet de Convention sur les titres intermédiés). Comité(s) d'étude à constituer.
2. Garanties internationales portant sur des matériels d'équipement mobiles – Convention du Cap et Protocoles portant sur des matériels d'équipement spécifiques	(a) *Convention du Cap* et *Protocole aéronautique*: en vigueur (20 et 19 Etats contractants) ; fonctions de dépositaire (consultations, rapports) en importance croissante ; nombre élevé de ratifications et adhésions attendues en 2008/2009. b) *Protocole ferroviaire*: signé par 4 Etats, au moins 4 ratifications (nombre requis pour l'entrée en vigueur) attendues en 2008. *Travaux futurs* : promotion c) *Avant-projet de Protocole portant sur les questions spécifiques aux biens spatiaux*: deux sessions d'un Comité d'experts gouvernementaux tenues en 2003 et 2004 ; réunions informelles de représentants des Gouvernements en 2006 (Londres) et 2007 (New York) ; Réunion du Comité pilote approuvé par l'Assemblée Générale à sa 61ème session (novembre 2007) prévue en mai 2008 ; 3ème session du CEG prévue pour fin 2008 – et le cas échéant, Conférence diplomatique envisagée pour 2009.
3. Loi-type sur le *leasing* commercial	2ème session du Comité d'experts gouvernementaux prévue à Mascate (Oman), 6-9 avril 2008. Adoption par une session conjointe du CEG et de l'Assemblée Générale envisagée à la fin de 2008.
4. Principes d'UNIDROIT relatifs aux contrats du commerce international	Groupe de travail chargé de la préparation de cinq chapitres additionnels a tenu deux sessions. Achèvement de la nouvelle édition élargie prévue en 2010. *Travaux futurs*: promotion ; en particulier cf. *infra* II(b).

II. Activités liées aux activités législatives (ressources de divulgation)

Sujet	Etat des travaux
1. Programme de coopération juridique (pays en développement et en transition économique)	a) *Programme de bourses de recherches*: lancé en 1993, il a permis d'accueillir 185 juristes de 50 pays. Présenté au nombre des activités prioritaires des ressources de divulgation dans le *Plan stratégique - Horizon 2016* (28 novembre 2003). Importance de la Bibliothèque d'UNIDROIT. b) *Coopération avec l'Organisation pour l'Harmonisation en Afrique du Droit des Affaires (OHADA) pour la préparation d'un Acte uniforme sur les contrats*: transmission à l'OHADA (2004) et par celle-ci aux commissions nationales (2006), consultations en cours ; tenue (novembre 2007) d'un Colloque de grande envergure à Ouagadougou (Burkina Faso) (financé par les Gouvernements suisse et du Luxembourg, ainsi que par des donateurs privés) *Travaux futurs* : selon demandes des partenaires locaux
2. Promotion des activités et des instruments d'UNIDROIT (notamment le site Internet)	Promotion de la part du Secrétariat des activités d'UNIDROIT et des instruments conclus dans le cadre de l'Institut en vue de garantir leur acceptation et leur application la plus large possible (assistance législative, parrainage et participation à des réunions nationales et internationales, organisation de congrès régionaux …). Rôle important du site Internet d'UNIDROIT.
3. Publications d'UNIDROIT	Diffusion d'informations concernant l'unification du droit: *Uniform Law Review/Revue de droit uniforme*, publication des instruments internationaux élaborés par UNIDROIT, Actes des congrès organisés par UNIDROIT et des Conférences diplomatiques pour l'adoption d'instruments d'UNIDROIT ; parution récente du *UNIDROIT Guide to International Master Franchise Agreements* (2nd edition, Rome 2007).
4. Base de données sur le droit uniforme - UNILAW	Priorité donnée à la mise en place d'une base de données sur la Convention relative au contrat de transport international de marchandises par route (CMR) (texte, Etats parties, bibliographie, jurisprudence). 369 cas de jurisprudence CMR (référencées et analysées) déjà accessibles. D'autres instruments seront bientôt couverts, notamment dans le domaine des transports, ainsi que les instruments du Cap, et la Convention d'UNIDROIT sur les biens culturels volés ou illicitement exportés.
5. Fondation de droit uniforme	Apporte un soutien financier à la base de données ; a financé trois boursiers dans le cadre du Programme de bourses de recherches ; a organisé un événement pour collecter des fonds à Amsterdam.

ANNEXE II – Propositions travaux futurs

	Autres Protocoles à la Convention du Cap	**Marchés de capitaux**			**Responsabilité services satellitaires**	**Post-adoption; activités non législatives**			
		Guide / Mar. émerg.	**Compen.**	**Autre**		**UPICC**	**Le Cap**	**Titres**	**Non lég.**
Gouvernements	3	5	6	3 *	1	2	3	3	1
Organisations internationales intergouverne-mentales	1	1	3	3	1	1		3	2
Organisations internationales non gouverne-mentales	2	1		1	2	2	2	3	2
Correspondants	2	1	1		2	2	3	3	2
Comité consultatif Marchés de capitaux **		*1*	*4*	*4*					

* Les deux 'autres' *sujets les plus souvent mentionnés par ceux qui ont répondu sont le* 'corporate-action processing' et les droits des actionnaires étrangers. Le Gouvernement britannique, ainsi que l'un des groupes sectoriels proposent de travailler dans le domaine des systèmes standardisés de classification des investisseurs.

** Réponse relative seulement aux travaux dans le domaine des marchés de capitaux.

ANNEXE III

PREPARATION D'UN NOUVEAU PROTOCOLE A LA CONVENTION DU CAP PORTANT SUR LES QUESTIONS SPECIFIQUES AUX MATERIELS D'EQUIPEMENT AGRICOLES, DE CONSTRUCTION ET MINIERS

1. A sa 86ème session, tenue du 16 au 18 avril 2007, le Conseil de Direction a demandé au Secrétariat de transmettre le document soumis sur la *préparation d'un nouveau Protocole à la Convention du Cap portant sur les questions spécifiques aux matériels d'équipement agricoles, de construction et miniers* aux Etats membres de l'Organisation en vue de solliciter des commentaires sur l'importance et la pertinence du projet et sur la priorité à lui accorder. Les Etats non membres impliqués dans le processus du Cap ont également été contactés dans le même but.

2. Le Secrétariat a donc transmis le document préparé pour la 86ème session du Conseil de Direction, avec quelques modifications mineures de rédaction qui impliquaient notamment la mise à jour du tableau de l'Annexe 2 qui comparait les textes des différents Protocoles en y ajoutant le texte final du *Protocole de Luxembourg portant sur les questions spécifiques au matériel roulant ferroviaire.*

3. Deux Etats seulement ont réagi: l'Allemagne et les Pays-Bas. Si l'Allemagne a suggéré de donner une grande priorité à l'élaboration d'un nouveau Protocole portant sur les questions spécifiques aux matériels d'équipement agricoles, de construction et miniers, les Pays-Bas ont indiqué ne pas avoir d'intérêt particulier pour ce projet. Aucune autre communication n'est parvenue au Secrétariat. Toutefois, la proposition ayant été soumise dans le cadre de l'élaboration du Programme de travail de l'Institut pour la période triennale 2009 – 2011, le Secrétariat pourrait recevoir d'autres commentaires sur ce point.

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ANNEXE IV

ISDA®

International Swaps and Derivatives Association, Inc.
One Bishops Square
London E1 6AO
United Kingdom
Telephone: 44 (20) 3088 3550
Facsimile: 44 (20) 3088 3555
email: isdaeurope@isda.org
website: www.isda.org

15 March 2008

Professor Dr Herbert Kronke
Secretary-General
International Institute for the Unification of Private Law
UNIDROIT
Via Panisperna, 28
00184 Rome
ITALY

Per e-mail

Dear Professor Kronke

New Triennial Work Programme

Thank you for your letter of 11 February 2008 regarding the new Triennial Work Programme 2009-2011. We are pleased to be invited to comment on capital markets aspects of the new Triennial Work Programme. As you know, we are a strong supporter of the work that UNIDROIT is currently doing in relation to intermediated securities. We have always believed that UNIDROIT is in a position to play a very important role in strengthening legal certainty in the cross-border financial markets, just as it does in strengthening legal certainty for international commerce through promotion of private law unification in other areas.

Accordingly, we would like to endorse the idea, mentioned in your letter, of developing a Convention on Netting in Financial Services. As you know, close-out netting is the process by which mutual obligations between financial market counterparties are reduced to a single net balance following a default by one of the parties. Payment netting is the process by which amounts due in the same currency on the same day between financial market counterparties are reduced to a single net balance for settlement purposes. Each form of netting has a crucial role to play in reducing risk in financial systems, the former in reducing credit risk arising upon a default and the latter in reducing settlement risk, which can be substantial given the high volumes of payments flowing through the financial markets each day.

The importance of netting, and in particular close-out netting, to efficiency, reduction of credit risk and therefore reduction of systemic risk in financial systems has been acknowledged by various national and international bodies, including the Bank for International Settlements, in numerous documents over the years. The leading banking supervisors have recognised the risk-reducing effect of close-out netting by permitting the allocation of regulatory capital against net rather than gross credit exposures, provided that

certain conditions are met (including the obtaining of robust legal comfort in all jurisdictions relevant to any close-out netting arrangement intended to benefit from this capital relief). Therefore in dealing with international banks, financial market participants in countries with robust legal regimes for close-out netting enjoy a clear competitive advantage over financial market participants in countries where such legal certainty is not available.

Over the past 20 years or so, more than 30 countries, including the world's leading developed jurisdictions and some emerging market jurisdictions, have adopted legislation to give effect to or strengthen netting and to ensure that it is enforceable against a local counterparty in the event of that counterparty's insolvency. A number of other countries are currently considering adopting netting legislation. (A list of countries that have adopted netting legislation is on the ISDA website at http://www.isda.org/docproj/stat_of_net_leg.html). ISDA has been closely involved in most of these efforts, providing information and support to legislators, regulators and local financial market associations and market participants. ISDA's Model Netting Act (http://www.isda.org/docproj/model_netting.html), first published in 1996 and most recently revised in 2007, has been used as a model for the legislation in a number of countries.

This work, however, has necessarily proceeded piecemeal, and many different approaches have been taken. Not all of this legislation is of the same quality and there is considerable variation in the scope, core principles and degree of certainty of the legislation in different countries. There are a number of reasons for these variations, but they were largely driven by extraneous political, economic and historical factors at the time the legislation was adopted (some of the earliest such legislation is now nearly 20 years old). In other words, there is no conceptual obstacle to the development of a common international set of legal rules for netting in financial markets.

The development of an international instrument, ideally a Convention, to set out core rules for netting and to deal with some closely related issues (such as the inadvertent effect of anti-gambling laws, restrictions on legal capacity and the unintended application of insurance laws on legitimate financial market transactions), would:

- Potentially increase the number of countries where netting is enforceable, thereby further reducing systemic risk for financial markets involving participants from those countries
- Enhance legal certainty for cross-border financial transactions by creating a common set of international norms for netting
- Extend the benefits of netting to emerging market jurisdictions seeking to develop and strengthen their financial market infrastructure as part of broader economic development programmes
- Help to create a level playing field in the cross-border financial markets, increasing the ability of emerging market firms to compete for business in the international financial markets
- Improve the efficiency of the financial markets and therefore improve the ability of small- and medium-sized enterprises to obtain cost-effective access to financial services in order to find their growth and manage associated financial risks

It should be remembered that the risk-reducing benefits of netting are not limited to derivatives markets but can be applied in virtually all sectors of the financial markets, including spot trading in foreign exchange, securities, energy, metals and other commodities, as well as in the context of securities and commodities lending and repurchase (repo) transactions.

ISDA International Swaps and Derivatives Association, Inc.

Finally, you invited us not only to express our views on the idea of a Netting Convention but also to comment on the relationship among and the priority to be given to each of the items listed in your letter in relation to the capital-markets agenda of UNIDROIT. You will perhaps not be surprised that we consider that, beyond, of course, finalising the proposed Securities Convention, developing a Netting Convention should be given top priority. While an Emerging Markets Guide could also be valuable, it is difficult to comment on this without knowing in more detail what it is intended to cover, although it is clear that there is a demand in the emerging markets for advice and assistance in relation to the development and strengthening of their local financial markets. The other proposed capital markets projects dealing with rights of foreign shareholders and corporate action processing, while no doubt important, are not central to ISDA's own mission, so we do not comment further on those.

The Netting Convention has the clear advantage over any proposed Guide of being a practical and targeted measure that is amply justified by existing empirical studies (including those by the Bank for International Settlements, as already mentioned) supporting the benefits of close-out netting, and as attested to by the number of countries that have already adopted netting legislation.

ISDA, together with the European Financial Markets Lawyers Group, is currently urging the European Commission to propose a European instrument on netting, to promote convergence of existing legal regimes for netting and to provide a common and sufficient basis for netting in the Member States that have most recently acceded to the EU as well as those likely to accede in the next few years. We are not certain at this point whether, despite the strong support of industry for such a measure, whether this is likely to proceed in the European context. If it does, there would clearly be a benefit in co-ordinating any European efforts with any UNIDROIT project. From ISDA's point of view as an international trade association, it is important that any such efforts are not confined to Europe but have the potential to benefit local financial markets all around the world. For this reason, we would clearly strongly support UNIDROIT taking up this project.

We would be pleased to continue our longstanding co-operation with UNIDROIT in relation to financial markets matters by working with you on this proposal. As you study the different items and any additional items that may be proposed for the next Triennial Work Programme, we would be happy to answer, if we can, any questions you might have about the ideal scope and/or content of a Netting Convention.

Yours sincerely,

Dr Peter M Werner
Director of Policy
pwerner@isda.org

ANNEXE V

La responsabilité civile pour les services satellitaires

Ulrich Magnus, Hambourg

I. But de la présente étude

C'est grâce à une technologie qui a vu le jour pour un usage militaire spécial [1] que de nombreux automobilistes se font aujourd'hui guider sur les routes à l'étranger ou dans leur propre ville : ils utilisent souvent « navis », un système de navigation qui, en règle générale, les mènent à destination de façon simple et sure. Et les automobilistes ne sont pas les seuls à bénéficier de ce système : tous les modes de transport sont concernés. Les systèmes de navigation utilisent les informations fournies par des satellites qui permettent d'identifier la position exacte des personnes et des objets dans le monde. Cette technologie moderne a un grand nombre d'applications, et bien d'autres encore pourraient être imaginées. Son utilité ne pourrait guère être mise en question. Mais on peut aussi concevoir des cas où un défaut ou un dysfonctionnement dans la transmission de l'information satellitaire pourrait être à l'origine de dommages, y compris de proportions considérables, si l'on pense à un accident d'avion dans une zone à haute densité de population ou encore à une collision et au naufrage d'un navire de croisière à plein chargement de passagers.

Le texte ci-après traite des questions de responsabilité civile dans de telles hypothèses. Il examine précisément la question de savoir si la responsabilité civile pour les défauts de fonctionnement des services satellitaires se trouve actuellement réglementée de façon satisfaisante ou si des améliorations, et lesquelles, devraient être apportées. Pour ce qui est des éléments de fait présentés dans le présent document, ils sont principalement empruntés à l'exemple du système d'informations satellitaires européen GALILEO qui est en cours d'établissement et qui sera pleinement opérationnel dans quelques années.

II. Caractéristiques des systèmes fournissant des services satellitaires

1. Systèmes actuels

Actuellement il existe deux systèmes globaux de navigation par satellite (GNSS): le *Global Positioning System* (GPS) américain, premier en date, et le *GLObal'naya Navigatsionnay Sputnikovaya Sistema* russe (GLONASS) [2]. Il existe également à l'échelle régionale d'autres systèmes complémentaires au GPS et au GLONASS, qui sont en particulier : EGNOS en Europe (précurseur de GALILEO), WAAS aux Etats-Unis, MSAS au Japon ou GAGAN en Inde qui améliorent et augmentent les avantages et les applications des systèmes globaux [3]. Cependant dans les

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[1] Voir *Jonathan M. Epstein*, "Global Positioning System (GPS): Defining the Legal Issues of its Expanding Civil Use", 61 *Air L. & Com*. 243 et seq., 248 (1995-96).

[2] GLONASS ne fournit pas encore de services commerciaux et semble avoir des problèmes répétés avec ses satellites.

[3] On pourra accéder à un compte rendu récent des activités des GNSS dans une Note du Secrétariat sur la deuxième réunion du comité international sur les systèmes globaux de navigation par satellite (sous-comité du Comité des Nations Unies pour l'utilisation pacifique de l'espace extra-atmosphérique) du 10 décembre 2007 (UN document A/AC.105/901).

années à venir l'Union européenne (avec GALILEO) et la Chine (COMPASS) et peut-être aussi l'Inde mettront en place des systèmes globaux comparables. La préparation du programme GALILEO [4] a déjà pris le coup d'envoi. L'organisateur est la Commission européenne en coopération avec l'Agence spatiale européenne (ASE) mais des entreprises privées interviendront dans le cadre d'un partenariat public-privé. Toutefois la Commission restera le maître d'ouvrage de l'ensemble de l'opération [5]. Le système européen est destiné uniquement à des applications civiles. Il vise à "un système plus avancé, plus performant et plus fiable que celui offert actuellement par le monopole actuel américain GPS" [6]. Quoiqu'il soit prévu que GALILEO établisse un système indépendant du système américain GPS, un accord entre l'UE et les USA assurera l'interopérabilité des deux systèmes.

Il n'est pas impossible que d'autres pays ou régions que ceux qui ont été indiqués conçoivent et mettent en place d'autres systèmes globaux afin de ne pas dépendre des autres nations relativement à cette importante technologie.

2. Principaux éléments concernant le fonctionnement de la navigation par satellite

La navigation par satellite fonctionne essentiellement de la façon suivante : plusieurs satellites – dans le cas de GALILEO 30 satellites – sont positionnés sur des orbites fixes. Ils émettent constamment des signaux qui indiquent leur position à un moment donné, de façon extrêmement précise (grâce à des horloges atomiques à bord du satellite). Ces signaux peuvent être captés par toute personne qui possède le récepteur correspondant (un petit instrument bon marché tel que "navi" qui reconnaît les signaux et la position du satellite). En recevant les signaux de quatre satellites au moins, le récepteur peut déterminer très exactement la position de personnes ou d'objets au sol ou dans l'air, au mètre près. L'ensemble du système requiert également des stations de relais au sol qui sont en contact avec les satellites et les guident, ainsi qu'un centre de contrôle pour la coordination et la commande de l'ensemble du système [7].

3. Le cadre organisationnel de GALILEO

GALILEO sera mis en place et géré par la Communauté européenne elle-même. Actuellement, il est même envisagé que la Communauté offre directement les différents services que cet ambitieux projet d'infrastructure fournira (voir ci-dessous IV.). Des entreprises privées seront les partenaires pour la construction et la fourniture du matériel. Elles pourraient peut-être à l'avenir se voir confier la fourniture des services envisagés.

Le système de navigation par satellite fait appel à une technologie radio et spatiale de pointe. Sa mise en place requiert des moyens financiers considérables. Actuellement les coûts de GALILEO sont estimés à 3,4 milliards d'euros [8], pris en charge par l'Union européenne et l'ASE.

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[4] Voir l'initiative européenne: *Commission européenne/ASE*, Galileo. Programme européen pour les services globaux de navigation (2nd ed. 2005); voir aussi la Communication de la Commission au Parlement européen et au Conseil : "Progressing Galileo: Re-profiling the European GNSS Programmes", du 19 septembre 2007 (COM(2007) 534 final). Après certaines difficultés, le programme GALILEO a reçu l'assentiment du Conseil des ministres des transports à la fin de novembre 2007 ("Accord politique pour Galileo").

[5] Voir "Progressing Galileo …", *supra* note 4, p. 11.

[6] *Idem*, p. 4, 8. (*traduction non officielle*).

[7] Voir la description dans *Commission européenne/ASE*, Galileo, *supra* note 4, p. 7 *et seq*.

[8] Voir "Progressing Galileo …", *supra* note 4, p. 3.

III. Applications envisagées et possibles

Les systèmes globaux de navigation par satellite sont considérés comme une infrastructure cadre permettant une multitude d'applications. La Commission européenne envisage une utilisation de GALILEO dans les domaines suivants [9] :

- tous les modes de transport, en particulier la navigation maritime, aérienne et routière;
- le domaine de l'énergie, par exemple pour le contrôle des réseaux d'électricité et dans l'exploration des ressources naturelles de pétrole et de gaz ;
- dans les secteurs financiers, bancaires et des assurances, pour des services plus sûrs ;
- dans le domaine de l'agriculture et de la pêche, pour améliorer les résultats et le suivi de ces activités ;
- dans les situations d'urgence, par exemple pour localiser une victime ou un hôpital ;
- pour la gestion de l'environnement (par exemple détecter des pollueurs);
- pour effectuer toutes sortes de relevés de terrain ou de zones maritimes ;
- pour les activités de loisir, notamment le vol ou la navigation de plaisance.

Les systèmes globaux de navigation par satellite peuvent aussi jouer un rôle important dans le domaine de la sécurité interne en permettant la localisation de personnes suspectes, ou le repérage d'objets volés (notamment des automobiles) etc. On peut aussi imaginer qu'un jour un système entièrement automatisé permettra de combiner la navigation par satellite et la conduite automatique et rendra superflue l'intervention humaine.

IV. Les services envisagés par GALILEO

Actuellement, les initiateurs du projet GALILEO prévoient que le système européen de navigation par satellite offrira les services suivants:[10]

– Le service ouvert (OS – "*Open Service*") qui fournit des signaux de positionnement et de synchronisation, et est gratuit pour l'utilisateur;
– Le service de sauvegarde de la vie (SoL – "*Safety of Life*") pour tous les modes de transport dans lesquels des vies peuvent se trouver en danger en cas de défaillance du service ouvert;
– Le service commercial (CS – "*Commercial Service*") fournit contre paiement une plus grande précision à l'utilisateur que le Service ouvert.
– Le service public réglementé (PRS – "*Public Regulated Service*") à l'usage réservé d'autorités publiques telles que la police, les garde-côtes, les services de douane etc. ;
– Le service de recherche et sauvetage (SAR – "*Search and Rescue Service*") lorsque des opérations de recherche et sauvetage sont nécessaires.

Les services consistent dans l'émission de signaux radio différents qui sont utilisés par les usagers pour les fins prévues.

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[9] Voir *Commission européenne/ASE*, Galileo, *supra* note 4, p. 15 *et seq*. L'organisation de l'aviation civile internationale (OACI) a déjà débattu de l'utilisation des systèmes globaux de navigation par satellite et en particulier de GALILEO pour l'aviation civile à sa réunion de 2003 mais s'est montrée assez réticente.

[10] *Idem*, p. 22 *et seq*.; voir aussi "Progressing Galileo …", *supra* note 3, p. 5 *et seq*.

V. Situations susceptibles d'engager la responsabilité civile

1. Hypothèses de dommages

Comme on l'a indiqué plus haut, il est assez simple d'imaginer des cas de dommages causés par des dysfonctionnements des systèmes globaux de navigation par satellite. On peut même envisager des dommages de proportions catastrophiques. Par exemple, lorsque des moyens de transport tels que des navires, des avions ou des trains – utilisés à des fins commerciales ou de loisir – ont recours directement ou indirectement à des informations provenant de systèmes d'information satellitaire, tout défaut de fonctionnement du système peut mettre en péril des centaines ou même des milliers de vies, ainsi que la perte des biens en cas d'accident, collision ou naufrage du navire, de l'avion ou du train. Dans le cas d'un supertanker transportant des hydrocarbures, un accident peut aussi causer des dommages considérables à l'environnement et aux zones côtières de plusieurs Etats.[11]

Toutefois les dommages catastrophiques ne sont pas la règle. En ce qui concerne la navigation satellitaire à usage de la circulation ordinaire des véhicules routiers, une défaillance du système entraînant une mauvaise information de l'appareil de navigation à bord ne devrait pas causer d'accidents mais simplement des engorgements des routes et des retards. Il est peu probable que de telles défaillances soient la cause directe de dommages aux personnes, le préjudice étant plus généralement de nature économique. Dans chaque événement, le préjudice devrait être relativement limité. En revanche, au global, les pertes économiques subies par l'ensemble des personnes concernées pourraient s'avérer considérables.

Des dommages aux personnes peuvent également se produire lorsque le système de positionnement satellitaire est utilisé pour des services de sauvetage de toute nature et ne marche pas, faisant obstacle à l'intervention dans les temps voulus des services d'ambulance, de police, de pompiers etc. Une défaillance du système peut également causer des dommages aux personnes ou aux biens lorsqu'il empêche la localisation de malfaiteurs et l'intervention des services de police.

Il n'est guère probable compte tenu des applications que l'on envisage pour GALILEO dans l'avenir (dans le secteur financier, pour la prospection, les relevés etc.), que des défaillances du système global de navigation satellitaire puissent causer la mort ou des lésions corporelles. En revanche les pertes économiques seront inévitables. Par ailleurs, des défaillances constantes du système de navigation par satellite ou un changement de celui-ci pourraient affecter les appareils de réception, les mettre hors d'usage et les priver de valeur marchande, ce qui là encore entraînerait des pertes économiques.

Les dommages causés par la chute d'un satellite ou d'un autre objet au sol ne sont pas traités ici parce que de tels dommages ne résulteraient pas des services précisément fournis par les systèmes de navigation par satellite. En outre ces dommages sont déjà couverts par la Convention sur la responsabilité internationale pour les dommages causés par les objets spatiaux de 1972. La Convention prévoit la responsabilité objective de l'Etat de lancement [12].

2. Causes possibles de dommages

Comme on l'a vu, les systèmes globaux de navigation par satellite sont pour l'essentiel formés de trois composants : les satellites, les stations au sol, et l'instrument de réception de l'utilisateur.

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[11] Pour de telles hypothèses, voir aussi COPELAND, "Overview of System Architectural Implications of Third-Party Liability and Government Indemnification for GPS Augmentation", 47 *Navigation* 7 *et seq.*, 13 (2000).

[12] Ci-après "Convention de 1972 responsabilité objets spatiaux" : Article II.

Une défaillance de n'importe lequel de ces éléments est susceptible d'affecter le fonctionnement de l'ensemble du système en empêchant l'émission ou la réception des signaux corrects et leur transformation dans l'information exacte de la position d'une personne ou d'un objet, ce qui entraînera automatiquement une altération de la qualité des services. Le dysfonctionnement du système sera donc imputable à un défaut de conception de l'un des composants ou de l'ensemble du système, ou encore à un défaut de fabrication ou d'installation d'un ou de plusieurs composants, ou encore à des erreurs de commande ou manipulation.

Ces cas nous font penser aux défauts des produits où l'on distingue également les défauts de conception, de fabrication et les instructions erronées [13]. Mais une telle comparaison n'est pleinement possible que pour ce qui est de l'appareil de réception que l'utilisateur achète habituellement auprès d'un fabricant privé. Pour ce qui est des satellites et surtout des stations au sol, leur dysfonctionnement peut être causé par un défaut de conception ou de fabrication des installations, par exemple des horloges atomiques, du satellite lui-même ou du système de commande etc. ; mais il peut aussi résulter d'une erreur humaine de la part du personnel chargé du fonctionnement.

Outre des défaillances ou défauts internes au système, il peut y avoir d'autres causes au dysfonctionnement de l'ensemble du système : une mauvaise utilisation délibérée par les tiers. Il semblerait qu'en 2006, des scientifiques de la Cornell University aient déchiffré le code du satellite-test du système GALILEO (le satellite Jupiter-A) [14]. Cela aurait pu leur permettre d'influer sur la commande du satellite. D'autres personnes pourraient faire de même, par exemple des terroristes qui pourraient rentrer dans le système et le mettre intentionnellement hors d'état, et causer des dommages du type visé plus haut.

3. Evaluation des systèmes de navigation par satellite

La nouvelle technologie des systèmes de navigation par satellite comporte certains risques inhérents. Ceux-ci peuvent être considérables et il est probable qu'on ne puisse totalement les maîtriser même en exerçant toute la diligence voulue. Des usagers de la technologie GNSS – même indirectement, par exemple un passager d'un avion équipé de cette technologie – sont exposés à ces risques, et il ne leur est guère possible – ou même impossible – de s'y soustraire. Dans de nombreux pays, le droit traite ce type de situations en soumettant l'exploitant à une responsabilité objective, avec une indemnisation à sa charge des dommages sauf en présence de circonstances limitées qui l'exonèrent de responsabilité.

VI. Le cadre juridique actuel

1. Considérations générales

Dans l'hypothèse où une personne ou l'environnement aurait subi un dommage par suite du dysfonctionnement d'un système global de navigation par satellite, la question de la responsabilité et de l'indemnisation poserait dans la plupart des cas des problèmes complexes de droit international privé et de droit international de la procédure avant que puisse être appliqué le droit matériel, puisqu'il serait fort improbable que toutes les victimes des dommages et les responsables potentiels vivent dans le même pays. Les situations de dommages de la nature envisagée devraient presque toujours être caractérisées par une dimension internationale en raison de la

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13 Voir par exemple aux Etats-Unis, le § 2 *Restatement Third* sur la responsabilité des produits.

14 Voir Harenberg (ed.), *Aktuell 2008* (2008) 428.

portée internationale des systèmes de navigation par satellite et des effets globaux de leur dysfonctionnement.

Un autre facteur complique ultérieurement la situation, à savoir la complexité des systèmes globaux de navigation par satellite. Comme on l'a dit, un grand nombre d'institutions, d'entreprises et de personnes contribuent au fonctionnement du système. Quoiqu' actuellement les autorités étatiques soient les principaux intervenants dans le GNSS, des fabricants privés sont également impliqués. En cas de dommages causés par un dysfonctionnement du système, tout intervenant, ou même tous les intervenants, peuvent en être tenus responsables. Ainsi, si une victime de dommages demande réparation, il faudra déterminer le for compétent et la loi applicable pour chacun des défendeurs potentiels. Et si un Etat – ou, dans le cas de l'Union européenne la Communauté – doit voir sa responsabilité mise en cause, la question supplémentaire se pose de savoir s'il peut être poursuivi devant un tribunal étranger ou s'il pourra invoquer l'exception de son immunité d'Etat. Tous ces éléments multiplient les difficultés de nature juridique liées à un éventuel dysfonctionnement du GNSS.

2. Systèmes d'indemnisation nationaux

On constate que la plupart des pays sont dépourvus de réglementation particulière pour l'indemnisation des désastres de proportions massives ; en revanche, certains Etats disposent d'un fonds public d'indemnisation pour de telles situations [15]. Toutefois, il n'est pas rare que l'Etat concerné fournisse un soutien de façon ponctuelle, auquel cas le montant de l'indemnisation accordée variera très largement entre les pays. En règle générale, le dommage subi ne sera indemnisé qu'en partie [16]. Il est probable que les victimes feraient appel à de tels systèmes d'intervention étatique au cas où des dommages d'ampleur catastrophique seraient causés par une défaillance d'un GNSS. Mais dans le meilleur des cas, seule une partie du dommage sera couverte, et seule une partie des victimes sera indemnisée. En conséquence, les règles du droit commun de la responsabilité contractuelle et extra contractuelle gardent toute leur importance.

3. Responsabilité contractuelle et responsabilité extra contractuelle

Les problèmes d'ordre juridique liés à l'indemnisation des dommages pour le dysfonctionnement du GNSS sont d'autant plus compliqués qu'une demande d'indemnisation peut être fondée sur la mise en cause de la responsabilité soit contractuelle soit extra contractuelle, ou encore sur les deux, et que les règles du droit international privé et de la procédure varient souvent selon les régimes applicables. Dans la plupart des cas ici envisagés, il n'y aura pas de lien contractuel entre le demandeur et le défendeur, de sorte que la responsabilité ne pourrait être invoquée que sur un fondement extra contractuel. Cependant le fondement contractuel peut aussi être invoqué, bien que de façon limitée, du fait que les services envisagés fournis par des systèmes tels que GALILEO sont en partie rendus sur une base contractuelle. C'est le cas pour ce qui est des services commerciaux spéciaux (CS) qui seront offerts par GALILEO contre paiement d'une redevance. Si ces services sont défectueux, l'action peut donc se fonder sur le contrat. Un action contractuelle en réparation peut également être formée par l'acheteur d'un appareil de réception contre le vendeur, du moins lorsque celui-ci est le fabricant. Et enfin, l'exploitant du système peut disposer d'un recours contractuel contre ses fournisseurs/fabricants pour les composants défectueux.

En règle générale toutefois, il est peu probable que le fondement contractuel soit invoqué de façon prépondérante dans les cas de dommages causés par un système global de navigation par satellite.

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[15] Voir l'étude comparative par FAURE, in: *Faure/Hartlief* (eds.), "*Financial Compensation for Victims of Catastrophes – A Comparative Legal Approach"* (2006) 415 *et seq*.

[16] Voir l'étude et le résumé par Faure, in: *idem,* p. 418.

En outre, le principe largement reconnu de la liberté contractuelle permet aux parties au contrat de règlementer elles-mêmes leur relation pour ce qui est du for compétent et de la loi applicable, et aussi dans une large mesure pour ce qui est du contenu matériel de leur contrat. La responsabilité quasi-délictuelle, ou hors tout lien contractuel, sera de bien plus grande importance dans le domaine que nous considérons, et alors, et pour des raisons évidentes, les parties ne peuvent pas déterminer à l'avance quel tribunal sera saisi et quelle loi s'appliquera.

4. Relations avec des conventions internationales existantes

Il n'existe pas actuellement de régime uniforme de responsabilité globale – dans une convention internationale par exemple – pour les dommages causés par les systèmes globaux de navigation par satellite. Si le défaut de fonctionnement cause la perte de vies humaines par des accidents d'avion ou la pollution de l'environnement du fait d'accidents impliquant des navires, il est vrai que des conventions internationales de droit aérien [17] ou maritime [18] pourraient trouver application. Dans l'hypothèse catastrophique où, par suite du dysfonctionnement du système satellitaire, un avion s'écraserait sur une centrale nucléaire et causerait un accident nucléaire, les conventions nucléaires pourraient même être applicables [19].

Ces conventions traitent seulement de la responsabilité du transporteur aérien, du propriétaire de navire ou de l'exploitant de l'installation nucléaire. Elles ne traitent pas de la responsabilité de tierces personnes qui auraient pu causer l'accident aérien, maritime ou nucléaire. Elles pourraient couvrir en partie seulement les dommages causés par le dysfonctionnement des systèmes globaux de navigation par satellite. La Convention CLC de 1969, par exemple, exclut expressément la responsabilité du propriétaire s'il prouve que le dommage par pollution "résulte en totalité de la négligence ou d'une autre action préjudiciable d'un gouvernement ou autre autorité responsable de l'entretien des feux ou autres aides à la navigation dans l'exercice de cette fonction" [20]. Des dommages causés par un GNSS de gestion étatique comme "aide à la navigation" ne seraient donc pas soumis à la Convention.

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[17] La Convention de Montréal pour l'unification de certaines règles relatives au transport aérien international de 1999 (ci-après "Convention de Montréal de 1999") ; la Convention de 1972 responsabilité objets spatiaux.

[18] La Convention internationale sur la responsabilité civile pour les dommages dus à la pollution par les hydrocarbures de 1969 (ci-après "Convention CLC de 1969") telle qu'amendée par le Protocole de 1992; la Convention internationale portant création d'un fonds international d'indemnisation pour les dommages dus à la pollution par les hydrocarbures de 1971 (ci-après "Convention Fonds de 1971"); la Convention internationale sur la responsabilité et l'indemnisation pour les dommages liés au transport par mer de substances nocives et potentiellement dangereuses de 1996 (ci-après "Convention HNS de 1996") ; la Convention de 1989 sur la responsabilité civile pour les dommages causés au cours du transport de marchandises dangereuses par route, rail et bateaux de navigation intérieure (ci-après "Convention CRTD de 1989") ; la Convention internationale sur la responsabilité civile pour les dommages dus à la pollution par les hydrocarbures de soute de 2001 (ci-après "Convention hydrocarbures de soute de 2001").

[19] La Convention sur la responsabilité civile dans le domaine de l'énergie nucléaire de 1960 (ci-après "Convention de Paris") avec ses Protocoles de modification (en vigueur dans 15 Etats); la Convention relative à la responsabilité civile en matière de dommages nucléaires (ci-après "Convention de Vienne") avec ses Protocoles de modification (en vigueur dans 35 Etats); la Convention sur la réparation complémentaire des dommages nucléaires de 1997 (pas encore en vigueur) (ci-après "Convention dommages nucléaires de 1997").

[20] L'article III(2)(c) de cette Convention. La Convention HNS de 1996 renferme la même disposition (article 7(2)(c)).

En revanche, les conventions nucléaires canalisent la responsabilité exclusivement vers l'exploitant qui est donc la seule personne contre qui les victimes peuvent intenter l'action [21]. En outre, ces conventions et leurs instruments additionnels prévoient que la personne responsable doit disposer d'une couverture d'assurance appropriée et qu'il existe des fonds complémentaires (publics). Lorsque ces instruments sont applicables et qu'ils couvrent la responsabilité pour les dommages même par suite de la défaillance du GNSS, il n'est pas nécessaire de renforcer la protection accordée aux victimes. Cependant, l'efficacité de ces conventions est limitée puisque seul un nombre limité de pays les a ratifiées et qu'elles sont loin de couvrir tous les cas de dommages causés par le dysfonctionnement de systèmes globaux de navigation par satellite. C'est alors qu'il est nécessaire de déterminer le tribunal compétent et la loi applicable en vertu des règles nationales – et parfois régionales – du droit international privé et de la procédure.

5. Problèmes posés par les solutions actuelles

La partie qui suit rend brièvement compte des solutions et des problèmes posés par le régime auquel sont actuellement soumis les dommages causés par les défaillances des systèmes globaux de navigation par satellite. On prend pour hypothèse que l'Etat ou la Communauté européenne est ou sera le gestionnaire de ces systèmes et encourra toute la responsabilité, et aussi que les stations au sol sont ou seront gérées par l'Etat ou des autorités et des agents de la Communauté, et que les entreprises privées sont ou seront impliquées seulement en tant que fabricants de composants particuliers du système.

a) Immunité de l'Etat

i) Le fondement juridique

Dès lors que les autorités publiques sont les fournisseurs des services des systèmes globaux de navigation par satellite, on peut se demander si elles pourraient invoquer l'exception de l'immunité d'Etat au cas où elles feraient l'objet d'une action devant un tribunal étranger. Actuellement, deux conventions en matière d'immunité des Etats – la Convention européenne sur l'immunité des Etats de 1972 et la Convention des Nations Unies sur les immunités juridictionnelles des Etats et de leurs biens de 2004 – renferment des règles générale sur cette question [22]. Toutefois, la Convention de Bâle de 1972 est en vigueur entre un nombre limité d'Etats seulement [23] et ne peut guère être considérée représenter la solution globale actuelle, tandis que la Convention des Nations Unies de 2004 n'est pas encore entrée en vigueur. En conséquence, c'est autant que possible le droit coutumier international sur l'immunité des Etats qui doit être appliqué, et qui est en vérité amplement reflété et retranscrit dans les Conventions susmentionnées.

ii) Immunité de l'Union européenne

Une première question à envisager est celle de savoir si la Communauté européenne en tant qu'organisateur responsable de GALILEO serait couverte par l'immunité comme le serait un Etat,

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[21] Voir articles 3 et 9 de la Convention de Paris; Art. IV de la Convention de Vienne.

[22] Ci-après respectivement "Convention de Bâle de 1972" et "Convention des Nations Unies de 2004" ; mais il faut remarquer que certaines conventions internationales portant sur des questions spécifiques traitent également la question de l'immunité de l'Etat et prévalent sur les deux Conventions générales sur l'immunité des Etats. Voir là encore les exemples des Conventions nucléaires : article 13(e) de la Convention de Paris ; article XIV de la Convention de Vienne.

[23] Cette Convention n'est en vigueur que pour les Etats suivants : Allemagne, Autriche, Belgique, Chypre, Luxembourg, Pays-Bas, Royaume-Uni et Suisse.

devant les tribunaux de pays extérieurs à l'UE [24]. L'opinion majoritaire est que la Communauté – tout comme les organisations internationales – jouit d'immunité tout autant que ses Etats membres [25]. Cette interprétation n'est toutefois pas entérinée dans la définition de l' "Etat" à l'article 2(1)(b) de la Convention des Nations Unies de 2004.

iii) Immunité pour actes souverains

En vertu du droit international coutumier sur l'immunité des Etats qui a aussi été adopté par les deux Conventions susmentionnées, il est essentiel de déterminer si l'Etat agit en tant que puissance publique ("*acta jure imperii*") ou comme une personne privée ("*acta jure gestionis*") [26]. L'exception de l'immunité de l'Etat peut être invoquée pour les actes accomplis sous le premier régime, mais non pas sous le deuxième. Lorsque l'immunité est reconnue, elle s'applique non seulement à l'Etat lui-même, ou dans le cas de l'UE à la Communauté, mais également aux subdivisions de l'Etat ou de la Communauté "habilitées à accomplir des actes dans l'exercice de l'autorité souveraine" [27].

Selon l'avis général, la limite entre les deux types d'activités doit être tracée en fonction du caractère objectif de l'activité [28]. Elle dépend donc de la nature de l'opération mais également du but pour lequel une infrastructure gérée par une entité publique telle que GALILEO est utilisée. Comme on l'a vu, GALILEO est appelé à servir différents objets et programmes. En conséquence, pour chacun de ces programmes, la question de l'immunité étatique doit être examinée séparément : pour les services commerciaux (CS) il est à peu près certain que la Communauté ne peut invoquer l'immunité. Pour les services de sauvetage (SoL) et autres services semblables spécialisés, par exemple pour la police, il est en revanche probable – si ce n'est certain – que la Communauté pourra invoquer l'immunité devant les tribunaux d'autres pays lorsque le dysfonctionnement du système sera la cause de dommages. En effet, la fourniture de services de sauvetage sert des buts qui relèvent de façon régulière et fondamentale de l'activité publique, même si des organisations privées peuvent également fournir de tels services. Pour ce qui est des services ouverts (OS) réalisés dans l'intérêt d'un public large, il n'est pas possible de savoir si l'immunité pourrait être accordée. Les tribunaux des différents pays pourraient avoir une position divergente sur ce point.

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[24] A l'intérieur de l'UE, les actes souverains de la Communauté ou de ses institutions ou organes peuvent être attaqués conformément aux dispositions du Traité CE.

[25] *SIMMA/VEDDER*, in: Grabitz/Hilf (eds.), "Das Recht der Europäischen Union" (ouvrage à feuillets mobiles, octobre 2007) - Art. 281 EGV no. 17 *et seq*. avec de nombreuses références. La même distinction est faite dans les conventions internationales portant sur des questions spécifiques. Un exemple en est la Convention HNS de 1996, dont l'article 4(6) dispose qu' "en ce qui concerne les navires appartenant à un Etat partie et utilisés à des fins commerciales, chaque Etat est passible de poursuites devant les juridictions visées à l'article 38 et renonce à toutes les défenses dont il pourrait se prévaloir en sa qualité d'Etat souverain."

[26] A ce sujet voir BROWNLIE, *Principles of Public International Law* (6th ed. 2003) 335 *et seq*.; STEIN/VON BUTTLAR, *Völkerrecht* (11th ed. 2005) no. 717 *et seq*.

[27] Voir la définition dans l'article 2(2) de la Convention des Nations Unies de 2004 ; dans le même sens, l'article 27 de la Convention de Bâle de 1972.

[28] Voir dans ce sens la définition expresse de l'article 2(2) de la Convention des Nations Unies de 2004 ; également, par exemple la jurisprudence de la Cour constitutionnelle fédérale allemande (Bundesverfassungsgericht – BVerfG) Entscheidungen (BVerfGE) 16, 27; BVerfGE 46, 362; STEIN/VON BUTTLAR no. 719. Certaines lois en matière d'immunités spéciales que certains Etats ont introduites suivent la même ligne : voir par ex. aux Etats-Unis d'Amérique le *Foreign Sovereign Immunity Act* (sect. 1603 (d) où sont définis les actes "commerciaux").

iv) Question de savoir si les actions en indemnisation seraient soumises à l'immunité

Tant la Convention de Bâle de 1972 que la Convention des Nations Unies de 2004 prévoient qu'un Etat contractant ne peut invoquer son immunité lorsqu'il fait l'objet d'une action en indemnisation pour des dommages causés à une personne dans un autre Etat contractant si le dommage est imputable au premier Etat et si l'auteur du dommage était situé dans le second Etat au moment où le dommage a été causé [29]. Il n'est pas établi que cette règle constitue déjà une règle du droit coutumier international. En tout cas il sera rare que ces conditions soient réunies dans les cas du type ici débattu.

v) Evaluation

En conclusion, les règles actuelles sur l'immunité des Etats ne sont pas dépourvues d'incertitudes. Des victimes de dommages par suite d'un dysfonctionnement de systèmes globaux de navigation par satellite tels que GALILEO se trouveraient exposées au risque élevé que l'Etat d'exploitation ou la Communauté ou son agence compétente, en tant que gestionnaire du système, n'encourent aucune responsabilité en raison de l'exception de l'immunité étatique.

b) Compétence internationale

i) Fondement juridique

Comme on l'a vu, le tribunal compétent pour connaître d'une action en indemnisation devrait être déterminé au cas par cas pour chaque défendeur potentiel. Les règles applicables en matière de compétence juridictionnelle pourraient être contenues dans des instruments internationaux (des conventions internationales mais également des règlements de l'Union européenne), ou bien être les règles nationales autonomes. Pour ce qui est des règles de compétence dans des instruments spécialisés, s'il n'y a pas actuellement de convention internationale couvrant la responsabilité pour les dommages résultant de services satellitaires, en revanche des règles de compétence harmonisées au niveau régional pourraient trouver application : c'est le cas en Europe où le Traité CE prévoit certaines règles de compétence spéciale, et où le Règlement CE 44/2001/CE du Conseil concernant la compétence judiciaire, la reconnaissance et l'exécution des décisions en matière civile et commerciale (Règlement Bruxelles I) [30] ainsi que l'instrument qui l'a précédé, la Convention de Bruxelles de 1968 [31], et la Convention de Lugano de 1988 [32] (toutes deux sur le même sujet) établissent un cadre général. Le régime Bruxelles-Lugano établit des règles aussi sur la compétence pour les actions en indemnisation. Ces règles ne sont impératives que pour ce qui est des tribunaux situés dans le ressort territorial où s'applique le régime Bruxelles-Lugano.

Tous les instruments susmentionnés et aussi les règles nationales de compétence permettent au demandeur de porter l'action devant le tribunal du lieu du défendeur, et ce conformément à la maxime universellement reconnue "*actor sequitur forum rei".* Il se trouvera donc au moins un tribunal compétent au lieu du siège ou du domicile du défendeur. Cela signifie que chaque intervenant dans la chaîne des services satellitaires peut être, et souvent doit être, attrait au lieu où il a son siège. Toutefois cette règle de base doit être complétée par les règles additionnelles applicables en matière de compétence juridictionnelle.

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[29] Article 12 de la Convention des Nations Unies sur l'immunité des Etats; article 11 de la Convention de Bâle.

[30] Le Règlement est directement applicable dans tous les Etats membres de l'UE sauf le Danemark.

[31] Cette Convention s'applique encore pour le Danemark.

[32] Cette Convention est applicable dans la plupart des Etats membres de l'UE et aussi en Islande, en Norvège et en Suisse.

ii) Compétence juridictionnelle pour les actions intentées contre l'UE

Il existe des règles particulières en matière de compétence juridictionnelle pour les actions en indemnisation intentées contre la Communauté européenne même si les dommages sont causés par des fonctionnaires ou des agences de la Communauté [33]. Si l'action est fondée sur un contrat qui renferme une clause conférant compétence à la Cour de Justice des Communautés européennes, alors en vertu de l'article 238 du Traité CE, la CJCE est exclusivement [34] compétente. La procédure doit être intentée à Luxembourg. En l'absence d'une telle clause de prorogation de for, les dispositions nationales en matière de compétence juridictionnelle s'appliquent (article 240 du Traité CE). Dans les Etats membres de l'UE, le Règlement Bruxelles I donne compétence en matière contractuelle au siège de la Communauté à Bruxelles [35] et au lieu où les services ont été ou auraient dû être fournis [36]. Il est assez probable que les services commerciaux (CS) de GALILEO soient habituellement fournis au siège ou au domicile du client (et demandeur), lieu où les signaux seront certainement reçus pour être ensuite utilisés. Les demandeurs devraient donc pouvoir choisir entre différents tribunaux compétents.

Les tribunaux dans des pays extérieurs au régime de Bruxelles-Lugano suivent leurs propres règles de compétence lesquelles, pour la matière contractuelle, pourraient également prévoir d'intenter l'action au lieu d'exécution du contrat.

Des règles de compétence spéciales s'appliquent aussi pour les actions non contractuelles à l'encontre des Communautés européennes. En vertu des articles 235 et 288 (2) du Traité CE, la Cour de justice (Tribunal de première instance) est compétente pour statuer sur de telles actions si le dommage a été causé dans l'exercice des pouvoirs de la Communauté et contrevient au droit du demandeur [37]. Là encore, la compétence de la Cour est exclusive [38]. Et là encore, les tribunaux dans des pays extérieurs au régime de Bruxelles-Lugano appliqueront leurs propres règles de compétence pour les actions non contractuelles (voir également ci-dessous, sous *iv*).

iii) Compétence pour les actions contractuelles

Pour toutes les autres actions contractuelles (hormis celles à l'encontre de l'UE ci-dessus étudiées), les règles générales de compétence s'appliqueront. Au sein du régime de Bruxelles-Lugano, les tribunaux d'un pays sont compétents lorsque le défendeur est domicilié dans ce pays (ce qui signifie au siège du fournisseur de service) [39] ou lorsque les services y ont été ou auraient dû y être fournis, à condition que ces lieux soient situés dans des Etats membres du régime de Bruxelles-Lugano [40]. Le demandeur peut choisir entre différents tribunaux. A l'extérieur du régime

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[33] Voir KARPENSTEIN, in: *Grabitz/Hilf* (eds.), *Das Recht der Europäischen Union* (looseleaf, October 2007) Art. 238 EGV no. 8 *et seq*.

[34] *Idem*, Art. 238 EGV no. 13.

[35] Cela résulte des articles 2 et 60 du Règlement de Bruxelles I. Bruxelles doit aussi être considérée comme le siège habituel des agence de l'UE qui réalisent les activités de l'UE.

[36] Article 5 no. 1, 2ème alinéa du Règlement Bruxelles I.

[37] L'article 288 (2) du Traité CE ne mentionne pas la condition que le demandeur puisse invoquer la violation d'un droit lui appartenant, mais la CEJ a toujours interprété cette disposition dans ce sens : voir ECJ [1992] ECR I-2533 (C-55/90, *Cato*).

[38] Voir par exemple CEJ [1979] ECR 623 (Affaire 101/1978, *Granaria*).

[39] Voir article 2 du Règlement Bruxelles I; article 2 de la Convention de Bruxelles et article 2 de la Convention de Lugano.

[40] Article 5(1) 2ème alinéa du Règlement Bruxelles I. En vertu de l'article 5(1) de la Convention de Bruxelles et l'article 5(1) de la Convention de Lugano, le lieu de l'exécution doit tout de même être déterminé selon le

Bruxelles-Lugano, les droits nationaux de la procédure permettent en général d'intenter l'action au lieu du défendeur, et souvent aussi au lieu de l'exécution ou même dans un lieu où le rattachement est encore plus faible [41]. Là encore, le demandeur peut choisir entre les différents tribunaux compétents.

iv) Compétence pour les actions non contractuelles

Egalement pour les actions non contractuelles, le régime de Bruxelles-Lugano permet à la victime de choisir le tribunal : la victime peut intenter l'action soit devant les juridictions du pays où est domicilié le défendeur [42] soit au lieu où le fait dommageable s'est produit [43] ou risquait de se produire [44]. Le lieu du fait dommageable peut être aussi bien le lieu où l'exploitant ou auteur du dommage a agi que celui où la victime a subi le préjudice [45]. Si ces lieux sont dans des pays différents (à condition toutefois qu'ils soient des Etats membres du régime Bruxelles-Lugano), le demandeur pourra choisir entre les tribunaux de ces pays [46].

A l'extérieur du régime de Bruxelles-Lugano, les règles nationales de compétence pour les actions non contractuelles varient très largement entre les pays. Des exemples empruntés aux Etats-Unis d'Amérique, à la Russie et à l'Inde suffiront à le montrer. Aux Etats-Unis d'Amérique, la compétence des tribunaux civils relève de la compétence des états. Ils sont susceptibles d'avoir une compétence internationale dans des actions non contractuelles généralement si le défendeur a agi dans le pays du for [47] mais aussi si le fait dommageable commis à l'extérieur de l'état du for a produit des effets dans celui-ci, de façon intentionnelle ou raisonnablement prévisible [48]. Ainsi, des contacts assez aléatoires peuvent suffire à fonder la compétence internationale non contractuelle des juridictions américaines. En revanche, le demandeur peut toujours intenter l'action au domicile du défendeur. En Russie, le demandeur peut choisir entre les juridictions du lieu du domicile du défendeur, du lieu où le fait a eu lieu, ou de celui où le dommage a été subi [49]. En Inde, le défendeur peut être attrait devant la juridiction de son domicile, mais également du lieu où le fait est survenu [50].

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droit applicable; pour une discussion de ces questions, cf. MANKOWSKI, in: *Magnus/Mankowski* (eds.), *Brussels I Regulation* (2007) Art. 5 no. 128 *et seq*.

41 Voir en particulier les règles dites "*long-arm statutes*" de plusieurs états américains.

42 Article 2 du Règlement Bruxelles I, et des Conventions de Bruxelles et de Lugano.

43 Article 5(3) du Règlement Bruxelles I, et des Conventions de Bruxelles et de Lugano.

44 Seulement l'article 5(3) du Règlement Bruxelles I.

45 *Cf.* ECJ [1976] ECR 1735 (C 21/76, *Handelswerkerij G.J. Bier v. Mines d'Alsace de Potasse*).

46 *Cf. idem*. Dans le cas exceptionnel où un demandeur subirait un dommage dans des Etats (membres) différents, il est probable que la solution de l'affaire Shevill s'appliquerait. Selon cette dernière, le demandeur peut demander réparation sur le fondement extra contractuel dans chaque Etat seulement dans la mesure des dommages subis dans cet Etat. L'indemnisation pour la totalité du dommage subi ne peut être demandée qu'au domicile du défendeur (voir CJE [1995] ECR I-415 (C-68/93, *Shevill v. Press Alliance SA*).

47 See *World-Wide Volkswagen Corp. v. Woodson*, 444 US 286, 100 S. Ct. 559 (1980); § 27 *Restatement Second on Conflict of Laws*.

48 *Cf.*, par ex. *Kaiser Aetna v. I.C. Deal*, 86 Cal. Ap. 3d 896; 150 Cal. Rptr. 615 (1978); *Moon Carrier v. Reliance Insurance Col*, 153 N.J. Super. 312, 379 A. 2d (1977); également : § 37 *Restatement Second on Conflict of Laws*.

49 Voir l'article 247 du Code de l'arbitrage (le code de procédure pour les cas commerciaux).

50 Sec. 19 et 20 du code de procédure civile ; voir aussi PARAS DIWAN, *Private International Law* (3rd ed. 1993) 569 s.

v) Evaluation

L'examen réalisé montre que la détermination du for compétent n'est pas chose aisée. D'une part, les demandeurs ont souvent le choix du lieu où attraire le défendeur : soit au domicile de ce dernier, soit au lieu où le fait dommageable s'est produit, soit encore au lieu où le dommage a été subi si ces lieux sont dans des Etats différents. D'autre part en ce qui concerne des dommages causés par le dysfonctionnement de systèmes globaux de navigation par satellite, il sera le plus souvent difficile de situer le fait dommageable dans un pays particulier, soit parce que la cause précise du dysfonctionnement sera inconnue, soit si la cause est le dysfonctionnement du satellite, le fait dommageable ne pourra être rattaché à aucun Etat.

Si la situation juridique actuelle permet aux demandeurs de faire du *forum shopping*, cela est accepté au regard de l'intérêt des victimes. Mais en cas de dommages de proportions catastrophiques avec des fonds limités pour le(s) défendeur(s), la possibilité de *forum shopping* peut aller à l'encontre de l'intérêt de l'ensemble des victimes car on assisterait très probablement à une course entre les victimes devant les tribunaux de chacun des pays où un dommage aura été subi, et le premier demandeur à intenter l'action serait probablement le mieux indemnisé avec pleine réparation. Par ailleurs les défendeurs potentiels, notamment les fournisseurs de services, seraient bien en peine de prévoir les actions à leur encontre dans de nombreux pays différents, et de s'y préparer. En outre les défendeurs devraient engager des coûts accrus pour faire face aux procédures, et cela diminuerait les fonds disponibles. La "canalisation des actions" consistant à regrouper toutes les actions dérivées d'un même événement devant la même juridiction – comme c'est le cas par exemple dans les conventions international de droit nucléaire [51] – serait une solution possible.

c) Détermination de la loi applicable

i) Considérations d'ordre général

Il n'y a pas que la détermination du tribunal ou des tribunaux compétents qui pose problème. Une fois le tribunal compétent saisi de l'affaire, il doit déterminer la loi applicable si le différend contient un élément d'extranéité, ce qui dans le domaine qui nous occupe constitue plutôt la règle que l'exception en raison des effets globaux des systèmes de navigation par satellite, et des effets globaux de leur dysfonctionnement.

Tout comme pour les règles de compétence, les règles de conflit de lois pour la détermination de la loi applicable exigent que l'on distingue entre les actions contractuelles et extra contractuelles. Bien qu'il n'existe pas de convention universelle qui unifie les règles de conflit de lois pour ces questions, il existe quelques instruments régionaux d'unification pertinents: dans la matière contractuelle – ici de moindre importance – la Convention de Rome de 1980 et son successeur, le Règlement Rome I [52], ainsi que la Convention interaméricaine sur la loi applicable aux contrats internationaux de Mexico de 1994 [53], et dans le domaine du droit extra contractuel, le Règlement Rome II [54]. En dehors du champ d'application de ces instruments, ce sont les différentes règles nationales de conflit qui s'appliquent, avec des contenus assez divergents.

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[51] Voir l'article 13 de la Convention de Paris ; article XIV de la Convention de Vienne.

[52] Le Règlement Rome I est encore à l'état de projet mais sera achevé dans les prochains mois et entrera probablement en vigueur en 2009.

[53] A ce jour, cette Convention n'est en vigueur qu'au Mexique et au Venezuela.

[54] Le Règlement Rome II entrera en vigueur dans les Etats membres de l'UE (sauf au Danemark) le 11 janvier 2009.

ii) Règles de conflit en matière contractuelle

Les instruments internationaux [55] et les règles nationales de conflit [56] permettent habituellement aux parties à un contrat international de choisir la loi applicable. En l'absence de choix, des solutions différentes sont prévues. La Convention de Rome et le Règlement Rome I désignent la loi du lieu de la partie qui fournit la prestation caractéristique [57]**.** En vertu de la Convention de Mexico "le contrat est régi par la loi de l'Etat avec lequel il présente les liens les plus étroits" [58], ceux-ci devant être déterminés "en tenant compte de tous les facteurs objectifs et subjectifs identifiés dans le contrat" ainsi que "des principes généraux du droit commercial international …" [59].

Les règles nationales de conflit déterminent le droit des contrats objectivement applicable, en ayant recours au siège de la partie qui fournit la prestation caractéristique [60], ou en appliquant une approche combinant différents facteurs regroupant et pesant les différents rattachements pertinents [61], ou encore en retenant la loi du lieu de l'exécution du contrat [62] ou de conclusion du contrat [63].

iii) Règles de conflit en matière extra-contractuelle

Au niveau régional, le Règlement Rome II désigne la loi "du pays où le dommage survient" comme étant généralement applicable aux obligations non contractuelles internationales [64], mais elle désigne également des règles plus spécifiques pour la responsabilité du fait des produits [65] et les dommages environnementaux.

Au niveau des règles nationales de conflit de lois, on trouve encore une large variété de solutions. Un principe général largement accepté désigne la loi du pays où l'événement a eu lieu (*lex loci delicti*). Mais le lieu du fait dommageable peut être soit celui où l'auteur du fait a agi [66], soit celui où la victime a subi le dommage. Le délit doit pouvoir être poursuivi aussi bien dans le pays où il a été commis que dans celui où il a servi de fondement à l'action [67]. En particulier aux Etats-Unis il est fondamental de déterminer avec quel pays le fait dommageable et les parties ont les liens les

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55 Article 3 de la Convention de Rome et article 3 du Règlement Rome I; articles 7 et 8 de la Convention de Mexico.

56 Voir par exemple pour la Russie: Art. 1254 du Code Civil de la Fédération de Russie.

57 Article 4 de la Convention de Rome et du Règlement Rome I.

58 Article 9 de la Convention de Mexico.

59 *Idem*.

60 Par exemple en droit russe: article 1255 du Code Civil de la Fédération de Russie.

61 Par exemple le droit des différents états américains: voir par exemple l'article 3537 du Code Civil de la Louisiane (qui a codifié cette approche).

62 Voir par exemple l'article 834 (2) du Code Civil vietnamien de 1996.

63 Voir en tant qu'exemples qui représentent de nombreux autres: article 19 du Code Civil égyptien; article 7 du Horei japonais.

64 Article 4 du Règlement Rome II (sauf les cas de la loi de la résidence habituelle et de la loi du pays ayant des lois plus étroits).

65 Article 5 du Règlement Rome II (principalement la loi du pays où le produit a été commercialisé).

66 Voir par exemple Chine: § 146(1) Principes généraux de droit civil; aussi YOUNG, *IPRax* 1993, 343 *et seq*.; XU GUOJIAN, *ICLQ* 1991, 684 *et seq*.; également Russie: Article 1219(1) du Code Civil de la Fédération de Russie (tous deux avec certaines exceptions).

67 Voir par exemple l'Inde (qui suit encore l'ancienne règle britannique du double fondement à l'action): voir par exemple *The Kotah Transport Ltd. v. The Jhalawas Bus Service Ltd.*, 1960 Raj.224; aussi, PARAS DIWAN, *supra* note 50, 551 ss., 570.

plus étroits [68], ce qui se fait en appréciant tous les éléments pertinents, en particulier le lieu du préjudice, le lieu du fait dommageable, le domicile, la résidence, la nationalité, l'établissement [69], mais également à la lumière d'autres considérations comme celles posées par le for en la matière, les attentes justifiées des parties, etc. [70].

iv) Evaluation

En cas de préjudice causé par le dysfonctionnement des systèmes globaux de navigation par satellite, il faudra le plus souvent désigner la loi applicable conformément aux règles de droit international privé. A quelques exceptions près dues à une harmonisation limitée, cette loi est principalement de caractère national et varie de pays à pays. Même le bref aperçu présenté ci-dessus montre que ce type de préjudice donne lieu à des règles de conflit assez différentes. En premier lieu, selon que la matière est contractuelle ou non contractuelle. Deuxièmement, même si les actions extra contractuelles au niveau international sont souvent fondées sur le principe du *lex loci delicti*, il existe de nombreuses variations et exceptions à cette règle. Il est clair que, dans les mêmes cas, les différentes règles de conflit ne conduisent pas à la même loi mais produisent des résultats différents, ce qui encourage le *forum shopping*. Il n'est pas rare également que l'on ne puisse prévoir quelle loi régira finalement un cas donné car de nombreuses lois nationales donnent au juge un assez large pouvoir discrétionnaire pour désigner la loi applicable. En cas de catastrophes internationales ou même de catastrophes collectives du type envisagé ici, le système actuel de droit international privé ne répond pas au principe souhaitable selon lequel des cas semblables devraient se voir appliquer une parité de traitement.

d) Règles de droit matériel différentes

i) Considérations d'ordre général

Mis à part les cas très particuliers où des dommages causés par des systèmes globaux de navigation par satellite pourraient être déjà couverts par les quelques conventions internationales existantes [71], ils seront en définitive soumis au droit national contractuel et extra-contractuel. Il n'est ici ni possible ni nécessaire de faire un exposé comparatif complet des droits nationaux en matières contractuelle et extra-contractuelle. Quelques remarques suffiront.

ii) Actions en matière contractuelle

Une action contractuelle en réparation suppose généralement l'inexécution du contrat, un préjudice et une relation de cause à effet entre les deux. Les lois nationales divergent quant à la faute; certains systèmes l'exigent, tandis que d'autres prévoient un régime objectif assorti de certains cas exonératoires [72]. S'agissant de contrats de services, le principe de la faute peut prévaloir. Parfois, la loi nationale applique même expressément l'obligation pour le fournisseur de service qu'il exécutera le service avec une attention et un savoir-faire raisonnables [73], introduisant ainsi un

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68 Voir par exemple *Babcock v. Jackson*, 191 N.E. 2d 279 (N.Y. 1963); *Reich v. Purcell*, 432 P. 2d 727 (Cal. 1967); aussi ROSENBERG/HAY/WEINTRAUB, *Conflict of Law. Cases and Materials* (10th ed. 1996) 520 *et seq.*; SCOLES/HAY, Conflict of Laws (2nd ed. 1994, Suppl. 1995) 570 *et seq.*; également § 145 (1) *Restatement Second on Conflict of Laws*.

69 Voir § 145 (2) *Restatement Second on Conflict of Laws*.

70 Voir § 6 (2) *Restatement Second on Conflict of Laws*.

71 Voir *supra* sous VI. 3.

72 Voir les observations comparatives par MARKESINIS/UNBERATH/JOHNSTON, *The German Law of Contract* (2nd ed. 2006) 444 *et seq*.

73 Voir sec. 13 (anglais) *Sale and Supply of Goods Act* 1982.

critère de faute [74]. Il y a une tendance en matière contractuelle à placer le fardeau de la preuve sur le débiteur qui doit prouver avoir agi avec une attention et un savoir-faire raisonnables [75]. Il y a en outre des différences énormes entre les systèmes juridiques en ce qui concerne le montant de la réparation en matière contractuelle bien que le principe de la réparation intégrale soit en général le principe commun [76].

iii) Actions en matière extra-contractuelle

Le droit général de la responsabilité extra-contractuelle est le plus souvent fondé sur quatre conditions: un préjudice (parfois limité à certains intérêts protégés comme la vie, l'intégrité physique, les biens, etc.); un manquement à une obligation ("*wrongfulness*"); une faute, et un lien de causalité. Le demandeur doit en général prouver toutes ces conditions. Si elles sont réunies, l'indemnisation totale est due (*restitutio in integrum*). Toutefois ces éléments ne sont pas compris partout de la même manière et ne font pas l'objet d'une application uniforme [77].

En règle générale, le régime de responsabilité de base est complété par des normes ou des règles jurisprudentielles de responsabilité objective, en l'absence de faute, pour des activités particulières comportant un danger extraordinaire ou faisant peser des risques démesurés sur les victimes potentielles. Dans un tel régime, seuls des cas limités d'exonération sont reconnus [78]. L'exemple qui était assez largement accepté de la responsabilité du fait des produits [79] pourrait, lui, être en recul dans certaines parties du monde [80]. Selon les cas, les tribunaux ont le pouvoir, ou non, d'appliquer par analogie les dispositions légales en matière de responsabilité objective [81], lesquelles prévoient parfois des montants maximums d'indemnisation. Il existe des divergences assez marquées entre les systèmes juridiques pour ce qui est des chefs de dommages ouvrant droit à indemnisation en droit de la responsabilité extracontractuelle [82], notamment pour ce qui est des dommages environnementaux. Certains pays, les Etats-Unis d'Amérique en particulier, prévoient même l'allocation de dommages-intérêts punitifs.

En ce qui concerne les dommages causés par le dysfonctionnement d'un système global de navigation par satellite, il est probable que la plupart des pays soumettront la mise en cause de la responsabilité du fournisseur à sa faute. Toutefois là où les dommages auraient été causés par des défauts des appareils, c'est le régime objectif de la responsabilité des produits qui devrait s'appliquer.

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74 MARKESINIS/UNBERATH/JOHNSTON, *supra* note 72 445 *et seq*.

75 Voir sur ce point MAGNUS/MICKLITZ, in: *Magnus/Micklitz*, *Liability for the Safety of Services* (2006) 517.

76 Voir les observations comparatives par *Markesinis/Unberath/Johnston*, The German Law of Contract (2nd ed. 2006) 479 *et seq*.

77 Voir les importantes études comparatives sur chaque élément: *Koziol* (ed.), *Unification of Tort Law – Wrongfulness* (1998); *Spier* (ed.), *Unification of Tort Law – Causation* (2000); *Magnus* (ed.), *Unification of Tort Law – Damages* (2001); *Widmer* (ed.), *Unification of Tort Law – Fault* (2005).

78 Pour une étude comparative voir *Koch/Koziol*, in: *Koch/Koziol* (eds.), *Unification of Tort Law – Strict Liability* (2002) 395 et seq.

79 En ce sens en ce qui concerne la Directive européenne sur la responsabilité du fait des produits défectueux de 1985: ECJ [2001] ECR I-3569 (C-203/99, *Henning Veedfald ./. Århus Amtskommune*) no. 15; ECJ, NJW 2006, 1409 (C-402/03, *Skov Æg ./. Bilka Lavprisvarehus A/S*; *Bilka Lavprisvarehus A/S ./. Jette Mikkelsen, Michael Due Nielsen*) Rz. 19.

80 Aux Etats-Unis d'Amérique les erreurs entachant la conception et les mises en garde sont pour l'essentiel soumis aux critères de la négligence : voir § 2 *Restatement (Third) of Torts*: *Product Liability* (1998).

81 *Koch/Koziol*, *supra* note 78, 395 *et seq*.

82 Pour une comparaison voir *Magnus*, in: *Magnus* (ed.), *Unification of Tort Law – Damages* (2001) 185 *et seq*.

iv) Evaluation

Les solutions nationales en matière de responsabilité pour les dommages causés par des activités de services satellitaires telles que celles qui nous occupent ici sont extrêmement variées. Cela portera aussi à des écarts entre les montants d'indemnisation. Selon la loi matérielle applicable, les victimes se verront plus ou moins indemnisées – ou pas du tout – pour les mêmes dommages.

e) Reconnaissance des jugements

Une autre question qui mérite d'être brièvement mentionnée est la reconnaissance et l'exécution des jugements qui prononcent l'allocation d'indemnisation pour des dommages causés par le dysfonctionnement de systèmes globaux de navigation par satellite. C'est là un aspect de grande importance pratique. Si de tels jugements ne peuvent être reconnus et exécutés dans d'autres pays, notamment celui où sont situés les biens du défendeur, l'ensemble de la procédure judiciaire, y compris l'issue positive du jugement, serait rendue inutile.

Actuellement, aucun instrument universel ne régit de façon globale la reconnaissance et l'exécution des jugements. Certaines conventions spécialisées comme les conventions de droit nucléaire [83] traitent de cet aspect et prévoient la reconnaissance et l'exécution des jugements dans les Etats contractants. En outre, plusieurs traités bilatéraux portent sur cette question et encore aujourd'hui, certains Etats ne procèdent à la reconnaissance des jugements étrangers que sur ce fondement [84]. Mais le plus souvent la question relève des règles nationales et parfois régionales applicables dans le pays où la reconnaissance et l'exécution sont cherchées.

Au niveau régional, le Règlement de Bruxelles I s'applique à la reconnaissance et à l'exécution des jugements rendus dans un Etat membre. De tels jugements doivent être reconnus et exécutés dans tous les autres Etats membres, sauf dans un nombre limité de cas tels que pour des motifs d'ordre public ou pour défaut de notification de l'acte introductif d'instance, qui justifient de refuser la reconnaissance [85]. Quant aux Conventions de Bruxelles et de Lugano, elles renferment des règles presque identiques et servent le même but que le Règlement de Bruxelles I.

Au niveau national, il existe des solutions très différentes. En règle générale, le jugement doit être définitif et exécutoire, rendu par un tribunal compétent et ne doit pas être contraire à l'ordre public. Mais parfois la réciprocité est aussi requise [86]. Parfois aussi, toute contradiction avec le droit interne peut faire obstacle à la reconnaissance [87]. Assez souvent il est exigé que le défendeur ait reçu une notification appropriée de la procédure, et ait eu l'opportunité d'être entendu [88].

Cet aperçu montre là encore une grande variété de solutions qui peuvent conduire à ce que les jugements ne soient ni reconnus ni exécutés hors du pays où ils ont été rendus. Pour les activités de nature globale, avec des effets globaux, c'est une situation problématique.

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83 Article 13 (e) de la Convention de Paris; Article XII de la Convention de Vienne.

84 C'était l'ancienne pratique russe.

85 Voir articles 34, 35, 45 du Règlement de Bruxelles I. Là encore, le Danemark n'est pas lié par ces dispositions du Règlement mais par les règles correspondantes de la Convention de Bruxelles.

86 Voir par exemple pour la Chine : les articles 266 et 268 du code de procédure civile de la R.P. de Chine et à ce sujet : JING-PING, in: *Paley*, *International Recognition and Enforcement of Money Judgments* (1994) no. 403.001 *et seq*.; probablement aussi pour la Russie : Cour suprême de la Fédération de Russie, 7 juin 2002, *IPRax* 2003, 356 *et seq*. (en traduction allemande).

87 Par exemple en Inde : voir sec. 13 du Code de Procédure civile; pour un commentaire *cf.* SARKAR, *The Law of Civil Procedure* (10th ed., 2004) 159 et seq.

88 Un exemple est fourni par les Etats-Unis d'Amérique : voir § 98 *Restatement Second on Conflict of Laws*.

VII. Inconvénients de la présente solution et conséquences

En tout premier lieu, l'on doit dire que les services basés sur des systèmes globaux de navigation par satellite – nonobstant leurs grands avantages indéniables – comportent un certain risque de causer dans les pires cas des dommages catastrophiques. Les victimes éventuelles doivent être protégées de façon adéquate contre un tel risque. Le cadre juridique actuel accorde une certaine protection aux victimes éventuelles mais la situation actuelle présente aussi des inconvénients substantiels:

- Les principaux exploitants des systèmes globaux de navigation par satellite sont et seront des Etats de l'Union européenne. Ils pourront probablement dans une certaine mesure opposer l'immunité étatique, de sorte qu'ils ne pourront pas être attraits devant des tribunaux étrangers. C'est là un désavantage pour les victimes potentielles à l'extérieur de l'Etat de l'exploitant.
- En principe, la compétence internationale doit être déterminée séparément pour chaque demandeur au regard de chaque défendeur éventuel et il y aura presque toujours plusieurs tribunaux compétents pour connaître de l'action. La victime pourra choisir entre ces différents tribunaux. A première vue, cela peut sembler être un avantage pour les victimes du fait qu'elles ont souvent la possibilité d'intenter l'action au lieu où le dommage a été subi, à savoir leur propre pays. Mais dans les cas de désastres massifs internationaux, cette possibilité donne lieu à des procès dans plusieurs Etats et augmente les coûts de la procédure pour le(s) défendeur(s), ce qui diminue les fonds disponibles pour le règlement des indemnités. Cela rend en outre impossible d'assurer une répartition juste des actifs entre toutes les victimes. Les premiers à intenter l'action seront mieux placés pour obtenir réparation intégrale. Un autre inconvénient est le fait que les règles de compétence internationale et leur application ne font pas l'unanimité. Il est coûteux en temps et en argent d'établir leur contenu, et même alors les demandeurs peuvent se demander s'ils se sont bien adressés la bonne juridiction.
- Actuellement il sera le plus souvent nécessaire de déterminer la loi applicable sur la base des règles de conflit nationales ou régionales lorsque le dommage est dû à un dysfonctionnement d'un SGNS. En raison de la diversité des solutions, cette phase risque d'être compliquée, longue et coûteuse pour la victime qui prépare son action. En outre, compte tenu de la certaine discrétion dont disposent fréquemment les tribunaux pour déterminer la loi applicable, l'issue est souvent difficile à prévoir. La diversité des règles de conflit nationales et régionales a également pour conséquence que les tribunaux de différents pays appliquent des lois différentes à des cas semblables ce qui là encore renforce le phénomène du *forum shopping.*
- L'issue finale d'une action dépend du contenu du droit matériel applicable. A ce sujet, les solutions nationales données à la question de l'indemnisation des dommages causés par un dysfonctionnement d'un SGNS sont très différentes. Bien souvent aucun droit ne pourra être invoqué si le demandeur n'est pas en mesure de prouver la faute du défendeur. Des différences importantes concernent également les chefs de dommages ouvrant droit à indemnisation et les montants d'indemnisation. Il n'est pas rare que des cas semblables de dommages soient traités de façon différente d'un pays à l'autre. Dans ces conditions les victimes peuvent s'en remettre à la bonne fortune et espérer que le droit national applicable leur soit favorable.
- La reconnaissance et l'exécution à l'étranger des jugements portant sur l'indemnisation des dommages par suite d'un dysfonctionnement d'un SGNS ne vont pas toujours de soi. Dans de nombreux cas, de tels jugements ne sont pas reconnus à l'étranger. La

partie qui gagne le jugement ne peut s'en prévaloir dans le pays étranger où, par exemple, la partie qui succombe pourrait détenir des actifs.

En bref, les règles actuelles sur l'immunité des Etats, sur la compétence internationale, sur la loi applicable, et au fond en ce qui concerne la responsabilité et l'indemnisation, ainsi que la reconnaissance et l'exécution des jugements, ne font pas globalement obstacle à ce que les victimes soient indemnisées en cas de dommages résultant de systèmes globaux de navigation par satellite. Mais en raison des problèmes posés par ces règles et de leur complexité, il peut s'avérer difficile et dans certains cas impossibles pour les victimes de tels dommages de recevoir réparation et pour les défendeurs de prévoir les situations où leur responsabilité pourrait être engagée.

Ces inconvénients sont-ils suffisamment graves pour appeler un changement des règles traditionnelles de droit international privé et de la procédure sur la base desquelles la responsabilité et l'indemnisation pour les dommages dans des situations internationales sont généralement traitées ? La réponse dépend dans une certaine mesure de la gravité considérée des risques des dommages causés par un dysfonctionnement d'un SGNS. Pour certains risques, les règles traditionnelles ont déjà été remplacées par des conventions uniformes, en particulier pour les risques de dommages dérivés de pollution maritime par hydrocarbures, des installations nucléaires, des aéronefs en vol etc. Actuellement, les dommages potentiels dus par un dysfonctionnement d'un SGNS ne peuvent être évalués que sur la base d'hypothèses. Mais comme on l'a dit plus haut, en raison des effets globaux des systèmes globaux de navigation par satellite, il existe un risque de dommages extrêmement élevés qui s'approche des risques pour lesquels les conventions internationales ont été conclues. On peut s'interroger sur la probabilité que de tels événements se produisent en réalité. Mais dans le doute, la prudence commanderait de prendre les mesures raisonnables de précaution, notamment si la réalisation du risque peut ne pas être fréquente mais causer des dommages catastrophiques.

En conséquence, il paraît approprié de rechercher une solution de protection contre les dommages causés par un dysfonctionnement des systèmes globaux de navigation par satellite. On recommande ici à cette fin de conclure une convention universelle sur la responsabilité civile pour les dommages causés par les systèmes globaux de navigation par satellite.

VIII. Propositions possibles

1. Considérations générales

Une convention internationale telle qu'on l'envisage ici ne ferait pas totalement œuvre de précurseur. Comme on l'a vu, il existe des modèles possibles, dont le principal et le plus adapté est le régime international de responsabilité pour les dommages nucléaires. Ce régime a été lui aussi établi en vue de permettre à une nouvelle technologie de se développer dans ce qui était vu comme l'intérêt commun et d'assurer une protection contre les risques inhérents immenses. Si ce régime répond adéquatement aux problèmes évoqués ci-dessus, il peut être repris.

On discutera ci-dessous les solutions possibles aux différents aspects procéduraux et de fond qui ont été évoqués plus haut.

2. L'immunité des Etats

Une éventuelle convention sur la responsabilité des SGNS devrait exclure le recours à l'immunité étatique. Pour ce qui est des activités commerciales des Etats, cette exclusion résulte déjà du droit

coutumier international. Mais dans le domaine qui nous occupe ici, la défense de l'immunité d'Etat devrait aussi être exclue – tout comme pour les conventions nucléaires [89] ou pour la Convention sur la responsabilité internationale pour les dommages causés par les objets spatiaux de 1972 [90] – pour autant que les victimes invoquent des dommages causés par des activités des Etats qui n'ont pas un caractère commercial ou dont la qualification est incertaine. Lorsque des Etats ou des organismes tels que la Communauté européenne établissent des services globaux dont la portée va au-delà de leur territoire souverain, il n'y a pas de raison convaincante de les soustraire à une compétence normale des juridictions étrangères même si ces Etats ou organismes agissent dans un intérêt commun global.

3. Compétence internationale

L'instrument proposé devrait aussi couvrir la compétence internationale. Il devrait – là encore sur le modèle des conventions nucléaires [91] mais également d'autres conventions [92] – prescrire la compétence exclusive au siège de l'exploitant du système global de navigation par satellite qui a causé le dommage. Cela permettrait de canaliser la procédure pour toutes les actions en relation avec ce dommage, devant un seul tribunal. Egalement la répartition ultérieure des actifs disponibles serait réglée par un seul tribunal. Le traitement équitable des victimes, ou selon le cas, des catégories de victimes pourrait être assuré. Ces avantages compensent l'inconvénient que la compétence exclusive du tribunal au lieu du domicile du défendeur oblige les victimes à intenter toujours l'action devant un for étranger. L'inconvénient pourrait être diminué si les exploitants de systèmes globaux de navigation par satellite étaient obligés de nommer un bureau pour les actions dans chaque Etat contractant aux fins de la convention proposée.

L'instrument proposé devrait également assurer sa primauté au regard des dispositions du Traité CE en matière de compétence de la Cour de Justice européenne et du Tribunal de première instance mais pourrait laisser intactes les dispositions concernant les cas purement internes à l'UE.

4. Loi applicable

Une convention internationale sur la responsabilité des SGNS devrait en outre déterminer explicitement la loi applicable pour les questions traitées mais non expressément régies par cet instrument. En général, il devrait s'agir de la loi du siège de l'exploitant du système. Là encore, les conventions nucléaires fournissent un exemple pour une telle solution [93]. La désignation de la loi applicable éviterait les difficultés et les divergences auxquelles les règles de loi applicable différentes pourraient conduire.

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89 Voir article 13(e) de la Convention de Paris ; article XIV de la Convention de Vienne.

90 Cette Convention n'exclut pas explicitement l'exception de l'immunité étatique mais permet les demandes contre des Etats et des organisations intergouvernementales (telles que l'UE) en établissant certaines procédures pour de telles demandes.

91 Voir article 13 (a) de la Convention de Paris; article XI (1) de la Convention de Vienne.

92 D'autres conventions en matière de responsabilité traitent aussi la question de la compétence mais précisent que la compétence exclusive appartient à tous les Etats victimes de dommages par pollution : voir par exemple l'article 9 de la Convention CLC de 1969; article 9 de la Convention hydrocarbures de soute de 2001.

93 Voir article 14(b) de la Convention de Paris; articles I (e) et article VIII de la Convention de Vienne.

5. Droit matériel

i) Considérations d'ordre général

Les dispositions centrales d'un instrument international sur la responsabilité du GNSS devraient être celles se rapportant à la responsabilité et à l'indemnisation. A cet égard, les conventions nucléaires, mais également d'autres conventions en matière de responsabilité civile, telles que la Convention responsabilité objets spatiaux de 1972, la Convention CLC de 1969 (telle qu'amendée par plusieurs Protocoles), la Convention HNS de 1996 ou la Convention de Montréal de 1999 [94] forment le substrat dont peuvent être extrapolés les principes généraux. Ils peuvent et même doivent être utilisés pour les fins qui nous occupent. Nous présentons ci-dessous un premier aperçu des problèmes qui se posent ici et des solutions possibles, mais un examen plus approfondi restera nécessaire.

ii) Définition du champ d'application matériel d'une éventuelle future convention

La première étape nécessaire est la définition du champ d'application matériel de la convention proposée. L'instrument devrait s'appliquer à tout dommage causé par un dysfonctionnement d'un système global de navigation par satellite. Le système global de navigation par satellite doit être entendu tel qu'on la décrit ci-dessus. Il doit inclure aussi les services qui font une utilisation locale ou régionale de ces systèmes, et indifféremment selon que le système est exploité par une entité publique ou une entreprise privée. La définition doit aussi exiger que le dysfonctionnement du système soit à l'origine du dommage. Le dysfonctionnement pourra être dû à un défaut de conception, de fabrication ou d'exploitation du système ou de l'un de ses composants, hormis l'appareil de réception. Ce dernier n'est en effet ni géré ni commandé par l'exploitant du système global de navigation par satellite. Si l'appareil de réception ne fonctionne pas et cause des dommages, l'utilisateur doit s'adresser au vendeur ou au fabricant. Dans un tel cas, les règles en matière de responsabilité des produits fournissent déjà des recours adéquats.

iii) Définition de l'exploitant

Une autre question que devrait traiter un futur instrument est la définition de l'exploitant du système à qui la responsabilité pourrait être imputée (pour ce qui est de la canalisation de la responsabilité sur l'opérateur, voir ci-dessous). L'exploitant devrait être la personne ou l'entité qui est chargée de l'ensemble de la mise en place et de la gestion du système. Dans le cas de GALILEO, c'est la Communauté européenne. Pour le système GPS c'est actuellement les Etats-Unis d'Amérique et pour GLONASS la Fédération de Russie [95]. Il ne serait pas requis que l'exploitant soit le propriétaire du satellite ou des composants au sol du système, ni qu'il ait monté ou construit ces composants. Il suffirait, mais il serait aussi nécessaire, que l'exploitant en ait le contrôle central.

Lorsque les systèmes globaux de navigation par satellite sont gérés en coopération entre deux ou plusieurs Etats ou entités (comme la Communauté européenne), chacun d'eux fonctionnerait comme exploitant à moins que l'un soit l'exploitant principal chargé d'une responsabilité d'ensemble.

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[94] Un aperçu des conventions internationales pertinentes pour les activités GNSS est fait par VAN DER DUNK, "The European Equation: GNSS = Multimodality + Liability", in: *Liber Amicorum Böckstiegel* (2001) 231 *et seq*.

[95] En droit spatial, la solution traditionnelle est que les Etats sont considérés responsables pour tout dommage causé par les activités spatiales ; voir en particulier la Convention responsabilité objets spatiaux de 1972. Selon son article II "l'Etat de lancement a la responsabilité absolue" ; voir aussi VAN DER DUNK, *supra* note 94, 235.

iv) Responsabilité objective

De nombreuses conventions internationales en matière de responsabilité prescrivent la responsabilité objective de la personne responsable [96]. Ce régime est opportunément appliqué par le droit non seulement international mais aussi national [97] aux activités spécifiquement dangereuses qui créent soit des risques élevés, soit des risques étendus pour des groupes larges de personnes, ou des risques auxquels les victimes potentielles sont – souvent par la force des choses – exposées, et qu'elle ne peuvent ni maîtriser ni éviter, ou concernant lesquels la preuve de la faute de l'auteur du risque est difficile ou impossible à apporter. La responsabilité objective ne soumet pas la victime à la nécessité de prouver la faute – intentionnelle ou non – de la personne responsable. Il suffit – mais c'est là une condition nécessaire – que la victime prouve le lien de causalité entre le dommage et l'activité dommageable.

Les risques des systèmes globaux de navigation par satellite peuvent être considérables. Bien que le développement de cette technologie soit hautement souhaitable en raison de ses avantages, il est tout autant souhaitable que les victimes potentielles se voient accorder une protection adéquate contre les risques inhérents. Cet objectif impose d'appliquer le régime de la responsabilité objective pour les GNSS.

v) Exonération

Même les régimes les plus stricts de responsabilité objective admettent certains chefs d'exonération. L'exploitant est généralement exonéré de responsabilité en cas de guerre (y compris de guerre civile) ou de désastre naturel exceptionnel ayant causé le dommage [98]. Parfois le comportement intentionnel ou négligent de la victime peut conduire à une réduction correspondante de sa créance [99]. Egalement, l'acte ou l'omission d'un tiers commis avec l'intention de causer un dommage exonère la personne normalement responsable [100].

Dans le cadre d'un futur instrument sur la responsabilité des systèmes globaux de navigation par satellite, ces cas exceptés de responsabilité devraient être reconnus. L'exploitant du système devrait être exonéré de responsabilité si la cause du dommage était la guerre ou un événement comparable, un désastre naturel ou la conduite d'un tiers avec l'intention de causer un dommage. Pour tous ces cas exceptés, il devrait être également requis qu'ils n'aient pu être ni prévisibles ni évitables. Le comportement fautif intentionnel ou par négligence de la victime devrait réduire ou exclure la créance de celle-ci.

vi) La canalisation de la responsabilité sur l'exploitant

L'une des questions centrales est celle de savoir si la responsabilité civile devrait être canalisée sur l'exploitant du système global de navigation par satellite de telle sorte que les victimes n'aient à intenter l'action qu'à l'encontre du seul exploitant (au sens ci-dessus indiqué) même si d'autres personnes ayant participé à la fourniture de services par le système ont causé le dommage effectif.

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96 Voir par exemple l'article II de la Convention responsabilité objets spatiaux de 1972 ; l'article 3 de la Convention de Paris ; l'article IV de la Convention de Vienne; l'article III de la Convention CLC de 1969 ; l'article 3 de la Convention hydrocarbures de soute de 2001.

97 Voir *Koch/Koziol*, *supra* note 77, 395 *et seq*.

98 C'est là la solution en vertu par exemple de l'article 9 de la Convention de Paris, de l'article IV(3) de la Convention de Vienne, de l'article III (2)(a) de la Convention CLC de 1969.

99 Voir l'article IV(2) de la Convention de Vienne, et l'article III(3) de la Convention CLC de 1969.

100 Voir l'article III(2)(b) de la Convention CLC de 1969.

Le mécanisme de la canalisation est caractéristique du régime des conventions nucléaires [101]. Dans une certaine mesure aussi les conventions en matière de dommages dus à la pollution par les hydrocarbures canalisent la responsabilité sur le propriétaire de navire puisqu'elles excluent la responsabilités des préposés ou mandataires du propriétaire [102]. Il y a deux avantages principaux à un tel mécanisme : les victimes peuvent toujours poursuivre l'exploitant, et lui seul ; ils n'ont pas à rechercher qui, dans le réseau compliqué du système du service, est la personne contre qui intenter l'action ; elles ne risquent pas de s'être trompées de défendeur. La deuxième raison est que seul l'exploitant doit obtenir une assurance globale couvrant tous les dommages potentiels. Tandis que les autres intervenants, sous-fournisseurs ou autres contractants, devront couvrir leur domaine d'intervention seulement (en cas de recours de l'exploitant). Cela permet de rationaliser les services d'assurance, tant dans l'intérêt des victimes que dans celui de tous les intervenants dans la fourniture des services du système [103].

Un argument invoqué à l'encontre de la canalisation de la responsabilité est qu'elle réduirait la motivation des personnes autres que l'exploitant qui auraient pu intervenir dans la survenance du dommage à agir diligemment pour éviter celui-ci [104]. Un tel argument ne serait valable qu'en l'absence de recours de l'exploitant contre ces personnes, et milite donc en faveur qu'un tel recours soit rendu possible.

Un éventuel instrument sur la responsabilité des systèmes globaux de navigation par satellite devrait prévoir la canalisation de la responsabilité sur l'exploitant. Les raisons invoquées à l'appui d'un tel mécanisme dans les conventions nucléaires s'appliquent de la même façon ici. La technologie des systèmes globaux de navigation par satellite et celle employée dans le domaine nucléaire ont des traits en commun qui permettent d'effectuer certains parallélismes. Elles se ressemblent en ce qu'elles font intervenir de nombreux sous-fournisseurs, sous-contractants etc. pour obtenir le produit final, ce qui rend très difficile voire impossible pour les victimes de dommages causés par ces technologies d'identifier précisément la cause et la personne à l'origine du dommage. En outre, les dommages causés par ces technologies sont nécessairement étendus à plus d'un Etat et les montants d'indemnisation en jeu peuvent atteindre des sommes astronomiques.

vii) Chefs de dommages

Un autre point crucial est la délimitation du dommage ouvrant droit à indemnisation. A cet égard, le droit des conventions internationales en matière de responsabilité s'est élaboré progressivement au cours du temps. En particulier, les coûts des mesures conservatoires et des dommages à l'environnement sont maintenant susceptibles d'être indemnisés [105]. Les chefs de dommages suivants sont maintenant reconnus et donnent droit à indemnisation de la victime ou pour le compte de celle-ci : – mort et lésions personnelles – dommages aux biens – préjudice économique dérivant desdits dommages – coûts des mesures de remise en état de l'environnement – coût des mesures conservatoires pour limiter raisonnablement le dommage après la survenance d'un événement – autres préjudices économiques s'ils sont possibles en vertu du droit national

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101 Voir les articles 3, 6 de la Convention de Paris; l'article II de la Convention de Vienne.

102 Voir par exemple l'article III(4) de la Convention CLC.

103 Voir les arguments en faveur de la canalisation dans l'Exposé des Motifs de la Convention de Paris (tel que révisé et approuvé par le Conseil de l'OCDE le 16 novembre 1982) no. 15; voir sur ce point aussi STOIBER/BAER/PELZER/TONHAUSER, *Handbook on Nuclear Law* (2003) 112.

104 Voir *Faure*, "Economic Analysis (of strict liability)" in: *Koch/Koziol* (eds.), *Unification of Tort Law: Strict Liability* (2002) 386.

105 Voir en particulier l'article 1(f) de la Convention sur la réparation complémentaire des dommages nucléaires de 1997 (quoique cette Convention ne soit pas encore en vigueur).

applicable [106]. Un instrument sur la responsabilité des systèmes globaux de navigation par satellite devrait reconnaître ces différents chefs d'indemnisation. Toutefois on préconise que l'instrument devrait éviter des références au droit national et devrait plutôt prévoir la possibilité d'indemniser le préjudice économique pur.

viii) Plafonds d'indemnisation et prescription

De nombreuses conventions internationales en matière de responsabilité et en particulier les conventions nucléaires [107] limitent la responsabilité de la personne responsable à un montant maximum par événement. Elles fixent en outre un délai dans lequel les victimes doivent intenter l'action en indemnisation. Un instrument sur la responsabilité des GNSS devrait lui aussi contenir de semblables limites, et celles des conventions nucléaires pourraient fournir des indications utiles. En ce qui concerne les montants d'indemnisation, on pourrait prétendre qu'ils ne sont pas nécessaires car à l'heure actuelle, seuls les Etats maîtrisent les procédés de GNSS et que leur responsabilité devrait être illimitée puisqu'en cas de désastres d'ampleur catastrophique, ils devraient bien y faire face d'une façon ou d'une autre. Une convention internationale sur la responsabilité des GNSS devrait cependant couvrir la responsabilité des exploitants de systèmes privés qui pourraient à l'avenir gérer de tels systèmes. A l'égard de tels exploitants, il existe de bonnes raisons pour soutenir le principe de la limitation des montants d'indemnisation, et leur fournir une protection contre une responsabilité trop étendue, pour laquelle aucune couverture d'assurance ne serait disponible [108].

ix) Preuve

La preuve relève à la fois du droit matériel et du droit de la procédure. Le fardeau de la preuve est en général considéré être une affaire de droit matériel, tandis que les règles et principes en matière de preuve appartiennent au droit procédural. En général ce dernier ne fait pas l'objet d'unification par voie de conventions internationales et ne devrait donc pas être réglementé par une convention sur la responsabilité des systèmes globaux de navigation par satellite. En revanche, tout comme dans les autres conventions en matière de responsabilité, la charge de la preuve devrait être expressément prévue [109]. Dans un futur instrument sur la responsabilité des systèmes globaux de navigation par satellite, les victimes devraient avoir à charge de prouver leur préjudice, et le lien de causalité avec le dysfonctionnement du système global de navigation par satellite. L'exploitant devrait avoir la charge de prouver le cas excepté. Toute faute ayant contribué au dommage devrait être invoquée et prouvée par l'exploitant.

x) L'obligation de souscrire une assurance

Les conventions en matière de responsabilité nucléaire et de responsabilité maritime pour la pollution par hydrocarbures et du fait de transport de substances dangereuses prévoient spécifiquement que l'exploitant ou le propriétaire de navire – qui a la maîtrise de la source potentiellement dangereuse – est tenu de souscrire une assurance ou d'obtenir une autre garantie financière pour couvrir sa responsabilité éventuelle avant d'entreprendre l'activité

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[106] Voir la liste dans l'article 1(f) de la Convention sur la réparation complémentaire des dommages nucléaires de 1997; la Convention permet même l'indemnisation du préjudice économique résultant d'une dégradation importante de l'environnement (Art. 1(f)(v)).

[107] Article 7 de la Convention de Paris; article V de la Convention de Vienne.

[108] Pour ces raisons dans le cadre du droit nucléaire, voir STOIBER/BAER/PELZER/TONHAUSER, *Handbook on Nuclear Law* (2003) 113.

[109] Voir par exemple, l'article Art. III (2) et (3) de la Convention CLC; l'article IV (2) de la Convention de Vienne.

correspondante [110]. Dans certains cas, un système de fonds a été prévu, auquel cas le propriétaire de navire doit contribuer pour un certain montant, en substitution ou en complément de l'assurance. Le montant est fonction du risque. Le fonds indemnise les victimes envers lesquelles le propriétaire est responsable [111]. L'assurance obligatoire, le système du fonds ou d'une autre garantie excluent le risque – autrement très grave – que l'exploitant ou le propriétaire de navire dont la responsabilité a été mise en cause ne puisse pas honorer dans leur totalité les créances des victimes.

Une convention sur la responsabilité des systèmes globaux de navigation par satellite devrait aussi renfermer des mécanismes assurant que l'opérateur de système responsable est capable d'honorer toutes les créances jusqu'au montant maximum de responsabilité prescrit. Aussi longtemps que les seuls exploitants de systèmes sont des Etats ou la Communauté européenne, de tels mécanismes peuvent paraître superflus. Mais là encore, la convention proposée doit envisager les cas où des entreprises privées deviendraient exploitants de systèmes, et pour de tels cas, des mesures de protection sont absolument appropriés. L'expérience [112] des Fonds internationaux d'indemnisation pour les dommages dus à la pollution par les hydrocarbures peut encourager à constituer un fonds global similaire pour l'indemnisation des dommages causés par les activités des GNSS. Les moyens nécessaires au fonctionnement du fonds devraient être fournis par les exploitants de systèmes.

Les conventions existantes en matière de responsabilité accordent généralement aux victimes un droit d'action direct contre le système d'assurance, contre le fonds ou le fournisseur d'une autre garantie financière [113].

xi) Recours

La convention proposée ne devrait pas faire obstacle aux droits de recours de l'exploitant contre les tiers en vertu du droit applicable. La canalisation exclut des actions directes des victimes contre des tiers, qui seraient en l'absence d'un tel mécanisme, responsables pour le tout ou pour partie du dommage causé par les GNSS. Il n'y a pas de raison d'exonérer ces personnes de leur responsabilité. En conséquence, la convention proposée devrait s'appliquer sans préjudice d'éventuelles actions récursoires de l'exploitant du système contre ces personnes [114].

xii) Relations avec d'autres conventions

Un futur instrument devrait également résoudre les relations avec d'autres conventions existantes ou futures. En cas de conflit entre le futur instrument et une autre convention, la solution générale devrait être que les conventions spécialisées – telles par exemple que les conventions nucléaires – devraient prévaloir pour autant qu'elles sont aussi applicables. L'existence effective d'un conflit

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110 Comparer : l'article 10 de la Convention de Paris; l'article VII de la Convention de Vienne ; l'article 7 de la Convention hydrocarbures de soute de 2001.

111 Avoir l'article V de la Convention CLC de 1969 en relation avec la Convention internationale de 1971 portant création d'un fonds international d'indemnisation pour les dommages dus à la pollution par les hydrocarbures, 1971; les articles 9 et 13 *et seq*. de la Convention HNS de 1996.

112 Pour cette expérience, voir RENGER, "Recht und Praxis der Haftung und Entschädigung für Ölverschmutzungsschäden auf See", in: *Koch/Willingmann* (eds.), *Großschäden – Complex Damages* (1998) 151 *et seq*.

113 Voir l'article 6(1) de la Convention de Paris et l'article II(7) de la Convention de Vienne (toutefois, le deux Conventions ne permettent une action directe que si le droit national applicable prévoit une telle action); les articles V et VI de la Convention CLC; l'article 14 de la Convention HNS.

114 C'est également la solution des conventions internationales en matière de responsabilité : voir par exemple l'article Art. 3(6) de la Convention hydrocarbures de soute de 2001; l'article 6(f) de la Convention de Paris (avec certaines limites).

devrait être établi à l'issue d'une procédure d'interprétation. Par exemple, un conflit entre la future convention sur la responsabilité des GNSS avec la Convention sur la responsabilité internationale pour les dommages causés par les objets spatiaux de 1972 serait probablement à écarter. En effet, on peut supposer que cette dernière Convention (dont l'article II prévoit : "le dommage causé … à la surface de la Terre ou aux aéronefs en vol") couvrira seulement les cas où le dommage est causé par des objets spatiaux matériels qui percutent des aéronefs, des personnes ou des objets au sol, et ne s'applique pas lorsque des signaux émis par des objets spatiaux causent des dommages [115].

6. Reconnaissance des jugements

Comme on l'a vu ci-dessus, il n'est pas toujours acquis qu'un jugement rendu dans un pays soit reconnu dans un autre pays. Il y a donc un avantage considérable pratique à prévoir dans des conventions internationales telles que les conventions nucléaires [116] que des jugements portant sur les matières qu'elles couvrent devront être reconnus et exécutés dans tous les Etats contractants et que la reconnaissance et l'exécution ne pourront être refusés que pour un nombre très limité de motifs (atteinte au droit d'être entendu et ordre public) [117]. La même solution est souhaitable pour une convention internationale sur la responsabilité des GNSS.

7. Autres questions d'ordre procédural

D'autres aspects de nature procédurale devraient être envisagés pour un instrument international portant sur la responsabilité des GNSS. On se limitera ici à en faire mention. Pour que les victimes aient un accès facilité à l'indemnisation, il faudrait envisager d'obliger les fournisseurs de systèmes d'établir ou au moins de désigner un Bureau pour le dépôt des demandes dans chaque Etat contractant. Aussi longtemps que des Etats ou la communauté européenne sont les seuls exploitants de GNSS, un service de leur représentation diplomatique dans chaque Etat contractant pourrait remplir cette fonction. Pour les exploitants privés futurs, il pourrait suffire de désigner un cabinet d'avocats dans chaque Etat contractant à la convention proposée comme Bureau pour le dépôt des demandes.

Une autre question est celle de savoir si une forme de médiation devrait être rendue obligatoire avant que les victimes intentent une action devant un tribunal. Dans l'affirmative, on pourra réfléchir à la constitution d'un centre global de médiation pour les demandes dérivant d'activités de GNSS. Si la décision était prise d'instituer un fonds, un centre de médiation – indépendant – pourrait être établi au même lieu où se trouvera l'organisation du fonds.

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115 En ce sens EPSTEIN, "Global Positioning System (GPS): Defining the Legal Issues of its Expanding Civil Use", 61 *Journal of Air Law and Commerce* 243 *et seq*., 269 *et seq*. (1995) avec d'autres références; HURWITZ, *State Liability for Outer Space Activities in Accordance with the 1972 Convention on International Liability for Damage Caused by Space Objects* (1992) 18 *et seq*.; mais pour une opinion contraire voir par exemple LARSEN, "Legal Liability for Global Navigation Satellite Systems", in *Proceedings of the Thirty-Sixth Colloquium on the Law of Outer Space* (1993) 69 et seq.

116 L'article 13(d) de la Convention de Paris; l'article XII de la Convention de Vienne. Des règles semblables sont énoncées par la Convention CLC de 1969 (Art. X) et la Convention HNS de 1996 (Art. 40).

117 Voir comme exemple l'article 12(1)(a) – (c) de la Convention de Vienne.

VIII. Conclusions et recommandation

Les défis globaux appellent des questions globales. La technologie de pointe des systèmes globaux de navigation par satellite comporte des effets globaux tant positifs que négatifs. Les risques créés par cette technologie sont considérables. Le cadre juridique actuel n'apporte pas de réponse satisfaisante à ce défi. Le régime actuel est compliqué, entaché d'incertitudes et peut laisser les victimes sans indemnisation sans juste raison. Pour faire face à ces inconvénients, pour fournir des garanties contres les risques posés par cette nouvelle technologie et pour faciliter son acceptation, une convention internationale sur la responsabilité civile pour les dommages causés par les systèmes globaux de navigation par satellite devrait être conclue. Cette convention devrait prendre comme modèle las conventions sur la responsabilité pour les dommages nucléaires. Cet instrument devrait essentiellement avoir les caractéristiques suivantes : il devrait établir un régime de responsabilité objective pour l'exploitant du système dont le dysfonctionnement a causé le dommage en question. Il devrait en outre canaliser la responsabilité sur l'exploitant, définir la notion de dommages comme incluant les dommages à l'environnement et les coûts des mesures conservatoires, établir des plafonds de responsabilité et des délais pour intenter l'action, et assurer que les exploitants des systèmes globaux de navigation par satellite disposent d'une assurance ou autre couverture suffisante pour couvrir leur montant de responsabilité. La convention devrait aussi traiter d'aspects procéduraux connexes, tels que des questions d'immunité, de compétence, et de reconnaissance et d'exécution des jugements.

La convention envisagée fournirait une réponse globale appropriée au défi global posé par GALILEO et autres systèmes semblables.

ANNEXE VI

Dr. Hans-Georg Bollweg **Berlin, 31 March 2008**

Initial considerations

regarding the feasibility of an international UNIDROIT instrument to cover liability for damage caused by malfunctions in global (navigation) satellite systems

I. Reasons for the considerations

1. At the suggestion of the Italian government the UNIDROIT Governing Council held initial consultations at its 85th session in 2006 on the inclusion of a new project in the UNIDROIT Work Programme: The elaboration of an international instrument to cover liability for damage caused by malfunctions in global (navigation) satellite services.

2. At the 86th session of the UNIDROIT Governing Council in 2007, Governing Council member Professor Carbone presented a feasibility study (C.D. (86) 20 Appendix), which was compiled in cooperation with his Italian colleagues Manzini, Masutti und Vasselli and is entitled "*The civil liability and compensation for damage resulting from the performing of European GNSS Services*". This feasibility study, which came to a positive assessment, was submitted to the 86th UNIDROIT Governing Council in 2007 together with a working paper (C.D. (86) 20) drawn up by the Secretariat entitled "*Liability for Satellite-based Services*".

3. During its consultations the 86th UNIDROIT Governing Council in 2007 agreed that "*in view of that interest (Italian Government) on the one hand and concerns regarding the wide-ranging applications on the other hand, informal discussions with all potentially interested Governments should be held with a view to commissioning, should those consultations have a positive outcome, a broad comparative feasibility study"* (Uniform Law Review 2007-1, page 142 (150). In view of the reservations expressed by the present author during the session Professor Carbone and the present author were requested to pursue the matter further.

4. The UNIDROIT verbal note of 1 February 2008, which accompanied the "*New Triennial Work Programme (2009 – 2011)*" sent to the Member States, has the following to say on this matter: "*Furthermore, at the request of the Government of Italy supported by the Governing Council at its 86th session, preliminary research is being conducted by independent researchers on questions of liability for malfunctions of satellite-based navigation and other services.*" Furthermore it is proposed that the Triennial Work Programme 2009 – 2011 may include: "*3. Work on liability for malfunctions of navigation systems and other satellite based services.*"

5. The 87th UNIDROIT Governing Council in 2008 will take up this issue not in the form of a special item on the agenda but as part of the discussions of the Triennial Work Programme (2009-2011). To this end an expert opinion entitled "Civil Liability for Satellite-based Services", prepared by Prof. Dr. Ulrich Magnus of Hamburg University, will be presented to the Governing Council to help it in its deliberations.

6. Both the feasibility study by Professor Carbone et al. and Professor Magnus' opinion merely draw up a list of the potential problems in the areas of the law of contractual and non-contractual liability as well as problems of private international law and international civil procedure faced by national law and present thoughts on the structure and the contents of an international public law instrument. In accordance with his terms of reference, Professor Magnus did not embark on examining any policy isssues, it being understood that those issues were to be exclusively within purview of the mandate given by the Governing Council to Professor Carbone and the present writer. Consequently these studies do not discuss whether or not it makes sense for UNIDROIT to incorporate a project of this kind in its Work Programme. There is no discussion either of the issues, particularly relevant in this context, of prior involvement by other international organisations in such a project, of the political implications associated with a project of this nature or, finally, of the ongoing need for regulation in view of other international conventions (covering air, ocean-going and inland waterway traffic, for instance), which already envisage a liability system for damage caused indirectly by satellite navigation errors.

7. Having been requested by the 86th UNIDROIT Governing Council in 2007 to address this issue, the present author has compiled the following thoughts on the issue of feasibility. They deal in detail with the reservations already expressed during the session of the Governing Council with respect to the questions mentioned under Fig. 6 above.

II. Necessary differentiation between global satellite services and global navigation satellite services

1. In the matter of feasibility a distinction needs to be made between global satellite services in general and global navigation satellite services in particular. In the documents for the 86th Governing Council in 2007 (C.D. (86) 20) and in the verbal note on the new Triennial Work Programme reference is made there either to satellite services in general or to navigation satellite services and other services. On the other hand, Professor Carbone's feasibility study addresses only navigation satellite services and, more precisely, only those of the European Galileo system. The same applies to the expert opinion just submitted by Professor Magnus.

2. Global satellite services in general are provided by both public and private operators. They serve public and private purposes and have public and private users. Individual uses vary tremendously; they range from telecommunications, television and radio applications via weather forecasts, navigation, search and rescue services to police, military and secret service uses. Different judgements will need to be reached concerning not only the liability issues, but also the feasibility of an international instrument. This will depend on whether we are looking at public or private providers, public or private users, applications to maintain public (external and internal) security (e.g. police and military services, search and rescue services), the provision of basic public services and the infrastructure required by the state (e.g. weather reports for shipping and air traffic, telecommunications) and other public services or uses for purely private purposes (navigation of private motor vehicles). A feasibility study assumes that these very different uses can be individually identified, thereby allowing definitive exclusion of those areas which are entirely unsuitable for a liability regulation deriving from an international convention (presumably all the satellite-based services run by public providers and uses for public purposes). To this end an empirical study must be carried out before any assessment of feasibility can be made.

3. However, if the focus is restricted to the global navigation satellite services, the area of application is much narrower and more specific, thus allowing feasibility to be assessed. In this sector there are just two systems (GLONASS, GPS) run by two public operators (Russian Federation, USA). A third system, Galileo, is under construction, which is to be operated from 2013 by a public-private partnership (PPP) in a legal form under private law. This system will be operated neither by the European Community, which provides it with political support, nor by the Member States themselves. The Galileo services comprise navigation services only. These services can be used for both public purposes (e.g. military, police) and private purposes. There are reasons for doubting whether the use of the navigation services for public purposes is a suitable subject for international agreements. But even if there were to be a limitation to navigation satellite services for private purposes, other serious reservations would need to be considered.

III. Studies carried out by other international organisations to elaborate an international instrument covering liability for navigation satellite services: economic and labour implications

1. Liability for navigation satellite services deriving from international instruments as such and their individual regulations have been the subject of extensive investigations and consultations in the international arena for many years now.

a. International Civil Aviation Organization (ICAO) and European Civil Aviation Conference (ECAC) studies

(1) The development of a legal framework to govern the implementation of GNSS has been on the Work Programme of the Legal Committee of the International Civil Aviation Organization (ICAO) since 1992. First of all, a committee of legal and technical experts was established by the ICAO Council in 1995 which led to the adoption of a charter on the rights and obligations of states relating to GNSS services at the 32nd ICAO Assembly in 1998. However, this alone was not considered adequate, as several aspects related to certification, operating structures, administration, cost recovery and, most importantly, liability were not addressed. The liability aspects in particular were found to merit further examination. The 32nd ICAO Assembly in 1998 set up a new Study Group, the Secretariat Study Group on Legal Aspects of CNS/ATM Systems, which reported to the 33rd ICAO General Assembly in 2001. The 33rd Assembly mandated the ICAO Secretariat Study Group to finalize a contractual framework, focussing predominantly on model clauses (ICAO doc A36-WP/140, paragraph 1.1, Appendix 3 to this paper).

The main purpose of the contractual framework was to provide a number of legal and institutional provisions that are deemed necessary for addressing GNSS at regional level. The contractual framework is based on a two-tier approach. On one level, it offers a regulatory agreement dealing with public law matters including certification, liability and jurisdictional matters. The other level consists of private contractual agreements between the various stakeholders in which they would have a very large degree of autonomy, subject to certain mandatory elements determined by the regulatory agreement (ICAO doc A36-WP/140, paragraph 1.2, Appendix 3 to this paper).

(2) The present author himself was a member of the EUROCONTROL Legal Task Force on GNSS Liability from 1999 to 2001. If his memory serves him correctly, these consultations were not concluded, being incorporated instead in the work of the ICAO Study Group on Legal Aspects of CNS/ATM Systems.

(3) The Study Group submitted its final report in 2004. This report has the following to say, inter alia, about the issue of liability (ICAO Doc. C-WP/12197, Appendix 1 to this paper):

3.3.2.: Approaches to the issue of liability

3.3.3.: The Group identified three possible approaches to the problem of liability relating to GNSS:
a) to ensure that the doctrine of sovereign immunity and related principles will not be an obstacle to bringing all potential defendants, including all parties involved in the provision of the GNSS services, into legal proceedings before the court where the victim of an accident involving failure or malfunction of GNSS has brought action;

b) to establish an adequate recourse action mechanism for the state having jurisdiction under article 29 and the aircraft operator to take recourse against the other party or parties (mainly the primary signal provider and the augmentation signal provider) involved in the provision of the services, to the extent that such other party or parties have been negligent in the provision of the signals; or
c) to ensure adequate compensation coverage through compensation fund arrangements, as have been set up in the field of maritime transport and other fields.

3.3.4.: The group had detailed and lengthy discussions concerning the possible approaches to the problem of liability. A part of the group believed that, in order to achieve universality and certainty of the new air navigation system, the issue of liability should be dealt with under a universal regime and should not be left to national law. Another part of the group, however, did not consider it necessary to establish a new universal liability system or a liability convention for GNSS, since there was no indication that the current liability regime under domestic law could not cope with GNSS, and further, since there was no connection between GNSS and the perceived gaps in the liability system.

4. 1.: Pursuant to its mandate as confirmed by the 33rd Session of the ICAO Assembly, the Study Group also focussed on the consideration of a contractual framework as an interim framework for CNS/ATM systems.
……
4. 3.: Elements of contractual framework
……
4.3.6 Liability

4. 3. 6. 1.: Article 6 provides that the liability of each party for failure to perform its obligations under this contract shall be governed by the liability regime applicable to its activity. This clause focuses on liability between parties in the contractual context, without addressing the issue of liability towards a third party.
……

5.2. Discussion of an international convention in the Study Group
…….
"5.2.2: One view was that since a great number of states would have to authorize the use of GNSS signals, over which they have no control, the only way to secure confidence in the system would be by committing both providers and users to accept certain rights and obligations in the form of a binding international legal instrument. In the view of these members, the international convention should set out, inter alia, such principles as the acknowledgement of the paramount importance of the safety of international civil aviation, unlimited access to GNSS services on a non-discriminatory basis, the sovereign right of every state to control operations of aircraft and enforce safety regulations within its airspace and the obligation of providers to assure continuity, availability, accuracy, transparency and liability of GNSS services. It was further pointed out that the liability issue is an essential element of the legal framework of GNSS, particularly in view of the multiplicity of the players and possible litigations taking place at the same time for the same event in a number of countries. According to this view, the implementation of a worldwide seamless and interoperable system such as CNS/ATM would not be compatible with a scattered liability system. These members supported the development of an international convention which they believed had been an option favoured by the vast majority at the Rio Conference, and the 32nd and 33rd Sessions of the Assembly. They saw the contractual framework as a flexible interim solution from which an international convention or other binding instruments might evolve."

"5.2.3.: A second view was that ICAO's existing legal framework, namely the Chicago Convention, its Appendixes and the other elements, discussed in Part I above, including applicable domestic law, offered continued serviceability and no deficiencies had been found to impede the implementation of CNS/ATM Systems. It was unnecessary to establish a new universal liability system or a liability convention for GNSS, since there was no indication that the current liability regime under domestic law could not cope with GNSS, and further, since there was no connection between GNSS and the perceived gaps in the liability system. While legal issues had been discussed in various bodies of ICAO, at no point had any ICAO body achieved consensus on a proposal for new global conventional law. At the same time, every ICAO body which had considered legal issues relating to CNS/ATM had been careful to state that work on legal issues must not be permitted to delay technical implementation of CNS/ATM systems."

……

"5.2.6. At the end of the discussion on the subject of a draft convention and its specific clauses most members present observed that since the implementation of GNSS was in progress, there was not enough experience on which the drafting of an international convention could be based. It was therefore advocated not to pursue this matter, pending further development of GNSS:"

This report was presented to the 35th ICAO General Assembly in 2004 for its attention and the adoption of a resolution (ICAO doc. A35-WP/75, Appendix 1 to this paper).

(4) The European Civil Aviation Conference (ECAC), acting on behalf of its 41 member states, also submitted a working paper (ICAO doc.A35/WP/125; Appendix 2 to this paper) to the 35th ICAO General Assembly. The draft of a "contractual framework" was first presented as Appendix B in the form of this Working Paper, which states the following:

"4.1: A contractual framework which addresses GNSS must provide a unified structure capable of addressing both public law and private law arrangements between the various stakeholders. It needs to be comprehensive in coverage, addressing the full range of issues that concerns those stakeholders. The contractual framework proposed by the ECAC States is attached in Appendix B. It is not new. It was already presented and discussed at the 33rd Assembly, which asked for this completion as an interim step towards the development of a possible convention.

4.2: It is based on a two-tier approach. On one level, it offers a regulatory agreement dealing with public law matters including certification, liability and jurisdictional matters. The second level is private contractual agreements between the various stakeholders in which they would have a very large degree of autonomy subject to certain mandatory elements determined by the regulatory agreement. These mandatory elements would focus, inter alia, on compliance with SARPs with regard to continuity, availability, integrity, accuracy, reliability, recognition of (strict) liability, compulsory risk coverage, recourse to arbitration, waiver of right to invoke sovereign immunity. Harmonisation of these essential parts of the contracts would help achieve a framework where the roles and responsibilities of all players involved are clear to all and where relationships are defined.

4.3: The two main elements of this contractual framework, therefore, are the private law contracts to be concluded between the parties involved in the chain of implementation, operation provision and the use of GNSS signals and systems and the public law agreement between states involved to ensure these contracts are har-

monised in order to contain the same essential provisions on safety, certification, liability etc. In this way, the necessary distinction between the public and private law elements of this proposed contractual framework will be ensured.

4.4.: The contractual framework being proposed by ECAC states is not a GNSS Convention. While it includes binding elements, it also creates a flexible and readily available framework to cover all legal and institutional elements relating to GNSS at the regional level and harmonises contractual relationships between the parties involved, providing clarity and legal certainty. It may, however, provide experience and know-how and represents a first step, which could evolve into a long-term focussed and precise global instrument of international law under the aegis of ICAO.

By way of a long-term solution the ECAC further submitted a draft convention in the form of Appendix C to this Working Paper, which states the following:

"5.2: The objective would be to achieve a dedicated convention limited to the essential common elements for legally and institutionally adequate provision of GNSS services. It would address, in particular, liability, including the issue of third party liability which cannot be adequately addressed through the contractual framework solution. This convention is foreseen to be the most appropriate way to address all parties affected by such a global system in the long term."

The 35th ICAO General Assembly in 2004 resolved to finalise a "contractual framework" in line with the ECAC proposal.

(5) This issue was discussed again at the 36th ICAO General Assembly in 2007, although this time no longer as a separate item on the agenda but as part of the "Work Programme" item. To this end ECAC again submitted a Working Paper (ICAO doc. A36/WP 140, Appendix 3 to this paper), which has the following to say on liability:

"2.7.: The issue of liability has been widely debated in the context of the Galileo and EGNOS programmes over the past three years. The most important topics have been Third Party Liability, Design Risk, liability associated to the system operations and the Allocation of Liability. This illustrates the need for a framework as presented by the ECAC states in order to channel liability."

The Working Paper ends with the following conclusions:

"3.1.: The contractual framework proposed by the ECAC States has already been recognized by ICAO in Assembly Resolution A 35-3 as a mechanism to create a flexible and readily available framework to cover all legal and institutional elements related to GNSS at the regional level and harmonises contractual relationships between the parties involved, providing clarity and legal certainty.

3.2.: Developments in Europe with regard to EGNOS and Galileo confirm the need for such a contractual framework and highlight the need to align the said framework to take on board the need for harmonisation of, inter alia, international standards, certification, interoperability, liability allocation in a multi-State environment, particularly in the context of the European Single Sky legislation.

3.3.: The contractual framework will be refined in the light of these developments and presented as soon as possible to the ICAO Secretary General and Council, as foreseen in the resolution. It is envisaged that the framework will satisfy the needs

widely voiced in ICAO regarding GNSS and will assist in clarifying many of the difficult issues faced and serve as a useful basis for ongoing discussions in the Legal Commission."

However, the 36th ICAO General Assembly in 2007 no longer regarded the finalisation of the "contractual framework" as the task of the ICAO, seeing responsibility for it as resting exclusively with the ECAC. The report of the 36th General Assembly in 2007, Legal Commission, (ICAO doc. A36-WP/297, Appendix 4 to this paper) has the following to say on this matter:

"47.9.: The Commission noted its understanding that once a model of a regional framework is developed by the members of the European Civil Aviation Conference, such model could be distributed through ICAO to its member states, and interested states may use the information as guidance material to develop their own regional legal framework as appropriate."

Finally, the 36th ICAO General Assembly in 2007 downgraded the priority of this project from 1 to 3. In the author's experience, this low level of priority means in effect that the ICAO has washed its hands of the project.

The author is not aware of any similar studies having been carried out in other international organisations concerning liability for satellite navigation in other traffic sectors. If so, they would need to be examined.

b. Italian initiative for a Regulation of the European Community

In late 2006 the Italian government launched an initiative for a European Community Regulation on liability:[1] In the course of an international workshop held in December 2006 / January 2007 in Rome, a "*European GNSS Initiative for an EU Regulation on Third Party Liabilities (TLP)*" (Presentation Appendix 5 to this paper) was presented and discussed with the participants. A "*Draft Regulation on civil liability and compensation for damage resulting from the performing of Galileo services*" (Appendix 6 to this paper) was presented, the intention being to establish a legal liability basis for damage caused by commercial Galileo services for the area covered by the European Community. The Regulation should have effect beyond the Member States as a result of individual user states outside the EC acceding to the Regulation through bilateral agreements under international public law.

The Italian proposal for an EC Liability Regulation has reportedly been forwarded in the meantime to the EC Commission.

2. The ICAO has been engaged in consultations for over 15 years now on an international instrument covering liability for global satellite navigation in air traffic, which will shortly come to a provisional conclusion upon completion of the ECAC's "contractual framework". It therefore appears very doubtful whether an international convention for global satellite navigation in air traffic is still necessary at all and whether UNIDROIT should include the project, which has evidently failed in the ICAO, on its agenda. These doubts are reinforced if it is borne in mind that the Italian government is simultaneously pursuing an initiative for a Liability Regulation of the European Community. A regulation of this kind supplemented by bilateral agreements under international public law, as is foreseen, would render a UNIDROIT convention unnecessary.

[1] Giemulla/Heinrich, Responsibility and Liability for Galileo-Services, Zeitschrift für Luft- und Weltraumrecht (ZLW) 2008, 25 (37).

Taking this into account, economic aspects (unnecessary costs) and labour aspects (unnecessary work) appear all the more significant, as do matters regarding UNIDROIT's external image, should an ICAO project that has proved abortive after years of discussion be taken over or pursued in competition with a project in the hands of the European Community.

IV. Feasibility of a UNIDROIT instrument covering liability for satellite-based navigation services: political and legal implications

1. The above considerations notwithstanding, an international instrument (convention, model law) would have to face the fact there are currently only two international satellite navigation systems in operation in the world (three after the installation of Galileo), liability for which might conceivably be the subject for regulation by such an instrument. It is hard to imagine the countries responsible for GPS (USA) and GLONASS (Russian Federation), which are – in part at least – military systems, would subject themselves to an international liability regime that is the outcome of international negotiations and is to a large extent heteronomous. Confirmation of this is provided by the consultation process within the ICAO, which renounced its initially global focus to concentrate exclusively on the EU's Galileo system. The Galileo system will not suffer comparable treatment. It enjoys the support of the EC and its 27 Member States, has a distinctly commercial dimension and is to be operated on a private basis or in private legal forms at least (PPP).[2] The subject of this liability is readily identifiable; other subjects of liability are ruled out. However, the achievement of an international convention on liability for a single subject of liability appears highly unusual in the context of international public law at least. The ICAO, for its part, ultimately renounced this approach.

2. Should it be the case, for political reasons, that consideration is to be given to just one subject of liability in the form of the company operating Galileo, it only would make sense if the regional economic integration organisation responsible for such a subject or the Member States behind this organisation were to install a liability regime for it. There are some doubts whether UNIDROIT has the human resources and the financial means to carry out preliminary work for an EC liability regime as a service provider for the EC Commission. Having carried out preliminary studies at the international level for many years, the ICAO has evidently also come to realise that this is exclusively or at least primarily a European project; it apparently now sees the ECAC as being responsible for it and has placed the project so far down its agenda that further work on it is ruled out to all intents and purposes. Even the Italian government, as the initiator of the UNIDROIT considerations, appears to regard this as a European project if it draft a EC regulation on satellite navigation liability and forward it to the EC Commission.

3. A Regulation under Community Law would have the disadvantage of applying only to areas covered by the law-making competence of the Community. Moreover, it could not therefore cover cases of damage occurring outside the Community. On the one hand, this can be offset by the conclusion – in line with the Italian EC initiative – of bilateral agreements under international public law, which would entail the application of EC law, with the countries wishing to use Galileo. On the other hand, an international convention would only be superior to a regulation under Community Law if it were not only to come into existence, but were also to be ratified worldwide by all the countries in which there are potential users. But this is very unlikely to happen, especially when it comes to liability for malfunctions in European satellite navigation services. Here the interests of the EC Member States are likely to be diametrically opposed to those of the states which are not members of the EC. The former give their political support to the operator and are therefore primarily inter-

[2] Amended proposal for a Regulation of the European Parliament and of the Council on the further implementation of the European satellite radionavigation programmes (EGNOS and Galileo), COM (2007) 535, p. 8.

ested, although users themselves, in both a limitation of liability and the insurability of liability as essential prerequisites for finding private investors and for setting up a private operating company.[3] The latter are exclusively users and, in the event of such a limitation of liability, would see restrictions placed solely on the claims of their users, to which the operating company might otherwise be fully liable in accordance with their domestic legislation. The only conclusion that can be drawn from this for an international convention is that either it would not limit liability at all or only marginally and therefore the EC Member States would regard it as a creditor-friendly regulation and refuse to ratify it or, if liability were to be considerably limited, the non-EC Member States would regard it as a debtor-friendly regulation and refuse to ratify it. A compromise regulation, which might be the only way of guaranteeing far-reaching (albeit never worldwide) ratification by both the EC Member States backing the operating company and the non-EC Member States as users, is likely to be hard to find because of the very disparate interests involved.

4. With regard to the feasibility of an international instrument covering liability for malfunctions of global satellite navigation a further distinction must be made between

- contractual und extra-contractual (tortious) liability;
- services used without a contract and free of charge and services used on a contractual basis and incurring costs;
- the direct and indirect damage caused by satellite navigation errors;
- the direct liability claim and the claim of recourse;
- areas, in which liability extending to damage caused by satellite navigation errors is already regulated by special international instruments, and areas, in which there is a complete lack of any regulation on liability.

a. Anyone paying a fee for the use of satellite navigation services is linked by contract to the system operator. Damages incurred by the user can, therefore, be regulated on a contractual basis. The claims arising can be made the subject of individual contractual regulations. This is all the more valid in that only a single legal subject – the operator of the satellite-based navigation system – can be considered as both the contractual partner and as the liability opponent. Moreover, regulation of liability on the basis of an individual contract is more flexible than contractual liability specified in conventions. Hence it can be assumed that the contracts covering the provision of satellite navigation services will contain liability regulations of this kind, for instance in the form of penalty clauses.[4] Moreover, an international instrument will soon be available in the form of the ECAC's "Contractual Framework", which will structure contractual liability in this field.

b. If damage caused by a system malfunction is incurred not by the first user, who is contractually tied to the system operator, but by a second, third or fourth user, these latter are each linked by contract to the respective prior user and the last prior user to the system operator. Nothing would be more appropriate than to regulate the damages incurred by these other users on a contractual basis in their respective contractual relations and to seek contractual recourse with the respective prior user. Thanks to his contract the first user in this contractual chain can then hold the system operator liable. Claims can therefore be settled in a contractual chain. The respective contract determines the existence, contents and extent of the claim. A statutory regulation, especially one of this kind in an international instru-

[3] Cf. Giemulla/Heinrich, Responsibility and Liability for Galileo Services, Zeitschrift für Luft- und Weltraumrecht (ZLW) 2008, 25 (29, 34 f.).

[4] Giemulla/Heinrich, Responsibility and Liability for Galileo Services, Zeitschrift für Luft- und Weltraumrecht (ZLW) 2008, 25 (35).

ment, appears to be not only dispensable but also hardly suitable, given the individual nature of the contractual relations. This is all the more valid in that ultimately there is only one subject of liability who has to bear the damage in economic terms at least. This is also the assumption made in the "Contractual Framework" for satellite navigation in air traffic, which is to be limited to the key elements of liability in these contractual relations.

c. In the event of any doubt, persons taking advantage of satellite navigation services without making any payment will not be tied by contract to the system operator. The use of services free of charge without any contract having been concluded is unlikely to have any consequences for either contractual or non-contractual liability. In the event of any doubt, the system operator will be well advised, when starting services free of charge, to make it clear by means of a statement readily accessible to anyone availing themselves of the services that the use of these services free of charge is undertaken at the user's own risk and that no liability will be assumed. Anyone permitted to use services offered free of charge and without a contract being signed will not expect liability to be assumed if any malfunctions should occur in the system, along the lines of "what is free of charge is not worth anything."

d. However, if the contractual liability does not fully cover all damages, or if the respective contractual partner is not solvent, an extra-contractual liability can be considered for the settlement of claims. The same holds true of cases in which the injured party is not tied directly to the system operator or indirectly to the same, i.e. by means of an uninterrupted contractual chain (third party liability). Only for extra-contractual liability need serious thought be given to a regulation by means of an international convention. For in such cases individual contractual regulations cannot grant compensation, or adequate compensation at least, and the "Contractual Framework" covering liability for global satellite navigation in air traffic, for its part, does not encompass forms of liability between legal subjects who are not contractually tied to one another. The Italian initiative for an EC Regulation on liability is evidently also limited to extra-contractual liability and, moreover, only to cases in which there is a lack of any direct or indirect contractual relationship between the injured party and the system operator (third party liability).

e. Extra-contractual liability can only be of practical relevance in cases in which the user, who is directly tied by contract to the system provider, or the users, who are contractually tied to this user or his successors, suffer damage but do not receive full compensation because, for example, the maximum limits for liability have already been reached (e.g. in international air traffic pursuant to Article 21, paragraph 2 of the Montreal Convention), which may not be exceeded in an individual contract or by a "Contractual Framework" (Article 29 of the Montreal Convention), or in which damages are incurred by third parties outside of these contractual relations (third party liability). As a rule, damages of this kind will only have been caused indirectly by system malfunctions in satellite-based navigation services but directly by another object (generally a vehicle), which was misdirected because of the malfunction. This applies, for instance, to accidents involving ships or aircraft in which passengers, primarily third parties who – or whose goods – were not conveyed by these vehicles, incur damage.

On the other hand, there are already numerous international conventions for such cases of damage, which grant compensation to the injured party irrespective of the causality of a system malfunction in the satellite navigation. In the field of shipping they include the Athens Agreement and the 1992 International Convention on Civil Law Liability for Oil Pollution Damage; in inland waterway traffic the Strasbourg

Convention; in air traffic the Rome Convention, the Warsaw Convention and the Montreal Convention; and in special cases (e.g. the transport of nuclear material) also the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Supplementary Convention. Hence only minor gaps in protection will remain (in air traffic liability, for instance, for damages exceeding the maximum liability limits specified in the aforementioned conventions or those to which the conventions do not apply and which are not covered by the "Contractual Framework" of the ECAC). These gaps in protection require elaboration in detail, but that would exceed the scope of these considerations. Only where such gaps in protection are ascertainable can a need arise at all for action to be taken concerning a new international instrument. Otherwise a liability would be established on the basis of a new international instrument that would add to the existing liabilities deriving from international conventions. This would only lead to unnecessary duplications and barely resolvable problems of differentiation.

f. While such gaps in protection may remain in the existing international conventions and the Contractual Framework, they will generally be closed by domestic legislation applied in extension. In most cases this will be the domestic tortious liability in general and domestic product liability in particular.[5] Given a product liability which entails considerable liability risks and is getting out of hand in individual countries, the EC and its Member States are understandably keen to harmonise domestic product liability in the field of satellite navigation. However, elaborating such an instrument and ensuring its ratification by those states to which it is addressed at least (see Fig. 3 above) would appear to be a largely futile undertaking. Moreover, it is very difficult to justify harmonising product liability or general liability in tort only for this relatively small segment of satellite-based navigation, but not in general terms. Ultimately, any product liability covered by an international treaty would be obliged to resolve the difficult problem of the EC having a product liability directive, and thus a liability regime of its own for product liability in general, which would infringe product liability regulations in international conventions for special products. This contradiction will be almost impossible to resolve without a regulation under Community Law on satellite navigation liability.

Moreover, while the need for harmonisation in this respect was studied in depth during the ICAO consultations, it proved impossible to reach agreement on the need for the relevant legal harmonisation (see the Final Report of the Secretariat Study Group (ICAO Doc. C-WP/12197, Appendix 1 to this paper). In the meantime the matter would appear to have resolved itself with the de facto abandonment of the project by the ICAO.

g. The regulations referred to at e. encompass only the liability claim as such but not the right to recourse of the airline, ship owner or fund, whose aircraft or ship was misdirected because of a defective satellite navigation signal and as a result inflicted damage on the legal assets of others. As a rule, however, the person liable to the directly injured party in such cases will enjoy contractual relations with a user who is in direct or indirect contact with the system operator, (e.g. the directly liable airline with the air traffic control organisation and this organisation, in turn, with the satellite navigation operator). In such instances, recourse can take place within the contractual relations described above at b. without an international agreement being required or, indeed, proving helpful in any way because of its lack of flexibility.

[5] For a detailed discussion of the situation under German law see Giemulla/Heinrich, Responsibility and Liability for Galileo Services, Zeitschrift für Luft- und Weltraumrecht (ZLW) 2008, 25 (29 ff.).

Appendix 1

WORKING PAPER

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A35-WP/75
LE/5
28/07/04

ASSEMBLY - 35th SESSION

LEGAL COMMISSION

Agenda Item 36: Report on the establishment of a legal framework with regard to CNS/ATM systems including GNSS

REPORT ON THE ESTABLISHMENT OF A LEGAL FRAMEWORK WITH REGARD TO CNS/ATM SYSTEMS INCLUDING GNSS

SUMMARY

This paper reports to the Assembly for its consideration the work on legal aspects of CNS/ATM systems.

Action by the Assembly is in paragraph 5.

1. INTRODUCTION

1.1 The 32nd Session of the Assembly adopted in 1998 Resolution A32-20: *Development and elaboration of an appropriate long-term legal framework to govern the implementation of GNSS*, instructing the Council and the Secretary General, within their respective competencies, and beginning with a Secretariat Study Group, to consider, *inter alia*, the elaboration of an appropriate long-term legal framework to govern the operation of GNSS systems, including consideration of an international convention for this purpose. In September/October 2001, based on A33-WP/34: Progress Report on the Establishment of a Legal Framework with Regard to CNS/ATM Systems including GNSS, the 33rd Session of the Assembly decided, *inter alia:*

a) that further work on the legal aspects of CNS/ATM systems be carried out so as to finalize the concept of a contractual framework for CNS/ATM as an interim framework and provide a path toward its implementation, including the consideration of an international convention, having regard to the following guidance to:

1) be mindful of States' reliance on others to provide all or part of their CNS/ATM services;

(59 pages)

2) consider carefully the kinds of relationships States should have with providers of services or elements of services; and

3) ensure that States retain full responsibility under the Chicago Convention for services provided on their behalf; and

b) that a report be presented to the next ordinary session of the Assembly.

1.2 Pursuant to this decision, the Secretariat Study Group on Legal Aspects of CNS/ATM systems finalized its work in January 2004. It reviewed the current legal framework applicable to CNS/ATM systems, identified certain inadequacies, discussed in detail a contractual framework for the systems, and studied the possibility of an international convention for this purpose. The Final Report on the Work of the Secretariat Study Group on Legal Aspects of CNS/ATM Systems is set out in the **Appendix**.

2. MAIN POINTS OF THE FINAL REPORT OF THE STUDY GROUP

2.1 Part I of the Final Report describes the current legal framework applicable to CNS/ATM systems. The work of the Study Group was based on the premise that it has been generally agreed that there is no legal obstacle to the implementation of CNS/ATM systems and that there is nothing inherent in CNS/ATM systems that is inconsistent with the *Convention on International Civil Aviation* (Chicago, 1944, hereinafter referred to as the "Chicago Convention"). There is also consensus that the Chicago Convention and its Annexes are applicable to CNS/ATM systems and that GNSS shall be compatible with the Chicago Convention, its Annexes and other principles of international law. Other elements of the current framework include the ICAO Council Statement of Policy, the Exchange of Letters of ICAO respectively with the United States and the Russian Federation, and Assembly Resolution A32-19: *Charter on the Rights and Obligations of States Relating to GNSS Services* (*cf.* paragraph 2.1 of the Final Report). The current framework also includes national law, since certain legal aspects of CNS/ATM systems are governed by national law, particularly in relation to liability rules. The Group concluded that the implementation of GNSS leaves unaffected the responsibility of States under Article 28 of the Chicago Convention for provision of air navigation services within their respective airspace. The Group also recognized that in providing the services under Article 28 when GNSS is implemented, most States have to rely on signals-in-space and their augmentation provided by others. Accordingly, a link between the provider or providers of signals and the States having jurisdiction under Article 28 should be established. The Final Report of the Group also deals with issues relating to certification, authorization for use of signals, services or other facilities, and delegation of responsibility.

2.2 Part II of the Final Report identifies inadequacies of the current legal framework relating to liability. While the substantive law may be reasonably adequate to determine or apportion liability from accidents involving failure or malfunction of GNSS systems, the procedural rules and, in particular, the applicable rules on jurisdiction may not be adequate to bring all parties to the court in order to ensure prompt and equitable compensation in these cases. In particular, application of the doctrine of sovereign immunity and related principles may in many cases render court action against foreign States or foreign governmental entities providing ATC or GNSS signals, facilities and services in countries other than their home States difficult or impossible.

2.3 Part III of the Final Report reflects consideration of a contractual framework, which was the focus of the work of the Study Group. A contractual framework may provide a link between the provider or providers of signals and the State having jurisdiction under Article 28 of the Chicago Convention as regards the terms and conditions, under which GNSS services are provided. A contractual framework may also provide the necessary provisions regarding the issue of liability. The Study Group discussed in detail and concluded on a set of contractual clauses in the form of "**Draft Contractual Framework Relating to the Provision of GNSS Services**", as set out in **Attachment F** to the Final Report of the Group. While the Draft Contractual Framework was supported by the majority of the Group, differences exist with respect to the scope and mandatory nature of the framework. Some Members regarded the framework as an optional, non-binding model contract, in respect of which States or other parties retain freedom to accept. Other Members believed that in order to maintain a desired degree of uniformity and to provide essential assurances of confidence in CNS/ATM systems, the framework should contain a number of mandatory common elements binding upon the parties, which should take the form of an intergovernmental agreement, and which may gradually evolve in the future into an international convention.

2.4 Part IV of the Final Report relates to the consideration of an international convention. In spite of detailed discussions during several meetings of the Group, the Group could not find a consensus on this subject. One view was that since a great number of States would have to authorize the use of GNSS signals over which they have no control, the only way to secure confidence in the system would be by committing both providers and users to accept certain rights and obligations in a form of a binding international legal instrument. It was further pointed out that the liability issue is an essential element in the legal framework for GNSS. A second view was that ICAO's existing legal framework, namely the Chicago Convention, its Annexes offered continued serviceability and no deficiencies had been found to impede the implementation of CNS/ATM systems. It was unnecessary to establish a new universal liability system or a liability convention for GNSS, since there was no indication that the current liability regime under domestic law could not cope with GNSS. A third group of Members shared a similar aspiration for an international convention as the first group viewed this as the necessary and long-term solution to the issue of a legal framework for GNSS. At the same time, they believed that a mandatory contractual framework could serve as an interim solution between the *status quo* and the long-term elaboration of an international convention.

2.5 In summary, there were two schools of thought in the Study Group regarding an international convention as a long-term legal framework to govern the operation of GNSS systems: one was that, at present, not enough experience had been gained with the implementation of CNS/ATM systems, and GNSS in particular, and that it was therefore premature at this point to elaborate and draft an international convention; the other was that an international convention was necessary and desirable.

2.6 Part V of the Final Report addressed certain issues relating to communications and surveillance.

3. CONSIDERATION BY THE COUNCIL OF THE FINAL REPORT OF THE STUDY GROUP

3.1 When the Council considered the Final Report of the Study Group on 5 March 2004 during the ninth meeting of its 171st Session, a view was expressed that since there had not been any consensus on the need for an international convention, it was proposed that the Council acknowledge that ICAO's studies of the legal aspects of CNS/ATM systems implementation had been exhaustive and that the Council

recommend to the 35th Session of the Assembly that ICAO consider its legal research complete and concentrate its efforts on the technical aspects of CNS/ATM systems implementation for at least the upcoming triennium. A number of Representatives on the Council also supported the view that it was premature at this stage to elaborate and draft an international convention.

3.2 Another view was expressed that the study on the legal aspects of CNS/ATM systems must continue. Since satellite radio communication should ultimately become the single tool for use in air traffic management, the need for new international arrangements to govern the implementation and operation of the future GNSS should be recognized. Such arrangements should, in particular, provide adequate legal certainty for those States which would be relying on signals provided by others regarding their obligations under Article 28 of the Chicago Convention. The arrangements should also provide a comprehensive, consistent and coordinated liability framework for GNSS-related activities.

3.3 It was further pointed out that the three approaches mentioned in paragraph 2.4 could be regarded as four approaches, since the third approach, namely that of a contractual framework, comprises two separate and distinct options: a flexible approach and a binding approach. Under the flexible approach, a number of model clauses would be drafted and it would be for the negotiating parties to decide whether or not to use them in the contract. Under the binding approach, the contractual framework should include a number of mandatory common elements which should bind on all parties. Accordingly, the contractual framework should include a framework agreement among States at governmental level mainly to define the mandatory common elements.

3.4 In conclusion, the Council observed that the subject of the legal aspects of CNS/ATM systems implementation is of a high degree of importance. This subject, which is complex not only from the legal point of view but also from the technological and technical point of view, is one of the items on the General Work Programme of the Legal Committee which was approved by the Assembly and reviewed by the Council on a yearly basis. It is for the 35th Session of the Assembly to determine what further action could be taken. The Council also emphasized the need to distinguish the two approaches to the contractual framework as indicated in paragraph 3.3 of this paper.

4. FINANCIAL IMPACT OF THE PROPOSED ACTION

4.1 The financial impact of the work in this area is dependent upon the decision of the Assembly under paragraph 5.1 b).

5. ACTION BY THE ASSEMBLY

5.1 The Assembly is invited to:

a) note this paper and its appendix; and

b) give guidance, as appropriate, concerning the work in this respect.

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APPENDIX

FINAL REPORT ON THE WORK OF THE SECRETARIAT STUDY GROUP ON LEGAL ASPECTS OF CNS/ATM SYSTEMS

(Presented by the Secretariat)

1. INTRODUCTION

1.1 The Secretariat Study Group on Legal Aspects of CNS/ATM Systems was established pursuant to a decision of the Council, taken at the tenth meeting of its 154th Session (C-DEC 154/10) and endorsed by Assembly Resolution A32-20: *Development and elaboration of an appropriate long-term legal framework to govern the implementation of GNSS,* which *instructed* the Council and the Secretary General, within their respective competencies, and beginning with a Secretariat Study Group, to:

"a) ensure the expeditious follow-up of the recommendations of the worldwide CNS/ATM Systems Implementation Conference, as well as those formulated by the Panel of Legal and Technical Experts on the Establishment of a Legal Framework with regard to GNSS (LTEP), especially those concerning institutional issues and questions of liability; and

b) consider the elaboration of an appropriate long-term legal framework to govern the operation of GNSS systems, including consideration of an international Convention for this purpose, and to present proposals for such a framework in time for their consideration by the next ordinary Session of the Assembly."

1.2 The 33rd Session of the Assembly in 2001 decided that further work on the legal aspects of CNS/ATM systems be carried out so as to finalize the concept of a contractual framework for CNS/ATM as an interim framework and provide a path toward its implementation.

1.3 The Group held eleven meetings between 1999 and January 2004 to consider the legal aspects of CNS/ATM systems, particularly those related to GNSS.

1.4 The Global Navigation Satellite System (GNSS), which is one of the key elements of the CNS/ATM systems, is a worldwide position and time determination system, which includes satellite constellations, aircraft receivers, and system integrity monitoring, augmented as necessary to support the Required Navigation Performance for the actual phase of operation. At present, there are two satellite navigation systems in operation: the Global Positioning System (GPS), developed by the United States, and the Global Orbiting Navigation Satellite System (GLONASS), developed by the Russian Federation. There is also the development of a new system in Europe, called Galileo, intended to become a new element of GNSS as of 2008.

1.5 Consideration of the legal aspects of CNS/ATM systems has been based on the following basic assumptions: (1) The long-term GNSS, which will be the evolution of the existing systems, will be composed of different global and regional systems. (2) These systems could be civilian-controlled, military-controlled or a mixture of them. (3) The long-term GNSS will include core elements (primary signals in space) and augmentation systems. In this context, the Secretariat Study Group reviewed the current legal framework applicable to CNS/ATM systems, identified certain inadequacies, discussed in detail a contractual framework for the systems, and studied the possibility of an international convention for this purpose.

2. PART I – CURRENT LEGAL FRAMEWORK

2.1 The work of the Study Group was based on the premise that it has been generally agreed that there is no legal obstacle to the implementation of CNS/ATM systems and that there is nothing inherent in CNS/ATM systems that is inconsistent with the *Convention on International Civil Aviation*, (Chicago; 1944, hereinafter referred to as the "Chicago Convention"). (Report of the 28th Session of the Legal Committee, Doc 9588–LC/188, 3-12). There is also consensus that the Chicago Convention and its Annexes are applicable to CNS/ATM systems and that GNSS shall be compatible with the Chicago Convention, its Annexes and other principles of international law. Furthermore, ICAO has adopted or concluded:

1) the *Statement of ICAO Policy on CNS/ATM Systems Implementation and Operation* (approved by the Council on 9 March 1994), copy of which is reproduced as **Attachment A** to this report;

2) the Exchange of Letters between ICAO and the United States of America concerning GPS, 14 and 27 October 1994, copies of which are reproduced as **Attachment B** to this report;

3) the Exchange of Letters between ICAO and the Russian Federation concerning GLONASS, 4 June and 29 July 1996, copies of which are reproduced as **Attachment C** to this report; and

4) Assembly Resolution A32-19: *Charter on the Rights and Obligations of States Relating to GNSS Services* (hereinafter referred to as the "Charter"), copy of which is reproduced as **Attachment D** to this report.

2.2 Chicago Convention

2.2.1 In light of its discussions, the Study Group reached the following conclusions and recommendations:

2.2.2 Responsibility under Article 28

2.2.2.1 Under Article 28 of the Chicago Convention, Contracting States undertake to provide air navigation services, including the relevant air navigation facilities, in accordance with ICAO Standards and Recommended Practices (SARPs). The implementation of GNSS leaves unaffected the responsibility of States under Article 28 for provision of air navigation services within their respective airspace. States having

undertaken to provide for the provision of air navigation facilities in their territory, whether using their own signals, services or facilities or procuring their provision by others, remain responsible under Article 28 of the Convention. In providing such services once GNSS is implemented, most States have to rely on signals-in-space and their augmentation provided by others. In this connection, a question arises whether the implementation of GNSS should also involve additional arrangements establishing a link between the provider or providers of signals and the State having jurisdiction under Article 28. The Study Group was of the view that in implementing GNSS, a Contracting State should satisfy itself that the following comply with the relevant ICAO SARPs: (a) the signals-in-space; (b) its own implementation facilities; and (c) the equipment and procedures of operators. It was recommended by the Group that the procedures laid down in Recommendations 1 to 7 of LTEP (**Attachment E** to this report refers) should be used to facilitate the decision-making process of Contracting States in this respect.

2.2.3 **Certification**

2.2.3.1 In accordance with their responsibility under Article 28, States providing signals-in-space, or under whose jurisdiction such signals are provided, should certify the signals-in-space by attesting that they are in conformity with the ICAO SARPs, and the State having jurisdiction under Article 28 should ensure that avionics, ground facilities and training and licensing requirements comply with the ICAO SARPs.

2.2.4 **Authorization for use of signals, services or other facilities**

2.2.4.1 In providing air navigation facilities, States making use of the signals, services or other facilities provided by others, including other States and international organizations, should require that the use of such signals, services or other facilities provided by others in its airspace be subject to authorization. In line with the Recommendations of LTEP (in particular, Recommendations 1 to 8) and emerging practice, and subject to further study, States in authorizing the use of GNSS signals for air navigation purposes should take into account issues such as:

a) application of safety management processes;

b) attestation of conformity with the ICAO SARPs;

c) commitments relating to continuous signal availability;

d) licencing and training;

e) coordination and contingency procedures; and

f) establishment of channels for exchange of information.

2.2.5 **Delegation of responsibility**

2.2.5.1 The Group concluded that for the implementation of CNS/ATM systems, no amendment to Article 28 of the Chicago Convention is warranted at the present time. Article 28 does not prevent Contracting States from delegating to another State the responsibility for establishing and providing air navigation services in flight information regions, control areas or control zones extending over the territories of the former. Annex 11, paragraph 2.1.1, to the Convention provides for such delegation. These provisions, as well as contractual arrangements, may provide a basis for delegation of responsibility relating to the provision of air navigation services from one State to another State or entity.

2.2.6 **Responsibility vs. liability**

2.2.6.1 The Group also pointed out that responsibility under Article 28 should not be seen to be the same as liability. From the point of view of international law, Article 28 regulates the relationship between States only and does not give a cause of action to private persons to claim compensation for damage. Such claims should rather be handled at the level of the applicable domestic law.

2.3 **Council Statement of Policy**

2.3.1 The ICAO Council issued on 9 March 1994 its: *Statement of ICAO Policy on CNS/ATM Systems Implementation and Operation*, which laid the foundation for certain legal principles to be applied to GNSS services, including the principle of universal accessibility without discrimination, sovereignty, authority and responsibility of Contracting States, responsibility and role of ICAO, continuity and quality of service, and cost recovery. It also addressed the issues of technical cooperation, institutional arrangements and implementation, global navigation satellite system, and airspace organization and utilization.

2.4 **Exchange of Letters with the United States and the Russian Federation**

2.4.1 The ICAO Council further exchanged letters with the United States regarding GPS in October 1994, and with the Russian Federation regarding GLONASS in June/July 1996. Both countries have offered their systems for use by the international community free of direct charge for a period of at least ten years in the case of GPS and fifteen years in the case of GLONASS. These letters reiterated certain principles in the aforementioned Statement of Policy, such as the provision of signals on a nondiscriminatory basis to all users of civil aviation, the maintenance of the integrity and reliability of the service, and the rights of any State to control the operations of aircraft and enforce safety regulations within its sovereign airspace.

2.5 **The Charter**

2.5.1 In October 1998, based on the work of the LTEP, the 32nd Session of the Assembly adopted Resolution A32-19: *Charter on the Rights and Obligations of States Relating to GNSS Services*. The Charter embodied fundamental principles which shall apply in the implementation and operation of GNSS.

2.5.2 With respect to the status of the Charter, one school of thought within the Study Group was of the view that, while the Charter was a significant declaration, it was non-binding. Another school of thought believed that the legal value of the Charter should not be underestimated. A Charter adopted unanimously in the form of an Assembly resolution was not devoid of all legal effects. The key factor was the willingness of States to agree on standards of conduct, rather than the form of such standards.

2.5.3 Discussions after the adoption of the Charter centered around the question whether and how further arrangements should be made with regard to the long-term legal framework applicable to CNS/ATM systems.

2.6 **National law**

2.6.1 A number of legal aspects of CNS/ATM systems are currently covered by applicable national law, particularly in relation to the issue of liability. In this context of the current legal framework, the Study Group reviewed the national law of certain States representing different legal systems in relation to liability rules which would be applicable to GNSS activities. The review showed that the substantive law

governing the liability of air traffic control (ATC) agencies, which would likely apply in case of failure or malfunction of GNSS, is in all cases based on fault principles. It is, in particular, based on negligence (wrongful action or omission, in the case of one State on gross negligence) and it requires proof of fault of the ATC agency, or its employees or agents.

3. PART II – IDENTIFIED INADEQUACIES OF THE CURRENT LEGAL FRAMEWORK RELATING TO LIABILITY

3.1 On the basis of the review of the current legal framework as set out in Part I above, the Group then examined whether any inadequacies of the current legal framework could be identified, in particular in relation to liability arising from an accident caused by the malfunction or failure of GNSS.

3.2 Principles governing liability

3.2.1 Based on the study mentioned in paragraph 2.6.1 above, the Study Group expressed the view that in the provision of GNSS facilities within their territory, States remain liable under domestic law for loss or damage resulting from their own negligence or fault, or that of their agents, whether they provide their own signals, services or facilities or procure their provision by others, to the extent that such negligence or fault is proven.

3.2.2 Similarly, States or international organizations providing GNSS signals, services or other facilities to other States are liable under domestic law for damage resulting from their negligence or fault, or that of their agents.

3.2.3 Accordingly, States should ensure in their domestic legislation that persons suffering damage, as a result of negligence or fault of the State or its agents in the provision of CNS/ATM signals, services or other facilities, will be provided with adequate remedies to obtain prompt, just and equitable compensation regardless of sovereign immunity.

3.3 Inadequacies of the current legal framework

3.3.1 While the substantive law referred to above may be reasonably adequate to determine or apportion liability from accidents involving failure or malfunction of GNSS system, the procedural rules and, in particular, the applicable rules on jurisdiction may not be adequate to bring all parties to the court in order to ensure prompt and equitable compensation in these cases. In particular, the application of the doctrine of sovereign immunity and related principles may in many cases render court action against States or governmental entities providing ATC services by making use of GNSS signals, facilities and services difficult or impossible, when such action is brought abroad.

3.3.2 Approaches to the issue of liability

3.3.3 The Group identified three possible approaches to the problem of liability relating to GNSS:

a) to ensure that the doctrine of sovereign immunity and related principles will not be an obstacle to bringing all potential defendants, including all parties involved in the provision of the GNSS services, into legal proceedings before the court where the victim of an accident involving failure or malfunction of GNSS has brought action;

b) to establish an adequate recourse action mechanism for the State having jurisdiction under Article 28 and the aircraft operator to take recourse against the other party or parties (mainly the primary signal provider and the augmentation signal provider) involved in the provision of the services, to the extent that such other party or parties have been negligent in the provision of the signals; or

c) to ensure adequate compensation coverage through compensation fund arrangements, as have been set up in the field of maritime transport and other fields.

3.3.4 The Group had detailed and lengthy discussions concerning the possible approaches to the problem of liability. A part of the Group believed that in order to achieve universality and certainty of the new air navigation system, the issue of liability should be dealt with under a universal regime and should not be left to national law. Another part of the Group, however, did not consider it necessary to establish a new universal liability system or a liability convention for GNSS, since there was no indication that the current liability regime under domestic law could not cope with GNSS, and further, since there was no connection between GNSS and the perceived gaps in the liability system. Eventually, the Group supported a middle ground, namely to explore the approach of a contractual framework. It was recommended that a number of common elements, some of which are relating to liability, could be incorporated into the contractual framework. Such common elements should include at least the following:

a) participants in GNSS, including the contractual provider of services, shall comply with the SARPs of ICAO;

b) the issue of sovereign immunity;

c) while an Article 28 State remains entirely responsible for provision of ATC services in its territory, other participants also at the same time are responsible for the services or elements they undertake to perform; consequently, Article 28 States may wish to ensure that an adequate recourse mechanism is established;

d) participants in GNSS shall ensure that they have adequate means of risk coverage; and

e) liability should be based on fault.

3.3.5 Certain Members of the Group maintained that these common elements should be mandatory for all parties to the contractual framework. Therefore, they should be incorporated into the framework agreement as illustrated in **Attachment G** to this report. Other Members supported the inclusion of the common elements in the contractual framework, under the condition that each party retains freedom whether to enter into the contractual framework.

4. PART III – CONSIDERATION OF CONTRACTUAL FRAMEWORK

4.1 Pursuant to its mandate as confirmed by the 33rd Session of the ICAO Assembly (paragraph 1.2 above refers), the Study Group also focussed on the consideration of a contractual framework as an interim framework for CNS/ATM systems.

4.2 **Concept of contractual framework**

4.2.1 A contractual framework may provide a link between the provider or providers of signals and the State having jurisdiction under Article 28 of the Chicago Convention as regards the terms and conditions, under which GNSS services are provided. A contractual framework may also provide the necessary provisions regarding the issue of liability.

4.2.2 The discussion of the Group clarified that in principle a contractual framework would be a non-mandatory framework, although several Members expressed the view that a set of mandatory common elements was required. The framework would cover the relationships among different players in various stages of the provision of GNSS services, including primary signal providers, augmentation signal providers, and States having jurisdiction under Article 28 of the Chicago Convention. In view of the possibility that the contracts relating to GNSS would be negotiated separately among different and numerous parties, certain Members of the Group believed that in order to maintain a desired degree of uniformity and to provide essential assurances of confidence in CNS/ATM systems, a set of common elements should be applicable to all the contracts. These common elements are intended to have considerable persuasive force in the search for uniformity. Some of the common elements relating to liability have been identified in paragraph 3.1 above. These arrangements must be consistent with the Charter.

4.3 **Elements of contractual framework**

4.3.1 The Study Group discussed in detail and concluded on a set of contractual clauses in the form of a **"Draft Contractual Framework Relating to the Provision of GNSS Services"** as set out in **Attachment F** (hereinafter referred to as the "Draft Contractual Framework"), which was supported by the majority of the Group. The following elements form part of the Draft Contractual Framework:

4.3.2 **Parties**

4.3.2.1 Article 1 of the Draft Contractual Framework defines the parties under the framework and the scope of application of the framework. The framework is principally designed for the relationship between the Air Traffic Service (ATS) provider and the GNSS signal provider, which is defined in Article 2, but may also be used to cover the relationship between the ATS provider and the augmentation signal provider and potentially other parties. Each contract would be applicable to the airspace where the respective ATS provider is responsible for providing its services.

4.3.3 **Obligations of the GNSS signal provider**

4.3.3.1 Article 3 sets out the basic obligations of the GNSS signal provider, including provision of the signals, obtaining of licence if required, compliance with the safety management provisions, and provision of relevant aeronautic information. Detailed technical criteria should be spelled out in an annex, which should be drafted by experts.

4.3.4 **Obligations of the ATS provider**

4.3.4.1 Article 4 sets out the basic obligations of the ATS provider, including obtaining the necessary authorization for the use of GNSS signals, coordination with the GNSS signal provider with a view to facilitating the transmission of the signals, compliance with the safety management provisions, and payment of the service charges to the GNSS signal provider, if applicable.

4.3.5 **Cost recovery**

4.3.5.1 Article 5 allows the GNSS signal provider to establish a cost recovery mechanism for the purpose of recovering the cost of such services from the users of GNSS signals. It was suggested that such mechanism shall ensure the reasonable allocation of costs among civil aviation users themselves and among civil aviation users and other system users, in view of the current statistics that aviation users only amount to a small percentage of the users of the signals.

4.3.6 **Liability**

4.3.6.1 Article 6 provides that the liability of each party for failure to perform its obligations under this contract shall be governed by the liability regime applicable to its activity. This clause focuses on liability between the parties in the contractual context, without addressing the issue of liability towards a third party.

4.3.7 **Other matters**

4.3.7.1 Article 7 addresses the issue of recourse and indemnification; Article 8 deals with waiver of sovereign immunity, in order to facilitate the resolution of the liability issues as identified in Part II of this report; Article 9 provides for the settlement of disputes.

4.3.8 When **Attachment F** was introduced and discussed in the Group, a large majority was of the view that the contractual framework set out therein represents a realistic approach to the issue of a legal framework for CNS/ATM systems and accepted it.

4.4 **Alternative proposal by certain Group Members**

4.4.1 Some strong views were expressed by some Members of the Group, however, that the contractual framework should go beyond the content of **Attachment F**, namely that it should not be limited to a series of contracts between the various stakeholders in the implementation of CNS/ATM systems, but should include a framework agreement among States at governmental level mainly to define the mandatory common elements which should apply. In their view, the agreement should not only address the relationship between States but should also govern certain aspects of the contractual relationships involving the system operators and service providers. Essential in the agreement is a set of mandatory common elements, which would be respected by all players. Such mandatory elements could include, *inter alia*, compliance with ICAO Standards and Recommended Practices, compliance with the Charter, compulsory risk coverage, recourse to arbitration, waiver of right to invoke sovereign immunity, and a central role for ICAO as global coordinator. These views are reflected in **Attachment G**.

5. PART IV – CONSIDERATION OF AN INTERNATIONAL CONVENTION

5.1 **Discussion of an international convention in other ICAO fora**

5.1.1 It was part of the mandate of the Group to consider an international convention for the purpose of elaborating a long-term legal framework for CNS/ATM systems. The question whether there is a need for an international convention on GNSS had already previously been the subject of extensive discussions in ICAO fora, including the 28th and 29th Sessions of the Legal Committee, the World-wide

CNS/ATM Systems Implementation Conference held in Rio de Janeiro from 11 to 15 May 1998, and the 32nd and 33rd Sessions of the Assembly.

5.1.2 The Rio Conference recommended that the complex legal aspects of the implementation of CNS/ATM, including GNSS, require further work by ICAO. Such further work should seek to elaborate an appropriate long-term legal framework to govern the operation and availability of CNS/ATM, including the consideration of an international convention for this purpose. Such further work should not, however, delay implementation of CNS/ATM.

5.1.3 Further to Assembly Resolution A32-20, the 33rd Session of the Assembly decided that further work on the legal aspects of CNS/ATM systems be carried out so as to finalize the concept of a contractual framework for CNS/ATM as an interim framework and provide a path toward its implementation, including the consideration of an international convention.

5.2 **Discussion of an international convention in the Study Group**

5.2.1 Pursuant to the decisions of the 32nd and 33rd Sessions of the Assembly, the Group considered the subject of an international convention which would set out rights and obligations of States in relation to GNSS services. However, in spite of detailed discussions during several meetings of the Group, the Group could not find a consensus on this subject.

5.2.2 One view was that since a great number of States would have to authorize the use of GNSS signals over which they have no control, the only way to secure confidence in the system would be by committing both providers and users to accept certain rights and obligations in a form of a binding international legal instrument. In the view of these Members, the international convention should set out, *inter alia*, such principles as the acknowledgement of the paramount importance of safety of international civil aviation, the unlimited access to GNSS services on a non-discriminatory basis, the sovereign right of every State to control operations of aircraft and enforce safety regulations within its airspace, and the obligation of providers to assure continuity, availability, accuracy, transparency and liability of GNSS services. It was further pointed out that the liability issue is an essential element in the legal framework for GNSS, particularly in view of the multiplicity of the players and possible litigations taking place at the same time for the same event in a number of countries. According to this view, the implementation of a worldwide seamless and interoperable system such as CNS/ATM would not be compatible with a scattered liability regime. These Members supported the development of an international convention, which they believed had been an option favoured by the vast majority at the Rio Conference, and the 32nd and 33rd Sessions of the Assembly. They saw the contractual framework as a flexible interim solution from which an international convention or other binding instruments might evolve.

5.2.3 A second view was that ICAO's existing legal framework, namely the Chicago Convention, its Annexes and the other elements discussed in Part I above, including applicable domestic law, offered continued serviceability and no deficiencies had been found to impede the implementation of CNS/ATM systems. It was unnecessary to establish a new universal liability system or a liability convention for GNSS, since there was no indication that the current liability regime under domestic law could not cope with GNSS, and further, since there was no connection between GNSS and the perceived gaps in the liability system. While legal issues had been discussed in various bodies of ICAO, at no point had any ICAO body achieved consensus on a proposal for new global conventional law. At the same time, every ICAO body which had considered legal issues relating to CNS/ATM had been careful to state that work on legal issues must not be permitted to delay technical implementation of CNS/ATM systems.

5.2.4 A third group of Members shared a similar aspiration for an international convention as those Members referred to in paragraph 5.2.2 above and indeed viewed this as the necessary and long-term solution to the issue of a legal framework for GNSS. The constraint was in their view not a legal one but one of practicality in that a convention would clearly take longer to put in place than a contractual framework. Meanwhile, a contractual solution would not only help to bridge the gap, but also a convention would be likely to evolve more smoothly from a workable interim solution. Therefore, a contractual framework as referred to in paragraph 4.4.1 above could serve as an interim solution between the *status quo* and the long-term elaboration of an international convention. It may be recalled that the framework referred to in paragraph 4.4.1 above would require, *inter alia,* a framework agreement among States at governmental level.

5.2.5 The Members referred to in the preceding paragraph submitted a proposed draft convention which covered elements derived from the Charter, elements inspired by the LTEP recommendations, and other elements considered necessary to create a binding and embracing instrument of international law. The *Proposal by Certain Members of the Group relating to Main Elements of an International Convention* is set out in **Attachment H** for information; it should be noted, however, that this draft does not represent the view of the majority of the Group.

5.2.6 At the end of the discussion on the subject of a draft convention and its specific clauses, most Members present observed that since the implementation of GNSS was in progress, there was not enough experience on which the drafting of an international convention could be based. It was therefore advocated not to pursue this matter, pending further development of GNSS.

5.2.7 In summary, when the issue of an international convention was on the agenda of the tenth meeting for final consideration by the Group, the majority view was that, at present, not enough experience had been gained with the implementation of CNS/ATM systems, and GNSS in particular, and that it was therefore premature at this point to elaborate and draft an international convention. Another view expressed was that an international convention was necessary and desirable.

6. PART V – OTHER ISSUES CONSIDERED BY THE GROUP

6.1 Two additional items had been included in the mandate of the Study Group, namely consideration of issues relating to communications and to surveillance in the framework of CNS/ATM.

6.2 Issues relating to communications

6.2.1 With respect to the issue of liability and other legal principles relating to communications by satellite, the Group noted the widespread use of liability disclaimer clauses in the telecommunications industry, including the satellite communications industry. The Group reached consensus with respect to the finding that despite the current practice on limited liability, the legal regime for telecommunications had not impeded public confidence in the system. The use of communication satellites, as compared to the use of terrestrial systems, did not present any new legal issues at the current stage. The disclaimer clause was almost universally used. It was the air traffic service providers' responsibility to arrange redundancy of communication services to satisfy the requirements relating to reliability, availability and continuity of the services. On the other hand, in the light of further experience with CNS/ATM, and if deemed necessary and opportune, the issue of the limitation of liability in communication services could be further studied in the future.

6.3 **Issues relating to surveillance**

6.3.1 The Group also discussed the legal issues relating to surveillance. Since the issues relating to surveillance was not the major part of its mandate, the Group limited itself to a general discussion. It was noted that, since surveillance was linked to both communications and navigation, the legal framework for this activity would largely depend upon the legal regimes applicable to these latter two elements of CNS/ATM systems. The Group further observed that, since surveillance would depend more on automated systems, a shift of focus from human error liability to the equipment manufacturers' liability could be expected. However, no separate legal issues regarding surveillance, which may need to be addressed at this stage, were identified by the Group.

7. CONCLUSIONS

7.1 GNSS, which is one of the key elements of the CNS/ATM systems, is in the process of implementation. The work of the Study Group was based on the premise that it has been generally agreed that there is no legal obstacle to the implementation of CNS/ATM systems and that there is nothing inherent in CNS/ATM systems that is inconsistent with the Chicago Convention.

7.2 **Current legal framework**

7.2.1 Under the current legal framework, the Chicago Convention, in particular its Article 28, is applicable to CNS/ATM. Other elements of the current framework include the ICAO Council Statement of Policy, the Exchange of Letters of ICAO respectively with the United States and the Russian Federation, and Assembly Resolution A32-19: *Charter on the Rights and Obligations of States Relating to GNSS Services*. The current framework also includes national law, since certain legal aspects of CNS/ATM systems are governed by national law, particularly in relation to liability rules.

7.2.2 Under Article 28 of the Chicago Convention, Contracting States undertake to provide air navigation services, including the relevant air navigation facilities, in accordance with the ICAO SARPs. The implementation of GNSS leaves unaffected the responsibility of States under Article 28 for provision of air navigation services within their respective airspace. In fulfilment of such responsibility, certain issues relating to certification and authorization of the use of GNSS, as well as the delegation of responsibility, will have to be resolved by the relevant States.

7.2.3 The Group also recognized that, in providing the services under Article 28 when GNSS is implemented, most States have to rely on signals-in-space and their augmentation provided by others. Accordingly, a link between the provider or providers of signals and the States having jurisdiction under Article 28 should be established.

7.3 **Inadequacy of the current legal framework**

7.3.1 The Group concluded that, while the substantive law governing liability may be reasonably adequate to determine or apportion liability from accidents involving failure or malfunction of GNSS system, the procedural rules and, in particular the applicable rules on jurisdiction, may not be adequate to bring all parties to the court in order to ensure prompt and equitable compensation in these cases. In particular, the application of the doctrine of sovereign immunity and related principles may in many cases render court action

against States or governmental entities providing ATC services by making use of GNSS signals, facilities and services difficult or impossible, when such action is brought abroad.

7.4 Consideration of contractual framework

7.4.1 Pursuant to the decision of the 33rd Session of the Assembly, the Group focussed on the consideration of a contractual framework, which may provide a link between the provider or providers of signals and the State having jurisdiction under Article 28 of the Chicago Convention as regards the terms and conditions, under which GNSS services are provided. The contractual framework may also provide the necessary provisions regarding the issue of liability. A set of clauses for this contractual framework, in the form of **Attachment F** to this report, was supported by the majority of the Group. Differences exists, however, with respect to the scope and mandatory nature of the contractual framework. Some Members regarded the framework as an optional, non-binding model contract, in respect of which States or other parties retain freedom to accept. Other Members maintained that the framework should contain a number of mandatory common elements binding upon the parties, which should take the form of an intergovernmental agreement, and which may gradually evolve in the future into an international convention.

7.5 Consideration of an international convention

7.5.1 With respect to the subject of an international convention, in spite of detailed discussions during several meetings of the Group, no consensus could be reached on this subject. When the issue of the international convention was on the agenda of the tenth meeting for final consideration by the Group, the majority view was that, at present, not enough experience had been gained with the implementation of CNS/ATM systems, and GNSS in particular, and that it was therefore premature at this point to elaborate and draft an international convention. Another view expressed was that an international convention was necessary and desirable.

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ATTACHMENT A

STATEMENT OF ICAO POLICY ON CNS/ATM SYSTEMS IMPLEMENTATION AND OPERATION

STATEMENT OF ICAO POLICY ON CNS/ATM SYSTEMS IMPLEMENTATION AND OPERATION

Approved by the ICAO Council on 9 March 1994 and amended on 28 June 1996

In continuing to fulfil its mandate under Article 44 of the *Convention on International Civil Aviation* by, *inter alia*, developing the principles and techniques of international air navigation and fostering the planning and development of international air transport so as to ensure the safe and orderly growth of international civil aviation throughout the world, the International Civil Aviation Organization (ICAO), recognizing the limitations of the present terrestrial-based system, developed the ICAO communications, navigation and surveillance/air traffic management (CNS/ATM) systems concept, utilizing satellite technology. ICAO considers an early introduction of the new systems to be in the interest of healthy growth of international civil aviation.

The implementation and operation of the new CNS/ATM systems shall adhere to the following precepts:

1. UNIVERSAL ACCESSIBILITY

The principle of universal accessibility without discrimination shall govern the provision of all air navigation services provided by way of the CNS/ATM systems.

2. SOVEREIGNTY, AUTHORITY AND RESPONSIBILITY OF CONTRACTING STATES

Implementation and operation of CNS/ATM systems which States have undertaken to provide in accordance with Article 28 of the Convention shall neither infringe nor impose restrictions upon States' sovereignty, authority or responsibility in the control of air navigation and the promulgation and enforcement of safety regulations. States' authority shall be preserved in the co-ordination and control of communications and in the augmentation, as necessary, of satellite navigation services.

3. RESPONSIBILITY AND ROLE OF ICAO

In accordance with Article 37 of the Convention, ICAO shall continue to discharge the responsibility for the adoption and amendment of Standards, Recommended Practices and Procedures governing the CNS/ATM systems. In order to secure the highest practicable degree of uniformity in all matters concerned with the safety, regularity and efficiency of air navigation, ICAO shall co-ordinate and monitor the implementation of the CNS/ATM systems on a global basis, in accordance with ICAO's regional air navigation plans and global co-ordinated CNS/ATM systems plan. In addition, ICAO shall facilitate the provision of assistance to States with regard to the technical, financial, managerial, legal and co-operative aspects of implementation. ICAO's role in the co-ordination and use of frequency spectrum in respect of communications and navigation in support of international civil aviation shall continue to be recognized.

4. TECHNICAL CO-OPERATION

In the interest of globally co-ordinated, harmonious implementation and early realization of benefits to States, users and providers, ICAO recognizes the need for technical co-operation in the implementation and efficient operation of CNS/ATM systems. Towards this end, ICAO shall play its central role in co-ordinating technical co-operation arrangements for CNS/ATM systems implementation. ICAO also invites States in a position to do so to provide assistance with respect to technical, financial, managerial, legal and co-operative aspects of implementation.

5. INSTITUTIONAL ARRANGEMENTS AND IMPLEMENTATION

The CNS/ATM systems shall, as far as practicable, make optimum use of existing organizational structure, modified if necessary, and shall be operated in accordance with existing institutional arrangements and legal regulations. In the implementation of CNS/ATM systems, advantage shall be taken, where appropriate, of rationalization, integration and harmonization of systems. Implementation should be sufficiently flexible to accommodate existing and future services in an evolutionary manner. It is recognized that a globally co-ordinated implementation, with full involvement of States, users and service providers through, *inter alia*, regional air navigation planning and implementation groups, is the key to the realization of full benefits from the CNS/ATM systems. The associated institutional arrangements shall not inhibit competition among service providers complying with relevant ICAO Standards, Recommended Practices and Procedures.

6. GLOBAL NAVIGATION SATELLITE SYSTEM

The global navigation satellite system (GNSS) should be implemented as an evolutionary progression from existing global navigation satellite systems, including the United States' global positioning system (GPS) and the Russian Federation's global orbiting navigation satellite system (GLONASS), towards an integrated GNSS over which Contracting States exercise a sufficient level of control on aspects related to its use by civil aviation. ICAO shall continue to explore, in consultation with Contracting States, airspace users and service providers, the feasibility of achieving a civil, internationally controlled GNSS.

7. AIRSPACE ORGANIZATION AND UTILIZATION

The airspace shall be organized so as to provide for efficiency of service. CNS/ATM systems shall be implemented so as to overcome the limitations of the current systems and to cater for evolving global air traffic demand and user requirements for efficiency and economy while maintaining or improving the existing levels of safety. While no changes to the current flight information region organization are required for implementation of the CNS/ATM systems, States may achieve further efficiency and economy through consolidation of facilities and services.

8. CONTINUITY AND QUALITY OF SERVICE

Continuous availability of service from the CNS/ATM systems, including effective arrangements to minimize the operational impact of unavoidable system malfunctions or failure and achieve expeditious service recovery, shall be assured. Quality of system service shall comply with ICAO Standards of system integrity and be accorded the required priority, security and protection from interference.

9. COST RECOVERY

In order to achieve a reasonable cost allocation between all users, any recovery of costs incurred in the provision of CNS/ATM services shall be in accordance with Article 15 of the Convention and shall be based on the principles set forth in the *Statements by the Council to Contracting States on Charges for Airports and Air Navigation Services* (Doc 9082), including the principle that it shall neither inhibit nor discourage the use of the satellite-based safety services. Cooperation amongst States in their cost-recovery efforts is strongly recommended.

ATTACHMENT B

EXCHANGE OF LETTERS BETWEEN ICAO AND THE UNITED STATES CONCERNING GPS

U.S. Department of Transportation
Federal Aviation Administration

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

OCT 14 1994

Dr. Assad Kotaite
President of the Council
International Civil Aviation Organization
1000 Sherbrooke Street West
Montreal, Quebec, Canada H3A 2R2

Dear Dr. Kotaite:

This letter supersedes my letter of April 14, 1994.

I would like to commend, on behalf of the United States, the Committees on Future Air Navigation Systems (FANS) of the International Civil Aviation Organization (ICAO) for pioneering progress in the development of global statellite navigation for civil aviation. I note in this regard that the ICAO Council, on December 11, 1991, requested the Secretary General of ICAO to initiate an agreement between ICAO and Global Navigation Satellite System (GNSS) provider states concerning the duration and quality of the future GNSS.

I would like to take this opportunity to reiterate my Government's offer of the Standard Positioning Service (SPS) of the United States Global Positioning System (GPS) for use by the international community. As the United States made clear at the ICAO Tenth Air Navigation Conference and the 29th ICAO Assembly, the United States intends, subject to the availability of funds as required by United States law, to make GPS-SPS available for the foreseeable future, on a continuous, worldwide basis and free of direct user fees. This offer satisfies ICAO requirements for minimum duration of service (10 years) and freedom from direct charges. This service, which will be available as provided in the United States Government's technical sections of the Federal Radio Navigation Plan on a nondiscriminatory basis to all users of civil aviation, will provide horizontal accuracies of 100 meters (95 percent probability) and 300 meters (99.99 percent probability). The United States shall take all necessary measures to maintain the integrity and reliability of the service and expects that it will be able to provide at least 6 years notice prior to termination of GPS operations or elimination of the GPS-SPS.

The GPS/SPS is a candidate component of the future GNSS as envisioned by FANS. The United States believes that making the GPS available to the international community will enable states to develop a more complete understanding of this valuable technology as a component of the GNSS. The availability of GPS-SPS, of course, is not intended in any

way to limit the rights of any state to control the operations of aircraft and enforce safety regulations within its sovereign airspace.

In the coming years, the international community must decide how to implement an international civil global navigation system based on satellite technology. The United States pledges its full cooperation in that endeavor and in working with ICAO to establish appropriate standards and recommended practices (SARP) in accordance with Article 37 of the Convention on International Civil Aviation (Chicago Convention). Consistent with this goal, the United States expects that SARP's developed by ICAO will be compatible with GPS operations and vice versa and that states will be free to augment GPS-SPS in accordance with appropriate SARP's. The United States will also undertake a continuing exchange of information with ICAO regarding the operation of the GPS to assist the ICAO Council in carrying out its responsibilities under the Chicago Convention.

I would be grateful if you could confirm that International Civil Aviation Organization is satisfied with the foregoing, which I submit in lieu of an agreement. In that event this letter and your reply will comprise mutual understandings regarding the Global Positioning System between the Government of the United States of America and the International Civil Aviation Organization.

Sincerely,

David R. Hinson
Administrator

INTERNATIONAL CIVIL AVIATION ORGANIZATION
ORGANISATION DE L'AVIATION CIVILE INTERNATIONALE
ORGANIZACIÓN DE AVIACIÓN CIVIL INTERNACIONAL
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ГРАЖДАНСКОЙ АВИАЦИИ
منظمة الطيران المدني الدولي

INTERNATIONAL AVIATION SQUARE, 1000 SHERBROOKE STREET WEST, MONTREAL, QUEBEC, CANADA H3A 2R2
TEL.: (514) 285-8011 FACSIMILE TEL.: (514) 288-4772 CABLES: ICAO MONTREAL TELEX: 05-24513

THE PRESIDENT OF THE COUNCIL

Ref.: LE 4/49.1
(F.LEB0513)

27 October 1994

Sir,

I have the honour to acknowledge receipt of your letter dated 14 October 1994 which supersedes your letter of 14 April 1994.

The letter of 14 October 1994 reads as follows:

"I would like to commend, on behalf of the United States, the Committees on Future Air Navigation Systems (FANS) of the International Civil Aviation Organization (ICAO) for pioneering progress in the development of global satellite navigation for civil aviation. I note in this regard that the ICAO Council, on December 11, 1991, requested the Secretary General of ICAO to initiate an agreement between ICAO and Global Navigation Satellite System (GNSS) provider states concerning the duration and quality of the future GNSS.

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.../

Mr. David Hinson
Administrator, Federal
Aviation Administration
U.S. Department of Transportation
800 Independence Ave., S.W.
Washington, D.C. 20591
U.S.A.

Fax No.: 202 267 5047

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The GPS-SPS is a candidate component of the future GNSS as envisioned by FANS. The United States believes that making the GPS available to the international community will enable states to develop a more complete understanding of this valuable technology as a component of the GNSS. The availability of GPS-SPS, of course, is not intended in any way to limit the rights of any state to control the operations of aircraft and enforce safety regulations within its sovereign airspace.

In the coming years, the international community must decide how to implement an international civil global navigation system based on satellite technology. The United States pledges its full cooperation in that endeavor and in working with ICAO to establish appropriate standards and recommended practices (SARP) in accordance with Article 37 of the Convention on International Civil Aviation (Chicago Convention). Consistent with this goal, the United States expects that SARP's developed by ICAO will be compatible with GPS operations and vice versa and that states will be free to augment GPS-SPS in accordance with appropriate SARP's. The United States will also undertake a continuing exchange of information with ICAO regarding the operation of the GPS to assist the ICAO Council in carrying out its responsibilities under the Chicago Convention.

I would be grateful if you could confirm that International Civil Aviation Organization is satisfied with the foregoing, which I submit in lieu of an agreement. In that event this letter and your reply will comprise mutual understandings regarding the Global Positioning System between the Government of the United States of America and the International Civil Aviation Organization. "

At the 12th Meeting of its 143rd Session on 26 October 1994, the Council of ICAO considered the offer contained in your letter, and I am pleased to inform you that the arrangements outlined in the offer are acceptable to the International Civil Aviation Organization. This offer will be communicated to all ICAO Contracting States.

Accept, Sir, the assurances of my highest consideration.

Assad Kotaite

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ATTACHMENT C

EXCHANGE OF LETTERS BETWEEN ICAO AND RUSSIAN FEDERATION CONCERNING GLONASS

ENGLISH TRANSLATION

MINISTRY OF TRANSPORT
OF THE RUSSIAN FEDERATION

Moscow, 4 June 1996

Sir,

This letter supersedes my letter of 5 February 1996.

The introduction of satellite technologies into world civil aviation operations marks a new stage in the practical implementation of the future CNS/ATM concept developed by the International Civil Aviation Organization (ICAO). On behalf of the Russian Federation, I would like to congratulate ICAO on its great achievements in planning for the future air navigation system and express my hopes for its successful implementation in practice.

One of the most important parts of the future air navigation system is the global navigation satellite system (GNSS). At the Tenth ICAO Air Navigation Conference in 1991, the Government of the USSR offered the world aviation community free use of the GLONASS global satellite navigation system. It was guaranteed that the system would operate for at least 15 years from the time of its full deployment in 1995.

The Russian Federation has now completed the full deployment of the space constellation and ground control system for GLONASS, and the GLONASS system is operational, providing the intended aircraft position determination performance.

Using the powers conferred on me, I would like to confirm, on behalf of the Government of the Russian Federation, the proposal made at the Tenth Air Navigation Conference concerning the provision of a standard-accuracy GLONASS channel to the world aviation community on a non-discriminatory basis for a period of at least 15 years with no direct charges collected from users, subject to the allocation of resources, as required under the legislation of the Russian Federation. This channel will be accessible to all civil aviation users and will provide position information with an accuracy of up to 60 metres in the horizontal plane (with a probability of 0.997) and up to 75 metres in the vertical plane (with a probability of 0.997). It is not intended that any methods will be used to degrade accuracy.

The Russian Federation will take all necessary measures to maintain the integrity and reliability of the service and expects that it will be able to provide at least 6 years' notice prior to termination of services.

To ensure GNSS use by world civil aviation, the Russian Federation is prepared to co-operate in every way with ICAO in preparing appropriate GNSS Standards and Recommended Practices (SARPs) in accordance with the provisions of Article 37 of the Chicago Convention, and also to keep ICAO constantly informed of the operational status of the GLONASS system.

The Russian Federation hopes that the SARPs developed by ICAO will be compatible with GLONASS system characteristics and, conversely, that the various States will be free to introduce the augmentations which they require to increase the effectiveness of GLONASS use, in accordance with the ICAO SARPs.

The Russian Federation will also undertake a continuing exchange of information with ICAO regarding the operation of GLONASS to assist the ICAO Council in carrying out its responsibilities under the Chicago Convention.

The provision of the GLONASS system to the world aviation community is not intended in any way to limit the right of any State to control aircraft operations and enforce flight safety regulations in its sovereign airspace.

Since ICAO is to act as the international co-ordinating body for the global implementation of the future air navigation system, we are prepared to conclude an agreement with ICAO for the use of the GLONASS system by the world aviation community as an element of the GNSS with the above-mentioned characteristics.

I would be grateful if you would confirm that the International Civil Aviation Organization is satisfied with the positions set out above. If that is the case, this letter and your reply will constitute a mutual agreement between the Government of the Russian Federation and the International Civil Aviation Organization concerning the GLONASS satellite navigation system.

Yours truly,

N. P. Tsakh
Minister of Transport

Dr. Assad Kotaite
President of the Council of ICAO
Montreal

ENGLISH TRANSLATION

Ref.: LE 4/49.1

29 July 1996

Sir,

I have the honour to acknowledge receipt of your letter dated 4 June 1996 which supersedes your letter of 5 February 1996.

The letter of 4 June 1996 reads as follows:

" This letter supersedes my letter of 5 February 1996.

The introduction of satellite technologies into world civil aviation operations marks a new stage in the practical implementation of the future CNS/ATM concept developed by the International Civil Aviation Organization (ICAO). On behalf of the Russian Federation, I would like to congratulate ICAO on its great achievements in planning for the future air navigation system and express my hopes for its successful implementation in practice.

One of the most important parts of the future air navigation system is the global navigation satellite system (GNSS). At the Tenth ICAO Air Navigation Conference in 1991, the Government of the USSR offered the world aviation community free use of the GLONASS global satellite navigation system. It was guaranteed that the system would operate for at least 15 years from the time of its full deployment in 1995.

The Russian Federation has now completed the full deployment of the space constellation and ground control system for GLONASS, and the GLONASS system is operational, providing the intended aircraft position determination performance.

Using the powers conferred on me, I would like to confirm, on behalf of the Government of the Russian Federation, the proposal made at the Tenth Air Navigation Conference concerning the provision of a standard-accuracy GLONASS channel to the world aviation community on a non-discriminatory basis for a period of at least 15 years with no direct charges collected from users, subject to the allocation of resources, as required under the legislation of the Russian Federation. This channel will be accessible to all civil aviation users and will provide position information with an accuracy of up to 60 metres in the horizontal plane (with a probability of 0.997) and up to 75 metres in the vertical plane (with a probability of 0.997). It is not intended that any methods will be used to degrade accuracy.

Mr. N.P. Tsakh
Minister of Transport
Ministry of Transport
of the Russian Federation
Sadovaja Samotechnaja, 10
101438 Moscow GSP-4

The Russian Federation will take all necessary measures to maintain the integrity and reliability of the service and expects that it will be able to provide at least 6 years' notice prior to termination of services.

To ensure GNSS use by world civil aviation, the Russian Federation is prepared to co-operate in every way with ICAO in preparing appropriate GNSS Standards and Recommended Practices (SARPs) in accordance with the provisions of Article 37 of the Chicago Convention, and also to keep ICAO constantly informed of the operational status of the GLONASS system.

The Russian Federation hopes that the SARPs developed by ICAO will be compatible with GLONASS system characteristics and, conversely, that the various States will be free to introduce the augmentations which they require to increase the effectiveness of GLONASS use, in accordance with the ICAO SARPs.

The Russian Federation will also undertake a continuing exchange of information with ICAO regarding the operation of GLONASS to assist the ICAO Council in carrying out its responsibilities under the Chicago Convention.

The provision of the GLONASS system to the world aviation community is not intended in any way to limit the right of any State to control aircraft operations and enforce flight safety regulations in its sovereign airspace.

Since ICAO is to act as the international co-ordinating body for the global implementation of the future air navigation system, we are prepared to conclude an agreement with ICAO for the use of the GLONASS system by the world aviation community as an element of the GNSS with the above-mentioned characteristics.

I would be grateful if you would confirm that the International Civil Aviation Organization is satisfied with the positions set out above. If that is the case, this letter and your reply will constitute a mutual agreement between the Government of the Russian Federation and the International Civil Aviation Organization concerning the GLONASS satellite navigation system."

At the 15th Meeting of its 147th Session on 14 March 1996, the Council of ICAO had considered this matter and the terms on which the offer of the Russian Federation should be accepted. Based on the decision of the Council at that meeting, I am pleased to inform you that the arrangements set forth in the offer are acceptable to the International Civil Aviation Organization. Accordingly, I confirm that your letter dated 4 June 1996 and my present letter of acceptance constitute a mutual agreement between the Government of the Russian Federation and the International Civil Aviation Organization concerning the GLONASS satellite navigation system. Your offer as well as my present letter of acceptance, will be communicated to all ICAO Contracting States.

Accept, Sir, the assurances of my highest consideration.

Assad Kotaite

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ATTACHMENT D

ASSEMBLY RESOLUTION A32-19: CHARTER ON THE RIGHTS AND OBLIGATIONS OF STATES RELATING TO GNSS SERVICES

A32-19: Charter on the Rights and Obligations of States Relating to GNSS Services

Whereas Article 44 of the *Convention on International Civil Aviation*, signed on 7 December 1944 (the "Chicago Convention"), mandates the International Civil Aviation Organization (ICAO) to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport;

Whereas the concept of the ICAO communications, navigation and surveillance/air traffic management (CNS/ATM) systems utilizing satellite-based technology was endorsed by States and international organizations at the ICAO Tenth Air Navigation Conference, and was approved by the 29th Session of the Assembly as the ICAO CNS/ATM systems;

Whereas the Global Navigation Satellite System (GNSS), as an important element of the CNS/ATM systems, is intended to provide worldwide coverage and is to be used for aircraft navigation;

Whereas GNSS shall be compatible with international law, including the Chicago Convention, its Annexes and the relevant rules applicable to outer space activities;

Whereas it is appropriate, taking into account current State practice, to establish and affirm the fundamental legal principles governing GNSS; and

Whereas the integrity of any legal framework for the implementation and operation of GNSS requires observance of fundamental principles, which should be established in a Charter;

The Assembly:

Solemnly declares that the following principles of this Charter on the Rights and Obligations of States Relating to GNSS Services shall apply in the implementation and operation of GNSS:

1. States recognize that in the provision and use of GNSS services, the safety of international civil aviation shall be the paramount principle.

2. Every State and aircraft of all States shall have access, on a non-discriminatory basis under uniform conditions, to the use of GNSS services, including regional augmentation systems for aeronautical use within the area of coverage of such systems.

3. a) Every State preserves its authority and responsibility to control operations of aircraft and to enforce safety and other regulations within its sovereign airspace.

b) The implementation and operation of GNSS shall neither infringe nor impose restrictions upon States' sovereignty, authority or responsibility in the control of air navigation and the promulgation and enforcement of safety regulations. States' authority shall also be preserved in the co-ordination and control of communications and in the augmentation, as necessary, of satellite-based air navigation services.

4. Every State providing GNSS services, including signals, or under whose jurisdiction such services are provided, shall ensure the continuity, availability, integrity, accuracy and reliability of such services, including effective arrangements to minimize the operational impact of system malfunctions or failure, and to achieve expeditious service recovery. Such State shall ensure that the services are in accordance with ICAO Standards. States shall provide in due time aeronautical information on any modification of the GNSS services that may affect the provision of the services.

5. States shall co-operate to secure the highest practicable degree of uniformity in the provision and operation of GNSS services.

States shall ensure that regional or subregional arrangements are compatible with the principles and rules set out in this Charter and with the global planning and implementation process for GNSS.

6. States recognize that any charges for GNSS services shall be made in accordance with Article 15 of the Chicago Convention.

7. With a view to facilitating global planning and implementation of GNSS, States shall be guided by the principle of co-operation and mutual assistance whether on a bilateral or multilateral basis.

8. Every State shall conduct its GNSS activities with due regard for the interests of other States.

9. Nothing in this Charter shall prevent two or more States from jointly providing GNSS services.

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ATTACHMENT E

RECOMMENDATIONS 1 TO 8 BY THE PANEL OF EXPERT ON THE ESTABLISHMENT OF A LEGAL FRAMEWORK WITH REGARD TO GNSS (LTEP)

LTEP Recommendation 1 to 8

"Recommendation 1

ICAO SARPs on GNSS should cover the system performance criteria of relevant satellite components, signal-in-space, avionics, ground facilities, training and licensing requirements, and the system as a whole.

Such ICAO SARPs should contain adequate system performance and failure mode information to enable States to reasonably determine the safety impact on their air traffic service.

Recommendation 2

With respect to all ICAO SARPs on GNSS, signal-in-space provider States and provider international organizations should be involved in the proposed ICAO verification and validation process so that SARPs and supporting ICAO documentation will be of high integrity.

Recommendation 3

States providing signals-in-space, or under whose jurisdiction such signals are provided, shall certify the signal-in-space by attesting that it is in conformity with SARPs.

The State having jurisdiction under the Chicago Convention should ensure that avionics, ground facilities and training and licensing requirements comply with ICAO SARPs.

Recommendation 4

States providing signals-in-space, or under whose jurisdiction such signals are provided, should ensure application of ongoing safety management processes which demonstrate continued compliance with signal-in-space SARPs.

Recommendation 5

States providing signals-in-space, or under whose jurisdiction such signals are provided, should produce a safety management system document using the ICAO forum referred to in Recommendation 8 below. To the extent possible, such document should be consistent as regards format and content. ICAO should distribute such signal-in-space safety management system documentation.

Recommendation 6

Each State should define and ensure the application of safety regulations for the use of the signal-in-space as part of air traffic services in its own airspace.

Recommendation 7

For the purpose of authorization by a State of the use of the signal-in-space in its airspace, additional information which may be required for such authorization should be made available and distributed through ICAO. Other sources for obtaining such information may be used, including, *inter alia*, bilateral and multilateral arrangements, Safety Case and NOTAMs.

Recommendation 8

States recognize the central role of ICAO in co-ordinating the global implementation of GNSS and in particular:

a) establishing appropriate Standards, Recommended Practices and procedures in accordance with Article 37 of the Chicago Convention in the implementation and operation of GNSS;

b) co-ordinating and monitoring the implementation of GNSS on a global basis, in accordance with ICAO's regional air navigation plans and global co-ordinated CNS/ATM systems plan;

c) facilitating the provision of assistance to States with regard to the technical, financial, managerial, legal and co-operative aspects of the implementation of GNSS;

d) co-ordinating with other organizations in any matter related to GNSS, including the use of frequency spectrum bands in which GNSS constituent elements operate in support of international civil aviation; and

e) carrying out any other function related to GNSS within the framework of the Chicago Convention, including functions under Chapter XV of the Convention.

More specifically, the ICAO forum for exchange of information on GNSS certification could have the following functions:

a) to provide liaison between State ATS providers, regulatory authorities, and signal-in-space providers;

b) to provide liaison between signal-in-space providers and other States with respect to the format and contents of safety management system documents;

c) to identify the failure modes of the signal-in-space and their impact on the safety of air traffic services nationally, and to refer them to an appropriate body as determined by the Council;

d) to identify what States require from signal-in-space providers in order to be confident that performance and risks associated with the signal-in-space are adequately managed over the life cycle of the system;

e) to facilitate information-sharing between signal-in-space providers and other States as to the continued compliance with the relevant SARPs, in order to maintain confidence in the reliability of the system."

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ATTACHMENT F

DRAFT CONTRACTUAL FRAMEWORK RELATING TO THE PROVISION OF GNSS SERVICES

DRAFT CONTRACTUAL FRAMEWORK RELATING TO THE PROVISION OF GNSS SERVICES

Whereas the Global Navigation Satellite System (GNSS), as an important element of the communications, navigation and surveillance/air traffic management (CNS/ATM) systems, is intended to provide worldwide coverage and is to be used for aircraft navigation;

Whereas the Parties are desirous to develop the long-term GNSS for civil aviation purposes in accordance with the principles enunciated in the *Charter on the Rights and Obligations of States Relating to GNSS Services*, adopted by the 32nd Session of the Assembly of the International Civil Aviation Organization (ICAO) (A32-19), as set out in the Appendix (hereinafter referred to as the "Charter");

Whereas the Parties aim at ensuring technical and operational accessibility, continuity, availability, integrity, accuracy and reliability of GNSS services;

Whereas the Parties to this contract which are States reaffirm their commitment to act in conformity with international law and the principles governing GNSS, in particular the *Convention on International Civil Aviation* (the Chicago Convention), its Annexes, the Charter and the relevant rules applicable to outer space activities; and the Parties which are not States are committed to act in accordance with applicable law;

Therefore, the Parties have agreed as follows:

Article 1 – Parties and Scope of Application

The present contract prescribes the rights and obligations of [*insert Name of Party*], hereinafter "the Air Traffic Service (ATS) Provider", and [*insert Name of other Party*], hereinafter "the GNSS Signal Provider", in respect of all services related to the GNSS signals for the purpose of air navigation. The contract is applicable to the airspace for which the ATS Provider is responsible in relation to its services.

Article 2 – GNSS Signal Provider

For the purposes of the present contract, the term "GNSS Signal Provider" may refer to either:

a) a primary signal provider from the core satellite constellation; or

b) an augmentation signal provider,

as the case may be.

Article 3 – Obligations of the GNSS Signal Provider

The GNSS Signal Provider undertakes to:

a) provide the signals during the term of this contract with the required continuity, availability, integrity, accuracy and reliability, as specified in multilaterally agreed standards, in particular the minimum standards of ICAO;

b) if the GNSS Signal Provider is not a State entity, obtain a licence as required by the State in the territory of which the signals are controlled;

c) comply with any requirements arising from the safety management provisions of the relevant Standards and Recommended Practices and Procedures for Air Navigation Services of ICAO; and

d) provide in due time aeronautical information on any modification of the GNSS Signals which may affect the services provided by the ATS provider.

Article 4 – Obligations of the ATS Provider

The ATS Provider undertakes to:

a) if it is not a State entity, obtain from the relevant State the necessary authorization for the use of GNSS signals provided by the GNSS Signal Provider for air traffic services within the airspace under the jurisdiction of that State;

b) coordinate with the GNSS Signal Provider with a view to facilitating the transmission of the signals and other matters relating to the operation of the GNSS;

c) comply with any requirements arising from the safety management provisions of the relevant Standards and Recommended Practices and Procedures for Air Navigation Services of ICAO; and

d) pay the service charges to the GNSS Signal Provider, if applicable.

Article 5 – Cost Recovery

Pursuant to Article 15 of the Chicago Convention and paragraph 6 of the Charter, the GNSS Signal Provider shall be entitled to establish a cost recovery mechanism, for the purpose of recovering the cost of such services from the users making use of GNSS signals so provided. Such mechanism shall ensure the reasonable allocation of costs among civil aviation users themselves and among civil aviation users and other system users.

Article 6 – Liability

The liability of each Party for failure to perform its obligations under this contract shall be governed by the liability regime applicable to its activity.

Article 7 – Recourse and Indemnification

Nothing in this contract shall prevent any of the Parties from exercising a right of recourse against, or from seeking indemnification from, the other Party or Parties to this contract pursuant to the applicable law.

If the loss or damage has been caused by the acts or omissions of more than one Party, the right of recourse and indemnification of a Party may be limited by the proportion of its respective fault, if the applicable law so provides.

Article 8 – Waiver of Sovereign Immunity

Any Party to this contract which is a State or State entity, hereby agrees to waive its sovereign immunity with respect to any arbitral proceedings in accordance with Article 9 of this contract.

Article 9 – Settlement of Disputes

The Parties shall use their best efforts to settle any dispute, disagreement or claim arising from or relating to the interpretation or performance of this contract by negotiation. Any dispute, disagreement or claim which cannot be settled by negotiation shall be submitted to conciliation in accordance with the UNCITRAL Conciliation Rules.

Any such dispute, disagreement or claim which cannot be settled under the preceding paragraph shall, upon the request of one Party, be referred to arbitration in accordance with the UNCITRAL Arbitration Rules then prevailing. The place of arbitration shall be [....] and it shall be conducted in the [....] language.

Article 10 – Applicable Law

The law of [....] shall govern this contract.

Article 11 – Duration of the Contract

This contract shall enter into force at the date of signature for a term of [....] years and shall be automatically renewable for the same term. Each Party may, however, give notice of termination of [....] months to the other Party, which shall become effective at the end of the term of the Contract.

Article 12 – Registration of the Contract

Pursuant to Article 83 of the Chicago Convention, if at least one Party to this contract is a Contracting State of ICAO, the contract shall be registered with ICAO.

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ATTACHMENT G

Framework Agreement between the Governments of
.....
Concerning the Implementation, Provision, Operation and Use of a Global Navigation Satellite System for Air Navigation Purposes

1. OBJECTIVES

1.1 The objective of this Agreement is to establish a legal framework for the implementation, provision, operation and use of GNSS for the purpose of air navigation over the territory of Contracting Parties, as well as to regulate the relationships between the entities and persons involved in such GNSS activities.

1.2 This Agreement aims at ensuring technical and operational accessibility, continuity, availability, integrity, accuracy and reliability of GNSS services world-wide. The Contracting Parties reaffirm their commitments to act in conformity with international law and the principles governing GNSS, in particular the Chicago Convention, its Annexes, the Charter on the Rights and Obligations of States Relating to GNSS Services and the relevant rules applicable to outer space activities.

1.3 This Agreement addresses the conditions under which GNSS services, including signals-in-space, can be safely used for air navigation purposes over the territory of Contracting Parties. It also aims at clarifying the obligations of the parties involved.

2. DEFINITIONS

2.1 For the purpose of this Agreement, the terms listed below are used with the following meanings:

Certification: The process which results in a formal attestation that a specified system, element thereof or service complies with pre-determined requirements.

Damage: Loss of life, injury. damage to property [...].

GNSS Entity: A public or private body/organisation, or public-private partnership, created for the purpose of managing, or mandated to manage, by means of contractual arrangements, relationships between GNSS system operators and GNSS service providers involved in the operation of a GNSS system for air navigation purposes.

GNSS service: An added value service to support air navigation, based upon signals emitted by a GNSS system.

GNSS service provider: An entity engaged in the activity of providing a GNSS service for air navigation purposes.

GNSS signal: A signal emitted by an element forming part of a GNSS system.

GNSS system: An infrastructure comprising satellites and other space and/or ground based facilities, capable of supporting air navigation based on signals-in-space.

GNSS system element: Any individual component of a GNSS system.

GNSS system operator: A body/organisation engaged in the operation and/or maintenance of a GNSS system or elements thereof.

GNSS user: An aircraft which uses GNSS signals or GNSS services for air navigation purposes.

Local augmentation system: A GNSS system, the purpose of which is to enhance the accuracy, reliability, continuity and integrity of a primary GNSS signal at a given location.

Primary signal system: A GNSS system, the purpose of which is to produce a primary signal-in-space.

Regional augmentation system: A GNSS system, the purpose of which is to enhance the accuracy, reliability, continuity and integrity of a primary signal within a given region.

3. SCOPE

3.1 The provisions of this Agreement shall apply to the Contracting Parties implementing, providing, operating and/ or using GNSS for air navigation purposes.

3.2 This Agreement governs the creation of the GNSS Entity or the mandate to an existing entity to perform such function. It addresses, inter alia, the relationships of the Entity with the GNSS system operators and GNSS service providers operating from the territory of a Contracting State or having a registered office on the territory of a Contracting State.

3.3 When Contracting Parties have agreed to undertake responsibilities in respect of providing Air Navigation Services over parts of the high seas, this Agreement shall also apply to the exercise of those responsibilities over those parts of the high seas.

4. SOVEREIGNTY

4.1 This Agreement does not affect in any way the complete and exclusive sovereignty of Contracting Parties in respect of the airspace over their territory.

4.2 'The Contracting Parties recognise that the implementation, provision, operation and use of GNSS shall neither infringe nor limit State's authority or responsibility in the control of air navigation and the promulgation and enforcement of safety regulations. States' authority shall also be preserved in the

co-ordination and control of communications and in the augmentation, as necessary, of satellite-based Air Navigation Services.

5. CONTRACTING PARTIES RESPONSIBILITIES

5.1 Contracting Parties shall define, in accordance with the provisions of this Agreement, the conditions under which a GNSS system or element thereof may be used for air navigation purposes over their territories.

5.2 Contracting Parties may authorise any public, private or public-private organisations, including foreign bodies, to provide GNSS signals or services to support air navigation over their territory, provided these bodies/organisations operate in accordance with the requirements set forth in this Agreement.

5.3 It remains the responsibility of each Contracting Party to ensure that GNSS signals and services are provided and used over its territory in accordance with the relevant provisions of the Chicago Convention.

5.4 Contracting Parties shall establish appropriate processes:

a) to ensure that organisations engaged in the implementation, provision, operation and use of a GNSS system or elements thereof, comply with the requirements of this Agreement; and

b) to ensure that the activities performed by the GNSS Entity established or mandated in accordance with article 6 of this Agreement comply with the requirements of this Agreement.

6. GNSS ENTITY

6.1 An Entity shall be established under this Agreement and will be referred to as the GNSS Entity. It shall be made up of an Administrator supported by a Secretariat.

Contracting Parties may mandate an already established organisation or body to undertake the tasks of the GNSS Entity described in this Agreement.

6.2 The GNSS Entity shall have legal personality. It shall enjoy in the territory of its Contracting Parties such legal capacity as may be necessary for the performance of its tasks.

6.3 The GNSS entity shall be charged with facilitating and [managing] [establishing], by means of contractual arrangements, the relationships between the various GNSS system operators and GNSS service providers falling under the scope of this Agreement.

6.4 The GNSS Entity may be entrusted with, inter alia, the following tasks, upon decision by the Contracting Parties:

a) specification of GNSS signals and services;

b) drafting, negotiation, implementation of contractual and service level agreements between the GNSS entity, GNSS system operators and GNSS service providers, in accordance with Article 8 of this Agreement;

c) definition of processes for the allocation of responsibilities among GNSS parties;

d) management of a compensation GNSS fund if set up in accordance with article 9.2 of this Agreement; and

e) definition of applicable risk coverage requirements.

6.5 The financial and institutional consequences of the establishment of the GNSS Entity shall be addressed by the Contracting Parties.

7. ROLE OF ICAO

7.1 Contracting Parties recognise the central role of ICAO in co-ordinating the global implementation of GNSS and in particular:

a) establishment of the SARPs;

b) collection, processing, management and distribution of relevant aeronautical information pertaining to the GNSS systems and services falling within the scope of this Agreement;

c) co-ordination of the activities of the GNSS Entity or body/organisation mandated to undertake its tasks with those of other entities created under similar Agreements and/or with similar functions in other regions; and

d) monitoring of compliance by GNSS system operators and/or service providers with the applicable technical, operational and legal requirements, including the terms of relevant contractual arrangements.

8. CONTRACTUAL AGREEMENTS

8.1 Contracts referred to in Articles 6.3 and 6.4 of this Agreement shall be concluded in conformity with the requirements of this article and the terms of this Agreement.

8.2 Contracting Parties undertake that the contracts entered into in pursuance to this Agreement shall contain the following mandatory elements:

a) compliance with SARPs;

b) compliance with the Charter with regard to continuity, availability, integrity, accuracy and reliability;

c) liability shall be based on fault;

d) compulsory risk coverage;

e) mandatory recourse to arbitration; and

f) recognition that State organisations/bodies are subject to the same rules as private parties.

9. RISK COVERAGE

9.1 The Contracting Parties shall ensure that GNSS system operators and service providers provide adequate insurance or other risk coverage to compensate for loss or damage that may arise out of or in relation to the non-performance of their activities.

9.2 Contracting Parties may set-up a dedicated fund to compensate for any loss or damage that may arise from the non-performance of the activities of system operators or service providers to the extent of a shortfall in the recovery from the body/organisation who is liable.

10. INCIDENT/ACCIDENT INVESTIGATION

10.1 Investigations pertaining to air navigation incidents or accidents involving a possible malfunction, failure or improper use of GNSS shall be conducted in accordance with the provisions of Annex 13 to the Chicago Convention. In this regard, system operators shall ensure that signals shall be recorded for the purposes of evidence.

11. CERTIFICATION

11.1 Contracting Parties shall ensure that GNSS systems and elements including avionics as well as GNSS services shall be certified prior to entry into operation.

11.2 Contracting Parties and their regulators shall ensure, through their established safety management system that GNSS is safe for use. Integrity of the national safety management systems shall be monitored by ICAO [through its Universal Safety Oversight Audit Programme].

12. LIABILITY

12.1 In the event of loss or damage arising out of a failure, malfunction or improper use of GNSS, each entity or person involved shall be liable to the extent it has contributed to the occurrence of the loss or damage.

12.2 The liability of the parties shall be ruled by the material liability regime normally applicable to its activity, in accordance with applicable existing international and national laws.

12.3 Contracting Parties and other public parties shall submit themselves to arbitration and be subject to the same rules as private partners.

12.4 In the event that loss or damage can be attributed to a GNSS failure, malfunction or improper use, but cannot clearly be traced to a specific defendant, the defendants involved in the chain of events which resulted in the occurrence of the loss or damage shall be declared jointly liable for the entire amount of the loss or damage.

13. ARBITRATION

13.1 All liability claims shall be consolidated and brought to arbitration, in accordance with the rules of arbitration established under this Agreement and detailed in Annex [X]. The consolidated claims shall include those against the concerned GNSS Entity, GNSS system operators, GNSS service providers, aircraft operators, air carriers, Air Navigation Services Providers, equipment manufacturers and regulators.

13.2 Nothing in this Agreement shall prejudice the rights of any individuals with regard to the Warsaw/Montreal Conventions.

13.3 Decisions of the arbitration panel shall be final and binding on the Parties to the arbitration procedure.

14. ICAO REGISTRATION

14.1 This Agreement shall be registered with the ICAO Council, in accordance with the provisions of Article 83 of the Chicago Convention.

15. AMENDMENT

15.1 Any proposed amendment to this Agreement shall be subject to the approval of [two-thirds] of its Contracting Parties.

16. ADMISSION OF OTHER PARTIES

16.1 This Agreement is opened for admission to other Parties [...]

17. TERMINATION

17.1 This Agreement may be terminated [...]

Effect on GNSS Entity established under this Agreement [...]

18. ENTRY INTO FORCE

18.1 This Agreement shall enter into force at the date of signature.

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ATTACHMENT H

Proposal by Certain Members of the Group relating to Main Elements for inclusion in a draft Convention

Preamble

The Preamble refers to the relevant legal basis for the convention, in particular the Chicago Convention and its Annexes, and recalls the need for GNSS to be compatible with them and other relevant international law rules applicable to outer space activities. The Charter on the Rights and Obligations of States Relating to GNSS Services, adopted by the 32nd Session of the ICAO Assembly (1998), established certain fundamental principles that need to be elaborated in an international convention, in order to make them binding.

Definitions

In view of the legal consequences of GNSS, it will be necessary to define certain terms for the purposes of the convention. Such terms as "GNSS service", "GNSS service provider", "GNSS system", "GNSS System operator", "GNSS user", "primary signal provider", "regional augmentation system" and "local augmentation system" will need to be defined, in line with state-of-the-art working terminology.

Scope

The convention should apply to activities employing satellites and ground-based equipment, technologies and systems.

Safety of Air Navigation

Safety of air navigation should be the paramount principle in the implementation and operation of GNSS systems and the provision and use of GNSS services. Commercial considerations should not be allowed to override safety requirements. Provision should be made to respect this principle in the case of war and emergency conditions.

Universal Accessibility

Every aircraft registered in the territory of the Contracting Parties should have access on a non-discriminatory basis and under uniform conditions to the use of regional augmentation systems for aeronautical use within the area of coverage of such systems. The article should also propose means of achieving universality.

State Sovereignty

The implementation and operation of GNSS systems and the provision and use of GNSS services should neither infringe nor limit a State's authority or responsibility in the control of air navigation or the promulgation and enforcement of safety regulations. The article should provide for the delegation of the provision of services to other suitable parties, should a State wish to do so.

GNSS Elements Performance Specifications

A party providing GNSS services should ensure that those services meet the system performance requirements with regard to accuracy, integrity, continuity, availability, including effective arrangements to minimise the operational impact of system malfunctions or failures.

The Contracting Parties should ensure that the systems comply, at least, with ICAO SARPS, including but not limited to Annex 10, which should be of mandatory application.

The necessity to record GNSS signals and to retain such recordings for use as evidence in accident investigations should also be included in the convention to ensure legal effect. Inclusion in Annex 10 may not be adequate.

Uniformity

Contracting Parties should work together to ensure uniformity in the provision and operation of GNSS services. This could entail ensuring that systems are interoperable in the interests of global aviation safety.

Charges

Provision should be made to cater for the situation that some (future) systems may be subject to charges. In that event, a charging mechanism should ensure the reasonable allocation of costs among civil aviation users and among civil aviation users, as a group, and other system users. The work of ANSEP should be taken into account.

Cooperation and Mutual Assistance and role of ICAO

In order to facilitate global planning and worldwide implementation of GNSS in an effective manner, Contracting Parties should conduct their activities with due regard for the interests of other Parties. ICAO could play an essential role in this regard by

- Co-ordinating with regional bodies or other entities which are managing, facilitating or otherwise co-ordinating relationships between system operators or service providers
- Monitoring, through the Universal Oversight Audit Programme, compliance by GNSS system operators and service providers with the applicable technical standards, operational and legal requirements
- Facilitating the provision of assistance to States with regard to the technical, financial, managerial, legal and co-operative aspects of GNSS.

Certification

GNSS systems, services and elements thereof, including avionics and ground facilities, should be certified against the applicable technical requirements prior to entry into operation and training and licensing requirements should comply with ICAO SARPS.

Unlawful interference

Provision should be made for measures to prevent and protect against harmful interference.

Liability

Provision should be made for a strict liability up to a certain determined limit and fault based thereafter, in line with the Montreal Convention of 1999 for loss or damage caused by the failure, malfunction or improper use of a GNSS system or service. In the event that the loss or damage was caused by more than one systems or services, the providers thereof should be jointly and severally liable, to the extent to which they were at fault. An alternative solution could be a fault-based liability regime but with the burden of proof reversed.

Force majeure

Provision could be made to exclude liability in situations which were beyond the control of a party such as Act of God, war, etc.

Sovereign immunity

Provision should be made for the conditions under which sovereign immunity could not be invoked, to avoid situations where parties would be unable to seek redress due to this rule.

Recourse and indemnification

The convention should allow any entity or person found liable for loss or damage to have a right of recourse against any other person or entity.

Competent jurisdiction / Arbitration

GNSS-related events present the characteristic of possibly involving a multiplicity of parties in a variety of actions in several jurisdictions. The convention could propose a single jurisdiction to neutralise the complexity of all the liability claims.

As an alternative to the single jurisdiction and to overcome the principles of foreign jurisdiction immunity, recourse to arbitration mechanisms could be considered which could follow established UNCITRAL Rules or the Rules of the Permanent Court of Arbitration in The Hague.

Applicable law

The convention could provide that the competent court or arbitration tribunal applies the liability regime applicable in accordance with existing international and internal rules.

Period of limitation

The convention could provide that the right to take legal action would be extinguished if an action was not brought within a specified number of years from the date of the act or event which caused the damage for which the compensation was sought.

Compulsory risk coverage

Contracting Parties should ensure that their system operators and service providers maintain adequate insurance or have other means of risk coverage in respect of their liability. As an aviation-related GNSS accident could have significant liability consequences, the possibility of setting up a dedicated fund to compensate for any shortfall in recovery from the persons held to be liable ought to be considered.

Joint operation of GNSS services

The convention should not prevent two or more Contracting Parties from jointly providing services using GNSS.

Other Provisions

The Convention should contain the standard procedural provisions with respect to Amendments, Settlement of Disputes, Entry into Force and Denunciation.

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Appendix 2

WORKING PAPER

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A35-WP/125*
LE/11
21/9/04

ASSEMBLY — 35TH SESSION

LEGAL COMMISSION

Agenda Item 36: Report on the establishment of a legal framework with regard to CNS/ATM systems including GNSS

DEVELOPMENT OF A CONTRACTUAL FRAMEWORK LEADING TOWARDS A LONG-TERM LEGAL FRAMEWORK TO GOVERN THE IMPLEMENTATION OF GNSS

(Presented by the 41 Contracting States[1], Members of the European Civil Aviation Conference)

SUMMARY

The technical and operational development of GNSS is now well advanced. The time has come to implement an appropriate GNSS legal and institutional framework. This paper proposes a comprehensive contractual framework as a step towards a convention in the long term. This paper has been elaborated and co-ordinated by EUROCONTROL, in coordination with the European Commission.

Action by the Assembly is in paragraph 8.

1. INTRODUCTION

1.1 Further to the Assembly Resolution A32-20, a Secretariat Study Group was set up to elaborate proposals for a GNSS legal framework. This group reported to the 33rd Assembly that some of its Members were of the view that the current legal regime could cope with the advent of GNSS, while others believed that a global instrument of international law would be required as the long-term solution to the legal and institutional issues raised by GNSS. In order to provide a realistic stepping stone towards such a solution, a middle ground was considered, namely the development of a contractual framework, for the short to medium-term.

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* English, French, Spanish and Russian versions provided by ECAC.

[1] Albania, Armenia, Austria*, Azerbaijan, Belgium*, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus*, Czech Repuglic*, Denmark*, Estonia*, Finland*, France*, Germany*, Greece*, Hungary*, Iceland, Ireland*, Italy*, Latvia*, Lithuania*, Luxembourg*, Malta*, Moldova, Monaco, Netherlands*, Norway, Poland*, Portugal*, Romania, Serbia and Montenegro, Slovakia*, Slovenia*, Spain*, Sweden*, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom*.
Member States of the European Union are indicated with an asterisk in the above list.

1.2 The 33rd General Assembly mandated the Study Group to finalise the concept of a "Contractual Framework", as an interim framework, while further work should include the consideration of an international convention. The Secretariat of the Study Group presented its final report of the deliberations of that Group and the results of this activity (C-WP/12197) to the Council in March 2004.

1.3 That report highlights that divergent views continue to exist between legal experts as to the concept of a contractual framework as well as on the need for the timely elaboration of an international convention. The objective of this paper is to explain the need to urgently implement a comprehensive contractual framework. It also underlines the growing support expressed for a convention.

2. THE NEED FOR A COMPREHENSIVE FRAMEWORK

2.1 The current regime regarding satellite-based CNS/ATM does not represent a satisfactory solution for dealing with the legal issues arising from an evolving technology. While annexes to the Chicago Convention (principally Annex 10) have kept pace with technological and operational advances, the legal and institutional issues thrown up by such advances have largely remained frozen in time.

2.2 The need for a comprehensive framework arises from the implications of global navigation systems, with their multimodal dimensions and multiplicity of stakeholders. States wish to understand in particular how their Article 28 Chicago Convention responsibilities work in this environment, the liability issues that arise, and the means by which they can be assured that the system or systems are safe and reliable. In a global environment they consider that reliance on domestic laws and procedures is insufficiently robust or effective to deal with the requirements of such systems.

2.3 Clarity and legal certainty are key issues that need to be addressed. The responses of the current regime at State level to the legal challenges of GNSS often cannot fully meet the new requirements that have been identified. A global operating environment therefore may need global solutions through international law instruments. And beyond the legalities involved is the importance of confidence building measures to help generate global support for the use of such systems.

3. CURRENT AND FORESEEN SYSTEMS

3.1 In addition to GPS and GLONASS, several initiatives are under development in order to provide improved navigation services and complement systems. Developments regarding WAAS, EGNOS and GALILEO[2] underline the global nature of GNSS and the need for continued cooperation and complementarities in this field.

3.2 In particular, the GALILEO Satellite Navigation Programme is the first major programme that brings major entities such as the European Union and the European Space Agency together in the technological, economical, political, legal and institutional domains. The GALILEO system provides, alongside an open service similar to the GPS civilian service, new features to improve and guarantee services, thereby creating the conditions for responding to obligations imposed by critical, safety of life, or commercial applications. GALILEO Services are required to be fully compatible and interoperable at user level with other

[2] GALILEO is a worldwide system which will ensure complementarity with the current GPS system. GALILEO will be based on a constellation of 30 satellites and ground stations.

GNSS services, with no common failure mode between systems. This combined use of the GALILEO system and other GNSS will offer high performances in terms of reliability, availability, coverage and other essential navigation characteristics.

3.3 GALILEO, as a global civilian system, is subject to a set of international cooperation agreements, to ensure the maximum benefits for users.

3.4 Europe has already embarked on setting up institutional arrangements to ensure interoperability with other navigation systems; a technical agreement has been signed with the United States (GPS). Europe has entered into other bilateral and regional agreements to develop technical and scientific collaboration.

3.5 Deployment and commercial operation of GALILEO will be entrusted to a concession holder. To ensure that essential public interests are adequately defended and represented, a structure, called "the European GNSS Supervisory Authority", is being set up by a European Council regulation for the management of the European satellite radio navigation programme[3].

3.6 As underlined in A35-WP/155 EC/22, on the Importance of GNSS Cost Allocation presented by the Netherlands on the behalf of the European Community and its Member States, the contractual framework proposed in this paper is supported by the European Commission. The European Commission is dedicated to developing and structuring the service provision of GALILEO in such a way that the contractual framework binds the different stakeholders involved in the provision of aeronautical services based on GNSS.

4. THE CONTRACTUAL FRAMEWORK

4.1 A contractual framework which addresses GNSS must provide a unified structure capable of addressing both public law and private law arrangements between the various stakeholders. It needs to be comprehensive in coverage, addressing the full range of issues that concern those stakeholders. The contractual framework as proposed by the ECAC States is attached at **Appendix B**. It is not new. It was already presented and discussed at the 33rd Assembly, which asked for its completion as an interim step towards the development of a possible Convention.

4.2 It is based on a two-tier approach. On one level, it offers a regulatory agreement dealing with public law matters including certification, liability and jurisdictional matters. The other level is private contractual arrangements between the various stakeholders in which they would have a very large degree of autonomy subject to certain mandatory elements determined by the regulatory agreement. These mandatory elements would focus on inter alia, compliance with SARPs with regard to continuity, availability, integrity, accuracy, reliability, recognition of (strict) liability, compulsory risk coverage, recourse to arbitration, waiver of right to invoke sovereign immunity. Harmonisation of these essential parts of the contracts would help achieve a framework where the roles and responsibilities of all players involved are clear to all and where relationships are defined.

4.3 The two main elements of this contractual framework, therefore, are the private law contracts to be concluded between the parties involved in the chain of implementation, operation, provision

[3] At the meeting of the EU Council held on 11 June 2004, the Council adopted the EC Regulation setting up the European GNSS Supervisory Authority.

and use of GNSS signals and systems and the public law agreement between the States involved to ensure that these contracts are harmonised in order to contain the same essential provisions on safety, certification, liability, etc. In this way, the necessary distinction between the public and private law elements of this proposed contractual framework will be ensured.

4.4 The contractual framework being proposed by ECAC States in this paper is not a GNSS Convention. While it includes binding elements, it also creates a flexible and readily available framework to cover all legal and institutional elements related to GNSS at the regional level and harmonises contractual relationships between the parties involved, providing clarity and legal certainty. It may, however, provide experience and know-how and represents a first step, which could evolve into a long-term focussed and precise global instrument of international law under the aegis of ICAO.

5. CONSIDERATION OF AN INTERNATIONAL CONVENTION

5.1 It was part of the mandate of the Secretariat Study Group to consider an international Convention for the purpose of elaborating a long-term legal framework for CNS/ATM systems. The Secretariat Report concludes that it is premature at this point to draft an international convention. The papers submitted to the recent Air Navigation Conference[4], respectively by African States, ASECNA, the European Community and Japan do however illustrate that a substantial number of States in the Assembly are in favour of developing an international convention. With this in mind, the European members of the Study Group presented a first draft convention for consideration. A list of the main elements to be contained in such a convention is attached at **Appendix C**.

5.2 The objective would be to achieve a dedicated Convention limited to the essential common elements for legally and institutionally adequate provision of GNSS services. It would address, in particular, liability, including the issue of third party liability which can not be adequately addressed through the contractual framework solution. The Convention is foreseen to be the most appropriate way to address all parties affected by such a global system in the long term.

5.3 Like other similar instruments developed in ICAO, such an instrument could be drafted and discussed in a reasonable time frame and could already enter into force after relatively few ratifications, as it would be designed to "grow" in the course of its application. It would provide for an important role for ICAO with respect to, *inter alia*, global coordination.

6. CONCLUSION

6.1 As indicated above, strong support has been consistently expressed by those who consider that the status quo does not provide sufficient answers to the legal and institutional aspects of the GNSS system within a new CNS service. Most importantly, the vast majority of States, other GNSS providers and users of GNSS services will require legal certainty as to who is responsible for any particular aspect of the system and what the eventual liability and burden of proof will be. The elaboration of a convention does not detract in any way from the benefits of a contractual framework as an interim solution. An efficient interim arrangement that addresses all the major issues would adequately compensate for the fact that a convention would be some years off. Indeed, an effective and readily available contractual framework, which

[4] ANConf 11: WP/143 presented by 54 African States and WP/153 presented by 41 ECAC/EUROCONTROL States.

harmonises contractual relationships between the parties involved in GNSS implementation, while being responsive to the evolution of the satellite-based CNS/ATM system, could ease the way for a convention and promote its faster adoption.

7. RECOMMENDATION

7.1 In the light of the above, it is proposed that the General Assembly of ICAO progresses the implementation of the contractual framework as set out in this paper and in parallel continues the work on a convention, on the basis of the proposals contained in this paper.

8. ACTION BY THE ASSEMBLY

8.1 The Assembly is invited to:

a) adopt the draft Assembly resolution as set out in **Appendix A** to this paper;

b) note the overall contractual framework approach as set out in **Appendix B** to this paper; and

c) note the elements for a GNSS convention as set out in **Appendix C** to this paper.

APPENDIX A

DRAFT RESOLUTION

IMPLEMENTATION OF A CONTRACTUAL FRAMEWORK WITH A VIEW TOWARDS A LONG-TERM GNSS INSTITUTIONAL SOLUTION

Whereas the Global Navigation Satellite System (GNSS), as an important aspect of the ICAO CNS/ATM systems, is intended to provide safety-critical services for aircraft navigation with worldwide coverage;

Whereas GNSS should be compatible with the international law, including the Convention on International Civil Aviation of 1944 (hereafter the Chicago Convention), its Annexes and the relevant rules applicable to outer space activities;

Whereas in its Resolution A32-19, the Assembly adopted the Charter on the Rights and Obligations of States Relating to GNSS Services setting out the fundamental principles applicable to the implementation of GNSS;

Whereas in its Resolution A32-20, the Assembly instructed the Council and the Secretariat to establish a Secretariat Study Group to ensure the follow up of the recommendations of the Rio Conference and the Panel of Legal and Technical Experts on GNSS (LTEP), in particular with respect to institutional issues and question of liability, as well as considering the elaboration of a longer-term framework to govern the operation of GNSS systems;

Whereas in its 33rd Session, the Assembly decided that further work on the legal aspects of CNS/ATM system be carried out so as to finalise the concept of a contractual framework for CNS/ATM as an interim framework and provide a path towards its implementation, including the consideration of an international convention.

Whereas technical and operational activities towards the implementation of GNSS are now well advanced and the need to establish a proper legal and institutional framework for the same implementation is now imminent.

Whereas the global nature of GNSS for aviation purposes requires a global solution and concrete actions reflecting the urgent need for States to improve their legal and institutional framework;

The Assembly:

1. *Reconfirms* the urgent need to take concrete initiatives towards the implementation of an appropriate GNSS legal and institutional framework;

2. *Reconfirms* the need for an appropriate short and long-term legal and institutional framework to govern the effective implementation of GNSS, namely a contractual framework evolving into an international convention; and

3. *Instructs* the Council and the Secretary General, within their respective competencies, to take the necessary steps to:

a) Validate and then adopt a contractual framework as a step towards the long-term objective of a global instrument of international law, on the basis of the structure and comprehensive model proposed in Appendix B to A35-WP/125;

b) draft a dedicated Convention addressing the legal and institutional aspects of GNSS, taking into account the elements contained in Appendix C to A35-WP/125; and

c) ensure, in particular, the active role of ICAO with respect to this development and implementation of the approaches described in a) and b).

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APPENDIX B

FRAMEWORK AGREEMENT BETWEEN THE GOVERNMENTS OF ..... CONCERNING THE IMPLEMENTATION, PROVISION, OPERATION AND USE OF A GLOBAL NAVIGATION SATELLITE SYSTEM FOR AIR NAVIGATION PURPOSES

1. OBJECTIVES

1.1 The objective of this Agreement is to establish a legal framework for the implementation, provision, operation and use of GNSS for the purpose of air navigation over the territory of Contracting Parties, as well as to regulate the relationships between the entities and persons involved in such GNSS activities.

1.2 This Agreement aims at ensuring technical and operational accessibility, continuity, availability, integrity, accuracy and reliability of GNSS services world-wide. The Contracting Parties reaffirm their commitments to act in conformity with international law and the principles governing GNSS, in particular the Chicago Convention, its Annexes, the Charter on the Rights and Obligations of States Relating to GNSS Services and the relevant rules applicable to outer space activities.

1.3 This Agreement addresses the conditions under which GNSS services, including signals-in-space based thereupon, can be safely used for air navigation purposes over the territory of Contracting Parties. It also aims at clarifying the obligations of the parties involved.

2. DEFINITIONS

2.1 For the purpose of this Agreement, the terms listed below are used with the following meanings:

Certification: The process which results in a formal attestation that a specified system, element thereof or service complies with pre-determined requirements.

Damage: Loss of life, injury, damage to property [...].

GNSS Entity: A public or private body/organisation, or public-private partnership, created for the purpose of managing, or mandated to manage, by means of contractual arrangements, relationships between GNSS system operators and GNSS service providers involved in the operation of a GNSS system for air navigation purposes.

GNSS service: An added value service to support air navigation, based upon signals emitted by a GNSS system.

GNSS service provider:	An entity engaged in the activity of providing a GNSS service for air navigation purposes.
GNSS signal:	A signal emitted by an element forming part of a GNSS system.
GNSS system:	An infrastructure comprising satellites and other space and/or ground based facilities, capable of supporting air navigation based on signals-in-space.
GNSS system element:	Any individual component of a GNSS system.
GNSS system operator:	A body/organisation engaged in the operation and/or maintenance of a GNSS system or elements thereof.
GNSS user:	An aircraft which uses GNSS signals or GNSS services for air navigation purposes.
Local augmentation system:	A GNSS system, the purpose of which is to enhance the accuracy, reliability, continuity and integrity of a primary GNSS signal at a given location.
Primary signal system:	A GNSS system, the purpose of which is to produce a primary signal-in-space.
Regional augmentation system:	A GNSS system, the purpose of which is to enhance the accuracy, reliability, continuity and integrity of a primary signal within a given region.

3. SCOPE

3.1 The provisions of this Agreement shall apply to the Contracting Parties implementing, providing, operating and/ or using GNSS for air navigation purposes.

3.2 This Agreement governs the creation of the GNSS Entity or the mandate to an existing entity to perform such function. It addresses, inter alia, the relationships of the Entity with the GNSS system operators and GNSS service providers operating from the territory of a Contracting State or having a registered office on the territory of a Contracting State.

3.3 When Contracting Parties have agreed to undertake responsibilities in respect of providing Air Navigation Services over parts of the high seas, this Agreement shall also apply to the exercise of those responsibilities over those parts of the high seas.

4. SOVEREIGNTY

4.1 This Agreement does not affect in any way the complete and exclusive sovereignty of Contracting Parties in respect of the airspace over their territory.

4.2 The Contracting Parties recognise that the implementation, provision, operation and use of GNSS shall neither infringe nor limit State's authority or responsibility in the control of air navigation and the promulgation and enforcement of safety regulations. States' authority shall also be preserved in the co-ordination and control of communications and in the augmentation, as necessary, of satellite-based Air Navigation Services.

5. CONTRACTING PARTIES RESPONSIBILITIES

5.1 Contracting Parties shall define, in accordance with the provisions of this Agreement, the conditions under which a GNSS system or element thereof may be used for air navigation purposes over their territories.

5.2 Contracting Parties may authorise any public, private or public-private organisations, including foreign bodies, to provide GNSS signals or services to support air navigation over their territory, provided these bodies/organisations operate in accordance with the requirements set forth in this Agreement.

5.3 It remains the responsibility of each Contracting Party to ensure that GNSS signals and services are provided and used over its territory in accordance with the relevant provisions of the Chicago Convention.

5.4 Contracting Parties shall establish appropriate processes:

a) to ensure that organisations engaged in the implementation, provision, operation and use of a GNSS system or elements thereof, comply with the requirements of this Agreement; and

b) to ensure that the activities performed by the GNSS Entity established or mandated in accordance with article 6 of this Agreement comply with the requirements of this Agreement.

6. GNSS ENTITY

6.1 An Entity shall be established under this Agreement and will be referred to as the GNSS Entity. It shall be made up of an Administrator supported by a Secretariat. Contracting Parties may mandate an already established organisation or body to undertake the tasks of the GNSS Entity described in this Agreement.

6.2 The GNSS Entity shall have legal personality. It shall enjoy in the territory of its Contracting Parties such legal capacity as may be necessary for the performance of its tasks.

6.3 The GNSS entity shall be charged with facilitating and [managing] [establishing], by means of contractual arrangements, the relationships between the various GNSS system operators and GNSS service providers falling under the scope of this Agreement.

6.4 The GNSS Entity may be entrusted with, *inter alia*, the following tasks, upon decision by the Contracting Parties:

a) specification of GNSS signals and services;

b) drafting, negotiation, implementation of contractual and service level agreements between the GNSS entity, GNSS system operators and GNSS service providers, in accordance with Article 8 of this Agreement;

c) definition of processes for the allocation of responsibilities among GNSS parties;

d) management of a compensation GNSS fund if set up in accordance with article 9.2 of this Agreement; and

e) definition of applicable risk coverage requirements.

6.5 The financial and institutional consequences of the establishment of the GNSS Entity shall be addressed by the Contracting Parties.

7. ROLE OF ICAO

7.1 Contracting Parties recognize the central role of ICAO in coordinating the global implementation of GNSS and in particular:

a) establishment of the SARPs;

b) collection, processing, management and distribution of relevant aeronautical information pertaining to the GNSS systems and services falling within the scope of this Agreement;

c) co-ordination of the activities of the GNSS Entity or body/organisation mandated to undertake its tasks with those of other entities created under similar Agreements and/or with similar functions in other regions; and

d) monitoring of compliance by GNSS system operators and/or service providers with the applicable technical, operational and legal requirements, including the terms of relevant contractual arrangements.

8. CONTRACTUAL AGREEMENTS

8.1 Contracts referred to in Articles 6.3 and 6.4 of this Agreement shall be concluded in conformity with the requirements of this article and the terms of this Agreement.

12. LIABILITY

12.1 In the event of loss or damage arising out of a failure, malfunction or improper use of GNSS, each entity or person involved shall be liable to the extent it has contributed to the occurrence of the loss or damage.

12.2 The liability of the parties shall be ruled by the material liability regime normally applicable to its activity, in accordance with applicable existing international and national laws.

12.3 Contracting Parties and other public parties shall submit themselves to arbitration and be subject to the same rules as private partners.

12.4 In the event that loss or damage can be attributed to a GNSS failure, malfunction or improper use, but cannot clearly be traced to a specific defendant, the defendants involved in the chain of events which resulted in the occurrence of the loss or damage shall be declared jointly liable for the entire amount of the loss or damage.

13. ARBITRATION

13.1 All liability claims shall be consolidated and brought to arbitration, in accordance with the rules of arbitration established under this Agreement and detailed in Annex [X]. The consolidated claims shall include those against the concerned GNSS Entity, GNSS system operators, GNSS service providers, aircraft operators, air carriers, Air Navigation Services Providers, equipment manufacturers and regulators.

13.2 Nothing in this Agreement shall prejudice the rights of any individuals with regard to the Warsaw/Montreal Conventions.

13.3 Decisions of the arbitration panel shall be final and binding on the Parties to the arbitration procedure.

14. ICAO REGISTRATION

14.1 This Agreement shall be registered with the ICAO Council, in accordance with the provisions of Article 83 of the Chicago Convention.

15. AMENDMENT

15.1 Any proposed amendment to this Agreement shall be subject to the approval of [two-thirds] of its Contracting Parties.

16. **ADMISSION OF OTHER PARTIES**

16.1 This Agreement is opened for admission to other Parties [...]

17. **TERMINATION**

17.1 This Agreement may be terminated [...]
Effect on GNSS Entity established under this Agreement [...]

18. **ENTRY INTO FORCE**

18.1 This Agreement shall enter into force at the date of signature.

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APPENDIX C

PROPOSAL RELATING TO MAIN ELEMENTS FOR INCLUSION IN A DRAFT CONVENTION

Preamble

The Preamble refers to the relevant legal basis for the convention, in particular the Chicago convention and its Annexes, and recalls the need for GNSS to be compatible with them and other relevant international law rules applicable to outer space activities. The Charter on the Rights and Obligations of States Relating to GNSS Services, adopted by the 32nd Session of the ICAO Assembly (1998), established certain fundamental principles that need to be elaborated in an international convention, in order to make them binding.

Definitions

In view of the legal consequences of GNSS, it will be necessary to define certain terms for the purposes of the convention. Such terms as "GNSS service", "GNSS service provider", "GNSS system", "GNSS System operator", "GNSS user", "primary signal provider", "regional augmentation system" and "local augmentation system" will need to be defined, in line with state-of-the-art working terminology.

Scope

The convention should apply to activities employing satellites and ground-based equipment, technologies and systems.

Safety of Air Navigation

Safety of air navigation should be the paramount principle in the implementation and operation of GNSS systems and the provision and use of GNSS services. Commercial considerations should not be allowed to override safety requirements. Provision should be made to respect this principle in the case of war and emergency conditions.

Universal Accessibility

Every aircraft registered in the territory of the Contracting Parties should have access on a non-discriminatory basis and under uniform conditions to the use of regional augmentation systems for aeronautical use within the area of coverage of such systems. The article should also propose means of achieving universality.

State Sovereignty

The implementation and operation of GNSS systems and the provision and use of GNSS services should neither infringe nor limit a State's authority or responsibility in the control of air navigation or the promulgation and enforcement of safety regulations. The Article should provide for the delegation of the provision of services to other suitable parties, should a State wish to do so.

GNSS Elements Performance Specifications

A party providing GNSS services should ensure that those services meet the system performance requirements with regard to accuracy, integrity, continuity, availability, including effective arrangements to minimise the operational impact of system malfunctions or failures. The Contracting Party should ensure that the systems comply, at least, with ICAO SARPS, including but not limited to Annex 10, which should be of mandatory application.

The necessity to record GNSS signals and to retain such recordings for use as evidence in accident investigations should also be included in the convention to ensure legal effect. Inclusion in Annex 10 may not be adequate.

Uniformity

Contracting Parties should work together to ensure uniformity in the provision and operation of GNSS services. This could entail ensuring that systems are interoperable in the interests of global aviation safety.

Charges

Provision should be made to cater for the situation that some (future) systems may be subject to charges. In that event, a charging mechanism should ensure the reasonable allocation of costs among civil aviation users and among civil aviation users, as a group, and other system users. The work of ANSEP should be taken into account.

Cooperation and Mutual Assistance and role of ICAO

In order to facilitate global planning and worldwide implementation of GNSS in an effective manner, Contracting Parties should conduct their activities with due regard for the interests of other Parties. ICAO could play an essential role in this regard by

- Coordinating with regional bodies or other entities which are managing, facilitating or otherwise coordinating relationships between system operators or service providers
- Monitoring, through the Universal Oversight Audit Programme, compliance by GNSS system operators and service providers with the applicable technical standards, operational and legal requirements
- Facilitating the provision of assistance to States with regard to the technical, financial, managerial, legal and cooperative aspects of GNSS.

Certification

GNSS systems, services and elements thereof, including avionics and ground facilities, should be certified against the applicable technical requirements prior to entry into operation and training and licensing requirements should comply with ICAO SARPS.

Unlawful interference

Provision should be made for measures to prevent and protect against harmful interference.

Liability

Provision should be made for a strict liability up to a certain determined limit and fault based thereafter, in line with the Montreal Convention 1999 for loss or damage caused by the failure, malfunction or improper use of a GNSS system or service. In the event that the loss or damage was caused by more than one system or service, the providers thereof should be jointly and severally liable, to the extent to which they were at fault. An alternative solution could be a fault-based liability regime but with the burden of proof reversed.

Force majeure

Provision could be made to exclude liability in situations which were beyond the control of a party such as Act of God, war, etc.

Sovereign immunity

Provision should be made for the conditions under which sovereign immunity could not be invoked, to avoid situations where parties would be unable to seek redress due to this rule.

Recourse and indemnification

The convention should allow any entity or person found liable for loss or damage to have a right of recourse against any other person or entity.

Competent jurisdiction/Arbitration

GNSS-related events present the characteristic of possibly involving a multiplicity of parties in a variety of actions in several jurisdictions. The convention could propose a single jurisdiction to neutralise the complexity of all the liability claims.

As an alternative to the single jurisdiction and to overcome the principles of foreign jurisdiction immunity, recourse to arbitration mechanisms could be considered which could follow established UNCITRAL Rules or the Rules of the Permanent Court of Arbitration in The Hague.

Applicable law

The convention could provide that the competent court or arbitration tribunal applies the liability regime applicable in accordance with existing international and internal rules.

Period of limitation

The convention could provide that the right to take legal action would be extinguished if an action was not brought within a specified number of years from the date of the act or event which caused the damage for which the compensation was sought.

Compulsory risk coverage

Contracting Parties should ensure that their system operators and service providers maintain adequate insurance or have other means of risk coverage in respect of their liability. As an aviation-related GNSS accident could have significant liability consequences, the possibility of setting up a dedicated fund to compensate for any shortfall in recovery from the persons held to be liable ought to be considered.

Joint operation of GNSS services

The convention should not prevent two or more Contracting Parties from jointly providing services using GNSS.

Other provisions

The Convention should contain the standard procedural provisions with respect to Amendments, Settlement of Disputes, Entry into Force and Denunciation.

— END —

Appendix 3

International Civil Aviation Organization

WORKING PAPER

A36-WP/140
LE/7
6/9/07
(Information paper)
English only

ASSEMBLY — 36TH SESSION

LEGAL COMMISSION

Agenda Item 47: Work Programme of the Organization in the legal field

REPORT ON THE ESTABLISHMENT OF A LEGAL FRAMEWORK WITH REGARD TO CNS/ATM SYSTEMS INCLUDING GNSS

(Presented by the 42 Contracting States[1], Members of the European Civil Aviation Conference
This paper has been elaborated and co-ordinated by EUROCONTROL)

EXECUTIVE SUMMARY

A contractual framework to govern implementation of GNSS, an initiative of the ECAC States, was presented at the 35th ICAO Assembly[2]. This paper was discussed at the Assembly and was addressed in Resolution A35-3[3], adopted by the Assembly (see Appendix).

The Assembly recognised the importance of the establishment of a legal framework with regard to CNS/ATM systems including GNSS and directed the Secretary General to monitor and, where appropriate, assist in the development of contractual frameworks to which parties may accede. Further, Contracting States were invited to transmit regional initiatives to the Council.

This information paper appraises the General Assembly of the progress made in implementing Resolution A35-3.

Strategic Objectives:	Not Applicable
Financial implications:	Not Applicable
References:	

[1] Albania, Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, and the United Kingdom.

[2] Please see : A35-WP/125* LE/11 21/9/04 ASSEMBLY — 35TH SESSION LEGAL COMMISSION
Agenda Item 36: Report on the establishment of a legal framework with regard to CNS/ATM systems including GNSS
DEVELOPMENT OF A CONTRACTUAL FRAMEWORK LEADING TOWARDS A LONG-TERM LEGAL FRAMEWORK TO GOVERN THE IMPLEMENTATION OF GNSS (Presented by the 41 Contracting States, Members of the European Civil Aviation Conference)

[3] A35-3 : A Practical Way Forward on Legal and Institutional Aspects of Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) Systems

1. INTRODUCTION

1.1 The development of a legal framework to govern the implementation of GNSS has been on the Work Programme of the Legal Committee since 1992. First of all, a committee of legal and technical experts (LTEP) was established by the ICAO Council in December 1995 which led to the adoption of a Charter on the Rights and obligations of States relating to GNSS Services at the 32nd Assembly in 1998. However, this alone was not considered adequate as several aspects related to certification, operating structures, administration, cost recovery and most importantly, liability were not addressed. The liability aspects in particular were found to merit further examination. On the basis of the recommendations made by the LTEP, the 32nd Assembly set up a new study group, the Secretariat Study Group or SSG which reported to the 33rd Assembly, which mandated the ICAO Secretariat Study Group to finalise a contractual framework, focusing predominantly on model clauses.

1.2 The main purpose of the contractual framework is to provide for a number of legal and institutional provisions that are deemed necessary for addressing GNSS at regional level. The Contractual Framework is based on a two-tier approach. On one level, it offers a regulatory agreement dealing with public law matters including certification, liability and jurisdictional matters. The other level consists of private contractual arrangements between the various stakeholders in which they would have a very large degree of autonomy subject to certain mandatory elements determined by the regulatory agreement.

1.3 While it includes binding elements, it also creates a flexible and readily available framework to cover all legal and institutional elements related to GNSS at the regional level and harmonises contractual relationships between the parties involved, providing clarity and legal certainty. It may, however, provide experience and know-how and represents a first step, which could evolve into a long-term focused and precise global instrument of international law under the aegis of ICAO.

1.4 This initiative of the ECAC States was embraced by the 35th ICAO Assembly which adopted Resolution A35-3.[4] As can be seen, the contractual framework has figured on the Work Programme of the Legal Committee over several years and has consistently been recognised as being of high priority. Recent developments around the world indicate that work on this matter should continue as a priority on the work programme of the Legal Committee.

2. DEVELOPMENTS IN EUROPE

2.1 Since the ECAC states presented the Contractual framework for GNSS in 2004, many developments regarding ATM at European Level have occurred. The developments which have an impact on GNSS are resulting in further refinements of the Contractual framework model. Many of these developments serve to confirm the ongoing need for a legal framework for GNSS. Some of the recent European Developments in ATM which affect GNSS are outlined briefly hereunder.

2.2 A new scheme of Governance for Galileo and EGNOS has emerged. A GNSS Supervisory Authority has been established to ensure that essential public interests in this field are adequately defended and represented. The Authority is a European Community Agency and will be the owner of the EGNOS and Galileo infrastructure. This Authority could potentially fulfil the role as foreseen for the GNSS Entity in the Contractual Framework.

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[4] Please see : A35-WP/125* LE/11 21/9/04 ASSEMBLY — 35TH SESSION LEGAL COMMISSION
Agenda Item 36: Report on the establishment of a legal framework with regard to CNS/ATM systems including GNSS
DEVELOPMENT OF A CONTRACTUAL FRAMEWORK LEADING TOWARDS A LONG-TERM LEGAL FRAMEWORK TO GOVERN THE IMPLEMENTATION OF GNSS (Presented by the 42 Contracting States1, Members of the European Civil Aviation Conference)

2.3 EGNOS signals are now available and it is foreseen that the final system deployment activities, the qualification of the operator and the appointment of the EGNOS Service provider will be finalised in 2008 allowing the start of the certification process.

2.4 The European Commission has launched its single European sky (SES) initiative in late 1999 to reform air traffic management in Europe. The Single European Sky is being achieved and governed by means of a regulatory package. Further implementation measures are flowing from these foundation regulations, for example on a common charging scheme, common requirements for air navigation service providers, and airspace and interoperability measures. The EC Regulations on the SES (in particular the interoperability regulation) will necessitate the certification of GNSS related equipment and the certification of the GNSS service provider.

2.5 While the Single European Sky Regulations do not directly address military operations, they address civil-military cooperation to use airspace in a safe and efficient manner. In a general statement which is part of the SES package, Member States declare that they will facilitate co-operation between their armed forces in all matters of air traffic management.

2.6 The SES Initiative is complemented by the SESAR Programme (the Single European Sky ATM Research Programme). SESAR starts with a Definition Phase. By early 2008, a joint funded EUROCONTROL and European Community study, conducted primarily by Industry, will deliver a European ATM Master Plan based on future aviation requirements, and will identify the actions needed to achieve the objectives of SESAR. The Development Phase will run from 2008 to 2013. During this phase, the necessary research, development and validation work will be conducted and the regulatory measures will be prepared in order to implement the European ATM Master Plan. This phase will be managed by a SESAR Joint Undertaking, an entity set up by a EU Council regulation, which is a public-private partnership in which the European Community and Eurocontrol are founding members, and in which other stakeholders such as ANSPs or manufacturing industry, including from non European countries, can become members. The comprehensive inclusion of GNSS into ATM operational processes is foreseen in the SESAR programme, therefore the issues of global interoperability, liability and oversight mechanisms will assume ever increasing importance.

2.7 The issue of liability has been widely debated in the context of the Galileo and EGNOS programmes over the past three years. The most important topics have been Third party liability, Design risk, liability associated to the system operations and the Allocation of Liability. This illustrates the need for a framework as presented by the ECAC states in order to channel liability.

3. CONCLUSIONS

3.1 The contractual framework proposed by ECAC States has already been recognised by ICAO in Assembly Resolution A35-3 as a mechanism to create a flexible and readily available framework to cover all legal and institutional elements related to GNSS at the regional level and harmonises contractual relationships between the parties involved, providing clarity and legal certainty.

3.2 Developments in Europe with regard to EGNOS and Galileo confirm the need for such a contractual framework and highlight the need to align the said framework to take on board, the need for harmonisation of, inter alia, international standards, certification, interoperability, liability allocation in a multi-State environment, particularly in the context of the Single European Sky legislation.

3.3 The contractual framework will be refined in the light of these developments and presented as soon as possible to the ICAO Secretary General and Council, as foreseen in the Resolution. It is envisaged that the framework will satisfy the needs widely voiced in ICAO regarding GNSS and will assist in clarifying many of the difficult issues faced and serve as a useful basis for ongoing discussions in the Legal Commission.

3.4 The European initiative will be forthcoming in the near future and in line with Resolution A35-3, proposals will be submitted to the Secretary General in due course and the Council for subsequent validation as a model for global use.

Appendix 4

A36-WP/297
LE/14
21/9/07

ASSEMBLY — 36TH SESSION

LEGAL COMMISSION

DRAFT TEXT FOR THE REPORT ON AGENDA ITEMS 46 AND 47

The attached material on Agenda Items 46 and 47 is submitted for consideration by the Legal Commission.

(6 pages)

Agenda Item 46: Acts or offences of concern to the international aviation community and not covered by existing air law instruments

46.1 This item was considered on the basis of A36-WP/12 presented by the Council, which provided a progress report on the work carried out to address the new and emerging threats to civil aviation. Through a survey conducted among the Member States and the work of the Secretariat, the Study Group and the Special Sub-Committee of the Legal Committee, it had been recognized that the existing aviation security conventions could be amended to cover certain new and emerging threats, such as the use of civil aircraft as a weapon, the use of civil aircraft to unlawfully spread biological, chemical and nuclear substances, and the attacks against civil aviation using such substances. It had also been considered necessary to incorporate certain common provisions in more recent UN conventions on counter-terrorism, such as the "military exclusion clause", which expressly specifies that these conventions do not govern the activities of armed forces during an armed conflict, and the activities undertaken by military forces of a State in the exercise of their official duties. Two draft protocols were proposed by the Sub-Committee for these purposes. Some delegations had proposed at the meeting of the Sub-Committee in July this year to include provisions prohibiting the intentional and unlawful transport by air of particularly dangerous goods and fugitives. The Sub-Committee had decided to seek the guidance of the Council on this issue and on the need for an additional meeting.

46.2 While applauding the work so far accomplished, one delegation wished to reiterate its reservations in the Sub-Committee with regard to the military exclusion clause. This delegation could perhaps accept the exemption of armed forces activities during armed conflict, which would be in line with Article 89 of the Chicago Convention, but could not accept a total military exemption even during peacetime, since it viewed that such an exemption would constitute a violation of the principles set out in the preambles of The Hague and Montreal Conventions and also of the principles and provisions of the Chicago Convention, particularly Article 44. Moreover, it viewed that it would also constitute a violation of a number of UN and ICAO resolutions, particularly ICAO Resolution A35-9, which condemns all acts of unlawful interference against civil aviation wherever and by whomsoever and for whatever reason they are perpetrated. It was not yet convinced that the inclusion of such a military exclusion clause could be justified by the sole reason that the same clause already exists in other conventions. It was concerned that the result of this clause would be that armed officers guilty of unlawful seizure of civil aircraft or using an aircraft in the service of a third State as a weapon of mass destruction would be immune from criminal prosecution.

46.3 The same delegation referred to the difficulty which may be encountered in the integration of the rules of "international humanitarian law" with civil aviation regulations. As neither the consequences of such integration nor those of the military exclusion clause had been addressed by the Rapporteur to the Sub-Committee, it proposed that a study on the subject should be carried out by the Rapporteur or the ICAO Secretariat. It also suggested that the Legal Commission invite the Council to request the Sub-Committee or the Legal Committee to reconsider the military exclusion clause in the light of such a study.

46.4 Three delegations supported, but one delegation was opposed to the reservations and proposal expressed at paragraphs 46.2 and 46.3. Two delegations emphasized the need for States to apply consistently the conventions and Assembly resolutions concerning acts of unlawful interference against

civil aviation in order to prosecute and condemn severely the persons who execute, are involved with or support criminal acts against civil aviation, including acts against aircraft, airport facilities and passengers.

46.5 In response to an inquiry by a delegation, the Vice-Chairman of the Sub-Committee clarified that the Sub-Committee recommended inclusion of the military exclusion clause on the clear understanding that military activities were governed by other international rules regarding State actions. The Sub-Committee had noted that other views on this issue would be reflected in its report, with the expectation that such views would be debated in future fora. The Vice-Chairman also clarified that, regarding the mere transport of certain prohibited material, it was considered by a number of delegations that this issue exceeded the Sub-Committee's mandate and it would therefore be necessary to seek further guidance from the Council. Another delegation, in supporting the Vice-Chairman's statement and the contents of A36-WP/12, encouraged the future work on amending the conventions without undue delay.

46.6 In summarizing the discussion, the Chairperson concluded that the Commission commended the work of the Secretariat, the Study Group and the Sub-Committee, and supported that the work should proceed to the next stage. It also noted the serious concerns expressed by certain delegations, in particular with regard to the military exclusion clause, which should be noted in this Report and referred to the Council for consideration when it convenes to consider the report of the Sub-Committee and determines whether to convene a further meeting of the Sub-Committee.

Agenda Item 47: Work Programme of the Organization in the legal field

47.1 The Commission considered this item on the basis of A36-WP/8 presented by the Council, A36-WP/134, presented by India, A36-WP/140, presented by the Members of the European Civil Aviation Conference, A36-WP/230, presented by Colombia, A36-WP/234, presented by Saudi Arabia, and A36-WP/256, presented by Republic of Korea.

47.2 A36-WP/8 outlined the work programme of the Legal Bureau, legal matters in the Council, the Work Programme of the Legal Committee and a plan of legal meetings for the period 2008-2010. The working paper listed the subjects on the Work Programme of the Legal Committee in their order of priority and provided information on the work status of individual items on the Work Programme.

47.3 A36-WP/134, presented by India, provided information in relation to various space-based augmentation systems and advised the Commission of the development of the GAGAN Satellite system in India which is expected to become operational in 2010. Based on Resolution A35-3, which directed the Secretary General to monitor and, where appropriate, assist in the development of contractual frameworks, the paper called for the development of guidelines for a regional legal framework.

47.4 A36-WP/230, presented by Colombia, proposed to include the element of regional multinational organisms in the future consideration of the legal framework for CNS/ATM systems, including GNSS, and to modify the wording of Item No. 3 on the Work Programme in this respect.

47.5 A36-WP/234, presented by Saudi Arabia, invited States who have not yet ratified the Cape Town Convention and the Protocol to do so for the benefit of both debtors and creditors.

47.6 A36-WP/256, presented by the Republic of Korea, contained a proposal by Korea to host an additional regional legal seminar in 2009, with the joint sponsorship of the Legal Bureau of ICAO. The proposed regional seminar would be aimed at States to which the ICAO Asia and Pacific Office is accredited.

47.7 In relation to Item No. 1 on the Work Programme (Compensation for damage caused by aircraft to third parties arising from acts of unlawful interference or from general risks), one delegation recalled the earlier deliberations which had taken place under Agenda Item 45 of the Commission, where two delegations had expressed the sentiment that the draft convention on general risks appeared to have attracted less interest than the draft convention dealing with unlawful interference. The delegation queried whether it was necessary to consider this point in the context of the work programme, as the Commission had envisaged to refer the outcome of the entire work of the Special Group, i.e. both draft conventions, for further consideration to the Legal Committee. On this point, one delegation considered that there could be room for further reflection in case it was assessed that a priority between the two draft conventions was needed. In this context, another delegation remarked that due to the expected heavy workload for the Legal Committee and the desire for a successful outcome of its deliberations, it would be upon the Council of ICAO to make a political decision as to which texts ought to be considered by the Legal Committee. In the ensuing discussion, a number of delegations expressed the view that both draft conventions ought to be referred to the Legal Committee on equal terms, and that both drafts should

receive the same attention by the Legal Committee without conferring any priority of one text over the other. In summarizing the discussion on this point, the Chairperson noted that the majority of delegations supported the submission of both draft texts to the Legal Committee and stated that there appeared to be no complete consensus regarding the issue of priority. She suggested that the Council could carefully consider the allocation of items to be considered by the Legal Committee, in the light of the availability of time and resources.

47.8 In discussing Item No. 3 of the General Work Programme of the Legal Committee, several delegations supported the inclusion of the regional multinational organisms as suggested in A36-WP/230. These delegations considered it of utmost importance to devise clear rules and guiding principles regarding the involvement of regional bodies in the implementation of CNS/ATM systems. One delegation also underlined the need for a clear global framework. The Delegation of the United States reiterated that its government had renewed its offer to make the Global Positioning System (GPS) available for the use by civil aviation. The delegation further stated that its government had adopted a policy of not resorting to selective availability for different users, and that the new generation of the hardware did not even contain the feature of selective availability. Another delegation recalled paragraphs 4 and 5 of Resolution A35-3 and emphasized the importance of providing technical and financial assistance to developing countries.

47.9 The Commission **agreed** to modify Item No. 3 of the General Work Programme of the Legal Committee to include the regional multinational organisms in the consideration of a legal framework. The Commission noted its understanding that once a model of a regional legal framework is developed by the Members of the European Civil Aviation Conference, such model could be distributed through ICAO to its Member States, and interested States may use the information as guidance material to develop their own regional legal framework as appropriate.

47.10 In relation to Item No. 4, the Commission noted A36-WP/234.

47.11 Consequently, the Work Programme of the Legal Committee was established as follows:

1) Compensation for damage caused by aircraft to third parties arising from acts of unlawful interference or from general risks;

2) Acts or offences of concern to the international aviation community and not covered by existing air law instruments;

3) Consideration, with regard to CNS/ATM systems including global navigation satellite systems (GNSS) and the regional multinational organisms, of the establishment of a legal framework;

4) International interests in mobile equipment (aircraft equipment);

5) Review of the question of the ratification of international air law instruments; and

6) *United Nations Convention on the Law of the Sea* – Implications, if any, for the application of the Chicago Convention, its Annexes and other international air law instruments.

47.12 The Commission also noted with appreciation the regional legal seminar proposed in A36-WP/256.

European GNSS

Initiative for an EU Regulation on Third Party Liabilities (TPL)

December 2006

Appendix 5

04/03/2008

FINMECCANICA

Scope

The Regulation on civil liability for damage resulting from the performing of Galileo services will:

- **set out the TPL regime necessary for the successful development of Galileo services and applications in Europe, by ensuring appropriate and effective protection to the GOC and its licensees on the one hand and all users and the community on the other hand**

Main principles are:

- **Liability of licensee under contract with GOC (*)**
- **Limitation of licensee's liability up to a cap**
- **Compulsory Insurance Certificate to be obtained by the licensee**
- **Supplementary Compensation by Member States**
- **GOC subject to licensee's rules when providing services to end-users**

(*) first-level service providers to be licensed on exclusive basis per geographical area, sector or type of business

Stakeholders

Italian Government, as originator:

- WG includes various pre-eminent Professors/Consultants and Finmeccanica Legal Department

MC, as promoter:

- All MC levels (SC, LWG…) will be involved in line with the plan

GJU/GSA, as supporter:

- Regulation is welcome, as early as possible (in the context of HoT v2)

EU Commission, as owner:

- Very well disposed and ready to receive the proposal of regulation

Member States

- Initiative taken by Italian Government …other Governments to join?

Process

Proposal by Italian Government/Finmeccanica

- Draft Regulation – finalised on Dec 8, 06
- Commentary on each provision – to be finalised by Dec 20, 06

Preliminary assessment (legal/insurance) for harmonisation of Regulation with HoT

- Freshfields - met on Dec 12, 06
- PC+ISB/Marsh – conf call on Dec [18], 06

Presentation of the initiative general terms to SC and GJU/GSA (this document)

- SC – on Dec 13, 06
- GJU/GSA - by Dec 06

Involvement at operational level of MC (mainly LWG/IWG) and GJU/GSA experts

- Draft Regulation + Commentary - to be issued by Dec 06
- Galileo Liability Regime Workshop - Jan 11 (MC only) and 12 (MC+GSA/Commission), 07

Release of Draft Regulation/Commentary to EU Commission

- Communication - by Dec 06
- Meetings and works at Commission level – from January...

General Remarks

- The regulation envisages and is based on a system of licensees, probably but not necessarily, exclusively marketing Galileo Services in the area of a Member State. At the current state, there has not yet been a decision on such a system, neither on the Concessionaire nor the GSA level. Obviously, the GOC as concessionaire having the right to commercially exploit the Galileo System should carefully consider whether the licensee system, which currently is the main pivot of the regulation draft, is compliant with its business model or at least can be easily adopted (also ref. Specific Remarks on Definition of Licensee).

- Due to the nature of the legal instrument, the regulation will only deal with the issue of liability for services rendered in the geographical scope mentioned under Article 3, i.e. the territory of the Member States. It will not and cannot deal with the liability issues which may arise with regard to services provided in other states. For territories outside of the Member States and with the legislative approach, this matter could only be dealt with in form of bilateral/multilateral (international) contracts e.g. with the proposed UNIDROIT convention.
  In this respect the GOC should consider that, while Galileo is a commercial project, and an adequate and affordable 3rd party liability system will be a major aspect for the marketing success of the system, the legislative process under the EU is already a rather lengthy undertaking. Transferring this process to the international level via a convention is likely to exponentiate the time aspect even further. This is likely to further slow the implementation of a solution for the important liability issue and may endanger the commercial success of the system.
  Consequently, the long considered concept of a (two tier) private-public compensation fund should not be easily abandoned.

- Providers of low-risk services will experience the compulsive insurance/compensation requirement as a high threshold for entering the service market and could be deterred. The requirements for compulsive insurance/compensation should be more flexible in order to take this into account. The currently envisaged possibility for Member States to lower the threshold by increasing their own liability to stop the resulting compensation gap may not be a commercially viable approach, especially as it calls for additional financial support by the Members States (ref. also Specific Remark on Article 7 No. 2).

- While Article 4 identifies the geographical scope of the regulation it should be helpful to also explicitly define the personal scope which currently has to be derived from the implications expressed by the other provisions of the regulation.

- The licensee will want the possibility of recourse against equipment manufacturers. Article 6 paragraph 5 would currently bar such a possibility.

- The terms "space segment" and "ground control segment" in Article 6 require a definition under Article 3

Specific Remarks

Provision	Comments / Reasons for proposed change

Whereas [...] (9) In compliance with the principle of subsidiarity, action at Community level is desirable to create a single set of rules	• The regulation will have a massive impact on the Member States' own civil liability regimes, effectively superseding substantive law and in certain areas also procedural law of the Member States'. Consequently the regulation mentions the need for compliance with the principle of subsidiarity. Being a main requirement for EU-legislative acts, the concept, as it is elaborated in the Amsterdam Treaty Protocol on the application of the principles of subsidiarity, will have to be paid close attention to in achieving a waterproof liability regime.
Article 3 (Definintions) [...] **Licensee** [...] and a) having its principal place of business, central administration and, if any, its registered office located in a Member State and [...] b) [...] It is at all times effectively controlled by such States of nationals.	• The envisaged liability regime has to be commercially attractive to the licensee – especially with regard to affordability of the compulsory financial security in comparison to the probable liability risks. Otherwise this definition may deter a future service provider from having administrative ties to the EU-Member States, drive him to establishing his principal base of business elsewhere and eventually damage the EU´s industrial interests in the commercialisation of Galileo.
Article 3 (Definintions) [...] **Incident** [...] in conncetion with Article 7 No. 1 – limitation of liability to [300] SDR per incident.	• In connection with the definition of incident the limitation of liability fails to provide for a minimal liability. In the event of severe accidents, victims could end up with an unacceptable low apportionment of damages. This could meet heavy resistance in the legislative process. The GOC should be prepared for an amendment which provides for a minimum of damages for each victim of an incident (which would of course require the restructuring of the limitation of liability concept, possibly with a combined fund and insurance security).
Article 6 No. 5 e)	• The terms "space segment" and "ground control segment" require a definition under Article 3.
Article 6 No. 3 d) [...] act by any Government authorities *acting in the exercise of its functions*.	• Erase the part in italics. The licensee/GOC should not be liable for *any* negligent or other wrongful act by a Government. Especially for Government acts outside their functions should liability of the licensee/GOC be excluded.
Article 7 No. 2	• As has been discussed in Rome, the provision could pose a conflict with the

	general prohibition on state aid under Article 87 EC-Contract. It should be ascertained, whether possible conflicts are already avoided in case state aids are foreseen as a funding possibility by way of an EU regulation. For legal certainty, the regulation should explicitly state that any support of an individual Member State to its registered licensees in accordance with Article 7 No. 2 shall not qualify as state aid under Article 87 EC-Contract.
Article 7 No. 4	• Some legal systems in Europe allow for a limitation of liability even in case of reckless behaviour as described under Article 7 No. 4. This concept should also apply in this regulation. Otherwise the licensee and GOC would have to close this liability gap with additional means.
Article 9 No. 1	• Is the licensee obliged to constitute the fund only in case there is no insurance certificate in accordance with Article 8 covering his liability? Should be stated more clearly.
Article 12.3	• Of the three options given, public funding as per total turnover of the licensees controlled by the Member State seems a reasonable solution, adequately linking liability to a commercial interest.

Apendix 6

DRAFT

REGULATION N...

on civil liability and compensation for damage resulting from the performing of Galileo services

Having regard to the Treaty establishing the European Community and in particular articles .....

Having ..

Whereas:

(1) The conclusions of the European Council in Cologne (3 and 4 June 1999), Feira (19 and 20 June 2000), Nice (7 to 11 December 2000), Stockholm (23 and 24 March 2001), Laeken (14 and 15 December 2001), Barcelona (15 and 16 March 2002) and Brussels (20 and 21 March 2003) have stressed the strategic nature of the Galileo satellite radionavigation programme which is cofinanced by the European Union and the European Space Agency.

(2) Galileo is the first European space programme to be financed and managed by the European Union in association with the European Space Agency (ESA). It is expected to contribute to the development of numerous applications in areas that are associated, directly or indirectly, with Community policies, such as transport (positioning and measurement of the speed of moving bodies), insurance, motorway tolls, law enforcement (surveillance of suspects, measures to combat crime), customs and excise operations (investigations on the ground, etc.), agriculture (grain or pesticide dose adjustments depending on the terrain, etc.), fisheries (monitoring of boat movements).

(3) A European satellite navigation system will have also a positive impact on information and telecommunication industries developing a European market.

(4) User requirements and user demands should be of key importance in deciding on the development of a European satellite navigation system and its characteristics, taking into account requirements developed by other relevant international bodies, such as the International Civil Aviation Organisation (ICAO), the International Maritime Organisation (IMO), the International Telecommunication Union (ITU) as well as the World Trade Organisation (WTO);

(5) Galileo will offer several service levels, from open access to restricted access of various levels and all services are directly accessible worldwide. However, local bodies may have to make some adaptations to specific environments or user communities (tunnels, airports, ports, etc.). In addition, the satellite infrastructure can be complemented by regional and local components, particularly for producing the integrity message. The services offered by Galileo will cover the whole planet, particularly areas at a geographical disadvantage and the outermost regions of the European Union

(6) Satellite navigation enables a user to determine his position in time and space to an unprecedented degree of precision at very little cost, thus explaining why it is widely used in all sorts of areas. However, open signals are extremely sensitive to interference or to deliberate - potentially hostile - manipulation. The need for a Public Regulated Service (PRS) is conditioned by the vulnerability of satellite navigation

signals, the special features of the service and the very sensitive nature of the anticipated applications.
Disrupting or jamming the Galileo signal by the intelligent use of sources of interference in the hands of economic terrorists, criminals, hostile agents could prevent continuous signal reception over a wide geographical area, seriously impairing the efficiency of national security and police forces, or of economic activities, and even leading to the complete shutdown of services in some areas. The PRS, which secure service encrypted and resistant to jamming interference, must be reserved principally for the public authorities responsible for civil protection, national security and law enforcement which demand high level of continuity, especially in situation of crisis or presence of threats, and therefore deserve a specific discipline.

(7) A number of other countries have expressed a wish to be involved in the programme in some way. Moreover, the Commission regards the Galileo programme as being of world importance and, as such, of interest to all third countries.

(8) The Concil Regulation No 1321/2004 has established the European Global Navigation Satellite System (GNSS) Supervisory Authority (GSA) to give the strategic nature of the European satellite radio navigation programmes and the need to ensure that essential public interests are adequately defended and represented, in accordance with the relevant political orientations of the Council and financial decisions of the budgetary authorities. The Authority assists the Commission in matters involving satellite radio-navigation, particularly in cases where legislative and regulatory measures prove necessary.

(9) In compliance with the principle of subsidiarity, action at Community level is desirable in order to create a single set of rules governing the civil liability of all Community Galileo services providers.

(10) The supply of Galileo system services could result in serious damage to persons and assets if malfunctions affect the signal or end-user equipment. In particular, this might occur in the supply of services to such economic activities as the provision of air and sea transportation. Accordingly, it is appropriate to guarantee an adequate level of compensation for the victims of such damage, in order to strengthen the protection available to them and others with associated rights. The existence of a clear civil liability regime in the event of losses represents, in fact, a competitive advantage for the provision of the services and will facilitate their commercial development.

(11) Consistent with current international regimes, in order to guarantee an adequate level of compensation it is appropriate to establish a strict liability system combined with a two-tier liability system, thus assuring victims of potentially full compensation.

(12) In the event of incidents where the responsibility lies with several parties, it can be very difficult and onerous for the victims to determine who is actually responsible and to take action against them. Accordingly, it is appropriate to identify with certainty, via the application of simple and clear rules, just one party who is required to pay the compensation. This mechanism for the channelling of liability is routinely used by international civil liability regimes, in order to guarantee and strengthen the legal position of those who have suffered losses.

(13) In the context of the Galileo system, it is appropriate to channel responsibility to the party that provided in the marketplace the Galileo service involved in the incident, since such party is easily identifiable by the victims. In principle, the supplier is either the Licensee or GOC, if the latter offers services directly and not via the Licensee.

(14) The Galileo system is a partnership between Member States and European private industry that provides both commercial services and services of considerable public

interest. Accordingly, in order to ensure full compensation for the victims of incidents, is it appropriate that the two-tier liability system comprises a first tier of compulsory financial security, arranged by the supplier of the service, and a second tier of public funds made available by the Member States. On the one hand, this cooperation allocates the charges and insurance costs for the reimbursement of losses fairly between Member States and private industry, while ensuring that they do not represent a barrier to the competitive supply of services, while, on the other, it strengthens the guarantees offered to the victims concerned.

(15) The responsibility limit envisaged by the Regulation may turn out to be excessive for certain types of service, considering the real risks involved or the financial strength of the Licensee. Accordingly, it is desirable to allow States to set a lower responsibility limit, on condition that they guarantee the availability of sufficient public funds to offset such reduction.

(16) Open services (OS) are offered free of user charges and without the characteristics of safety and precision afforded by the other services. Consumers are aware of this; accordingly, it is appropriate to exclude such services from the responsibility regime envisaged in the Regulation.

(17) The Galileo system is only able to guarantee the provision of services with the characteristics and performance for which it was designed via the use of advanced technology and suitable equipment. In particular, the equipment available to end users is at risk of unauthorised modifications or falsifications, or may be produced without regard for the technical specifications needed to ensure that it functions correctly. The use of this type of equipment considerably increases the risk that performance does not comply with the required standards. Accordingly, in order to establish responsibility for the malfunctioning of end-user equipment, it is appropriate that such equipment be certified by a competent authority.

HAS ADOPTED THIS REGULATION:

Article 1

(Purpose of the regulation)

1. This Regulation lays down the rules concerning the civil liability and compensation for damage resulting from the performing of Galileo services.

2. This Regulation does not affect the application of the Convention on International Liability for Damage caused by Space Objects done in London, Moscow, Washington on March 29, 1972.

3. The Council Directive 85/374/EEC on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products as amended by Directive 1999/34/EC of the European Parliament and of the Council of 10 May 1999 does not apply in the field covered by this Regulation.

Article 2

(Fields for action by the Community)

1. This Regulation establishes a harmonised regulatory framework for the .....in conjunction with:

(a) Regulation (EC) No of the European .....on the provision of Galileo services in Europe (and regulation for the certification of the licensee)
2. The measures referred to in paragraph 1 shall apply subject to the provisions of this Regulation.
(b) Regulation (EC) No. of the European....

Article 3

(Definitions)

For the purpose of this Regulation and of the measures of Article 4, the following definitions shall apply:

Augmentation means regional or local mechanisms such as the European Geostationary Navigation Overlay System (EGNOS). They provide the users of satellite-based navigation and timing signals with input information, extra to that derived from the main constellation(s) in use, and additional range/pseudo-range inputs or corrections to, or enhancements of, existing pseudo-range inputs. These mechanisms enable users to obtain enhanced performance such as increased accuracy, availability, integrity, continuity and reliability.

Certified end user equipment means any civil equipment designed to transmit, receive, or process satellite-based navigation and timing signals to provide value added services, or to operate with an augmentation, certified by.....

Damage means:

i. loss of life or personal injury;

ii. loss of or damage to property;

and each of the following to the extent determined by the law of the competent court:

iii. economic loss arising from loss or damage referred to in sub-paragraph (i) or (ii), insofar as not included in those sub-paragraphs, if incurred by a person entitled to claim in respect of such loss or damage;

iv. the costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in sub-paragraph (ii);

v. the costs of preventive measures, and further loss or damage caused by such measures.

End user means any private or public person that has entered into a contract with the licensee for the usage of the Galileo signal.

ESA means European Space Agency.

Galileo (GNSS) means an autonomous civil European global satellite based navigation and timing system under civil control, for the provision of GNSS (Global Navigation Satellite System) services, designed and developed by the Community, its Member States, the European Space Agency and other entities.

Galileo local components means additional stations that through the use of augmentations, provide differential levels of accuracy and stringent integrity time-to-alarm requirements (within 1 second) of the Galileo services.

Galileo local elements are local mechanisms that provide the users of GALILEO satellite-based navigation and timing signals with input information, extra to that derived from the main constellation in use. Local elements may be deployed for additional performance around airports, seaports and in urban or other geographically challenging environments like in-door scenarios. Galileo will provide generic models for local elements.

Galileo regional components means an additional network of stations to oversee the integrity of the signals and a processing centre to provide the Galileo services.

Galileo signal means the electromagnetic signal generated by the GNSS which is formed by the space segment and the ground control segment. The ground control segment includes the regional and local components.

Galileo Services are[1]:

I) The **Open Service (**OS) that results from a combination of open signals, free of user charge, provides position and timing performances competitive with other GNSS systems.

ii) The **Safety of Life Service** (SoL) that improves the open service performances providing timely warnings to the user when it fails to meet certain margins of accuracy (integrity). It is envisaged that a service guarantee will be provided for this service.

iii) The **Commercial Service** (CS) that provides access to two additional signals, to allow for a higher data rate throughout and to enable users to improve accuracy. It is envisaged that a service guarantee will be provided for this service. This service also provides a limited broadcasting capacity for messages from service centers to users.

iv) The **Public Regulated Service** (PRS) that provides, for governmental uses, position and timing to specific users requiring a high continuity of service, with controlled access. Two PRS navigation signals with encrypted ranging codes and data will be available.

v) **The Search and Rescue Service** (SAR) that broadcasts globally the alert messages received from distress emitting beacons. It will contribute to enhance the performances of the international COSPAS-SARSAT Search and Rescue system.

GOC means Galileo Operating Company, the private company in charge to operate the Galileo system. It assures the commercial exploitation of the Galileo system either by contracts with licensees or by directly providing services in the marketplace.

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[1] Communication from the Commission to the European Parliament and the Council - State of progress of the Galileo programme /* COM/2002/0518 final */ *Official Journal 248, 15/10/2002 P. 0002 – 0022.*

GSA is the Community Agency (European GNSS Supervisory Authority) that manages the public interests relating to, and to be the regulatory authority for, the European GNSS programmes set up by Council Regulation (EC) n. 1321/2004[2].

Incident means any occurrence, or series of occurrences having the same origin, which causes damage or creates a grave and imminent threat of causing such damage; where an incident consist of a series of occurrence it shall be treated as having occurred on the date of the first such occurrence.

Licensee means any natural person, any legal person, whether profit-making or not, or any official body whether having its own legal personality or not, providing Galileo Services on an exclusive basis (for the relevant area and sector or type of activity) under contract stipulated with GOC and
a) having its principal place of business, central administration and, if any, its registered office located in a Member State, and
b) owned and continue to be owned directly or through majority ownership by Member States and/or nationals of Member States. It shall at all times be effectively controlled by such States or such nationals.

Licensee's State means the Member State where the licensee has its registered office, central administration or principal place of business, in accordance with the law of that Member State.

Malfunctioning of the Galileo end users equipment.....

Malfunctioning of the Galileo signal means absence of the Galileo signal, errors in the Galileo signal and/or degradation of the performances under the thresholds defined by the KPI's.

Personal injury means any physical damage with the exclusions of any psychological damage.

Preventive measures means any reasonable measures taken by any person after an incident has occurred to prevent or minimise damage.

Producer means the manufacturer of a finished product, the producer of any raw material or the manufacturer of a component part and any person who, by putting his name, trade mark or other distinguishing feature on the product presents himself as its producer. For the purpose of this Regulation it also includes any person who conceive, invent, formulate plans or device of a finished product.

Product means all movables even though incorporated into another movable or into an immovable.

Special Drawing Right, hereinafter referred to as SDR, means the unit of account defined by the International Monetary Fund and used by it for its own operations and transactions.

Article 4

(Geographical scope)

This Regulation shall apply exclusively to damage that occurs:

(a) in the territory, including the territorial sea, of the Member States,

[2] O.J. L 246/1, 20.7.2004.

(b) in the exclusive economic zone of the Member States, established in accordance with international law, or, if a Member State has not established such a zone, in an area beyond and adjacent to the territorial sea of that State determined by that State in accordance with international law and extending not more than 200 nautical miles from the baselines from which the breadth of its territorial sea is measured, and

(c) in the airspace above the territory and the territorial sea of the Member States.

Article 5

(Relationship to applicable International Convention)

This Regulation shall not apply to damage arising from an incident in respect of which liability of compensation falls within the scope of any of the relevant International Convention including any future amendments thereof, which is in force in the Member State concerned.

Article 6

(Liability of the licensee)

1. The licensee shall be the sole liable for damage deriving from an incident that occurs in the areas indicated in article 2 belonging to the State for which it has obtained its license and upon proof that such incident has been caused by the malfunctioning of the Galileo signal, whichever may be the reason of, or a malfunctioning of a certified end user equipment.

2. Where the damage engages the liability of more then one licensee, the licensees involved shall, in so far as the damage attributable to each licensee is not reasonably separable, be jointly and severally liable.

3. In any case no liability for damage shall attach to the licensee if it proves that the damage:

a) results from an act of armed conflict, hostilities, terrorism, civil war, insurrection or
b) results from a natural phenomenon of an exceptional, inevitable and irresistible character, or
c) was wholly caused by an act or omission done with the intent to cause the damage by a third party or
d) was wholly caused by the negligence or other wrongful act of any Government authorities acting in the exercise of its functions.

4. If the licensee proves that the damage resulted wholly or partially either from an act or omission done with the intent to cause damage by the person who suffered the damage or from the negligence of that persons, the licensee may be exonerated wholly or partially form their liability to such person.

5. No claim for compensation for damage under this Regulation or otherwise may be made against:

(a) the servants, agents or any other persons who performs services for the licensee;

(b) any person performing salvage operations on the instructions of a competent public authority;

(c) any person taking preventive measures;

(d) all servants or agents of persons mentioned in subparagraphs (b) and (c);

(e) the producer of the products used for the space segment and for the ground control segment

unless the damage resulted from their personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result.

6. In no case the licensee shall be liable if the damage was caused by a malfunctioning of the Galileo Signal or an end user equipment, whether or not certified, provided for an open service (OS).

Article 7

(Limitation of liability)

1. The licensee shall be entitled to limit his liability under this regulation in respect of any one incident to an amount of [300] million SDRs.

2. Notwithstanding paragraph 1, the licensee's State, having regard to the nature of the services provided and to the likely consequences of an incident originating therefrom, may establish a lower amount of liability of the licensee, provided that in no event shall any amount so established be less than [50] million SDRs, and provided that the licensee's State ensures that public funds shall be made available up to the amount established pursuant to paragraph 1. The amounts established by the licensee's State in accordance with this paragraph shall apply wherever the incident occurs.

3. Interest and costs awarded by a court in actions for compensation of damage shall be payable in addition to the amounts referred to paragraphs 1 and 2.

4. The licensee shall not be entitled to limit its liability under this Regulation if it is proved that the damage resulted from his personal act or omission committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result.

5. Taking into account, *inter alia*, the risk of damage resulting from a incident, changes in the monetary values, and the capacity of the insurance market, the GSA may propose to the Member States to amend the limits of liability referred to in paragraphs 1 and 2.

Article 8

(Financial Security)

1. The licensee shall be required to maintain insurance or other financial security covering his liability for damage to not less than the amount established in paragraph 1 or in paragraph 2 of Article 7.

2. A compulsory insurance certificate attesting that insurance or other financial security is in force in accordance with the provisions of this Regulation shall be issued to each licensee after the [GSA] has determined that the requirements of Article 8 have been complied with.

3. This compulsory insurance certificate shall be in the form of the model set out in Annex I and shall contain the following particulars:

[(a).....

(b) name and principal place of business of insurer or other person giving security and, where appropriate, place of business where the insurance or security is established; and

(f) period of validity of certificate, which shall not be longer than the period of validity of the insurance or other security].

4. An insurance or other financial security shall not satisfy the requirements of this article if it can cease, for reasons other than the expiry of the period of validity of the insurance or security specified in the certificate under paragraph 2, before thirty days have elapsed from the date on which notice of its termination is given to the authority referred to in paragraph 2, unless the compulsory insurance certificate has been surrendered to this authority or a new certificate has been issued within the said period. The foregoing provisions shall similarly apply to any modification which results in the insurance or security no longer satisfying the requirements of this article.

5. The funds provided by insurance, by other financial security or by the State of licensee pursuant to paragraph 1 of this article or paragraph 2 of article 7 shall be exclusively available for compensation due under this Regulation.

6. No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided pursuant to paragraph 1 of this article or paragraph 2 of article 7, without giving notice in writing of at least two months to the competent public authority.

Article 9

(Constitution of the Fund)

1. For the purpose of benefiting from the limitation provided for in paragraph 1 of Article 7, the licensee shall constitute a fund with the court or other competent authority of any one of the Member States in which action is brought under Article 14 or, if no action is brought, with any court or other competent authority in any one of the Member States in which the action can be brought under Article 14. The fund shall be constituted for the total sum representing the licensee's financial security established according to Article 8 or for a lower amount if it is so decided by the court or by the competent authority.

2. The State that, in accordance with article 8, paragraph 1, has established that the Licensee shall maintain an insurance or other financial security of a lower amount in respect of the its liability, shall contribute to the fund up to the limit of liability of the licensee.

3. The fund can be constituted either by depositing the sum or by producing a bank guarantee or other guarantee, acceptable under the law of the Member States where the fund is constituted, and considered to be adequate by the court or other competent authority.

4. The fund shall be distributed among the claimants in proportion to the amounts of their established claims.

5. Notwithstanding paragraph 4, claims in respect of death or personal injury have priority over other claims save to the extent that the aggregate of such claims exceeds (two thirds) of the total financial security of the licensee.

6. If, before the fund is distributed, the licensee or any person providing him insurance or other financial security has, as a result of the incident in question, paid compensation for damage, such person shall, up to the amount it has paid, acquire by subrogation the rights which the person so compensated would have enjoyed under this Regulation.

7. The right of subrogation provided for in paragraph 6 may also be exercised by a person other than those mentioned therein in respect of any amount of compensation for damage which he may have paid by only to the extent that such subrogation is permitted under the applicable national law.

8. Where the licensee or any other person establishes that it may be compelled to pay at a later date in whole or in part any such amount of compensation, with regard to which such person would have enjoyed a right of subrogation under paragraphs 6 or 7 of this Article, had the compensation been paid before the fund was distributed, the Court or other competent authority of the State where the fund has been constituted may order that a sufficient sum shall be provisionally set aside to enable such person at such later date to enforce his claim against the fund.

9. Claims in respect of expenses reasonably incurred or sacrifices reasonably made by the licensee voluntarily to prevent or minimize damage shall rank equally with other claims against the fund.

10. The insurer or other person providing financial security shall be entitled to constitute a fund in accordance with this Article on the same conditions and having the same effect as if it were constituted by the licensee. Such a fund may be constituted even if, under the provisions of paragraph 4 of Article 7, the licensee is not entitled to limit its liability, but its constitution shall in that case not prejudice the rights of any claimant against the licensee.

Article 10

(Claim against the insurer)

1. Any claim for compensation for damage may be brought directly against the insurer or other person providing financial security for the liability of the licensee for damage. In such case the defendant may benefit from the limit of liability prescribed in accordance Article 7.

2. The defendant may further invoke the defences (other than the bankruptcy or winding up of the licensee) which the licensee would have been entitled to invoke. Furthermore, the defendant may invoke the defence that the damage resulted from the recklessness of the licensee, but the defendant shall not invoke any other defence which the defendant might have been entitled to invoke in proceedings brought by the

licensee against the defendant. The defendant shall in any event have the right to require the licensee to be joined in the proceedings.

Article 11

(Supplementary Compensation)

1. A supplementary compensation shall be paid to any person suffering damage if such person has been unable to obtain full and adequate compensation because:

(a) the damage exceeds the licensee's liability as limited under Article 7, paragraph 1,

(b) no liability arises under article 6, paragraph 1, in so far as the damage is a consequence of one or more circumstances listed in paragraph 3 of such article.

(c) the licensee liable for the damage under this regulation is financially incapable of meeting his obligations in full and any financial security that may be provided under article 8 does not cover or is insufficient to satisfy the claims for compensation for the damage.

2. The licensee shall be considered financially incapable of meeting its obligations and a financial security shall be treated as insufficient if the person suffering the damage has been unable to obtain full satisfaction of the amount of compensation due under this Regulation after having taken all reasonable steps to pursue the legal remedies available to him.

3. Expenses reasonably incurred or sacrifices reasonably made by the licensee voluntarily to prevent or minimize damage shall be treated as damage for the purposes of this Article.

Article 12

(Contribution to the Supplementary Compensation)

1. In the case the damage exceeds the licensee liability under art. 7, paragraph 1, Member States shall make available public funds up to a total amount equal to the difference between the amount of the damage and such liability. In any case the total amount of public funds shall not exceed [600] millions SDRs per incident.

2. If the supplementary compensation shall be paid because no liability arises under article 11, paragraph 1, lett. b), or the licensee is financially incapable according to article 11, lett, c) the total amount of public funds made available by Member States shall not exceeds [900] millions SDRs per incident.

3. Member States will contribute to the amounts under paragraphs 1 e 2 proportionally to ....

4. Compensation for damage in accordance with paragraph 1 and 2, shall be distributed equitably without discrimination on the basis of nationality, domicile or residence.

5. If the damage to be compensated does not require the total amount under paragraph 1 and 2, the contributions shall be reduced proportionally.

6. The interest and costs awarded by a court in actions for compensation of damage are payable in addition to the amounts awarded pursuant to paragraphs 1 and 2 shall be proportionate to the actual contributions made by the Member States.

Article 13

(Notification of Damage and call for funds)

1. The Member State whose courts have jurisdiction shall inform the other Member States as soon as it appears that the damage caused by the incident exceeds, or is likely to exceed, the amount available under Article 7 and that contributions under Article 11 may be required.

2. Member States shall without delay make all the necessary arrangements to settle the procedure for their relations in this connection.

3. Following the notification referred in paragraph 1, the Member State whose courts have jurisdiction shall request the other Member States to make available the public funds required under Article 11 to the extent and when they are actually required and shall have exclusive competence to disburse such funds.

Article 14

(Jurisdiction)

1. Except as otherwise provided in this Article, jurisdiction over actions for damages under this Regulation shall lie with the courts of the Member States within whose territory the incident occurred.

2. Where a incident occurs within the areas defined by Article 2, a, ii) and iii) jurisdiction over actions concerning damage from that incident shall, for the purposes of this Regulation, lie only with the courts of that State concerned. Nothing in this paragraph shall be interpreted as permitting the exercise of jurisdiction in a manner which is contrary to the international law of the sea, including the United Nations Convention on the Law of the Sea.

3. Where a incident does not occur within the territory of any Member State, or within an area as defined in Article 2, a, ii) and iii) or where the place of the incident cannot be determined with certainty, jurisdiction over such actions shall lie with the courts of the Licensee State of the Licensee liable.

Article 15

(Basis of claims)

Any action for damages against the Licensee can only be brought subject to the conditions and such limits of liability as are set out in this Regulation, without prejudice to the question as to who are the persons who have the right to bring suit and what are their respective rights. In any such action, punitive, exemplary or any other non-compensatory damages shall not be recoverable.

Article 16
(Disbursements, proceeding)

1. Each Member States shall ensure that persons suffering damage may enforce their rights to compensation without having to bring separate proceedings according to the origin of the funds provided for such compensation.

2. If the courts having jurisdiction are those of a Member States other than the State of the Licensee, the public funds required under Article 11, as well as interest and costs awarded by a court, may be made available by the first-named Member State.

3. The State of Licensee shall reimburse to the other Member State any such sums paid under paragraph 2. These two Member States shall agree on the procedure for reimbursement.

4. If the courts having jurisdiction are those of a Member State other than the Licensee State, the Member State whose courts have jurisdiction shall take all measures necessary to enable the Licensee State to intervene in proceedings and to participate in any settlement concerning compensation.

Article 17

(Limitation of action)

1. Rights of compensation under this Regulation shall be extinguished unless an action is brought thereunder within [three years] from the date when the claimant knew or ought reasonably to have known of the damage.

2. In no case, however shall an action be brought later then [six years] from the date of the incident which caused the damage.

3. Where the incident consists of a series of occurrences having the same origin, the six years period mentioned in paragraph 2 shall run from the date of the last of such occurrences. Where the incident consists of a continuous occurrence, such period shall run from the end of that continuous occurrence.

Article 18

(Application of the Regulation to the GOC)

1. In the case of one or more Galileo services are provided by the GOC to the end users, the provisions of this Regulation will apply also to the latter.

2. Notwithstanding paragraph 1, the previsions laid down in article 7, paragraph 2, will not apply to the GOC.

3. For the purpose of article 14, paragraph 3, the jurisdiction shall lie with the French courts.