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**WHERE IS PARADISE? THE EU'S NAVIGATION SYSTEM GALILEO - SOME COMMENTS ON INHERENT RISKS (OR PARADISE LOST)**

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**ABSTRACT**

The European Union's Global Navigation Service Galileo is currently undergoing its operational testing phase (IOV), estimated to become fully functional in 2012. Establishing a regulatory structure for Galileo has been a challenge from the outset. In the preparatory process, a few imponderables were strategically postponed, of which risk is but one.

It comes as no surprise that the risk dimension of Galileo services is now attracting attention. Space-related technological products and services all carry a degree of risk by their very nature and Galileo is no exception. Constructing a liability regime that adequately responds to potential operative dysfunction, constitutes a viable financial model for the various stake holders involved and meets the level of prestige and public responsibility which the project acclaims for itself, is the immediate challenge for regulators and industry alike.

This paper discusses Galileo's risk potential in the light of various types of existing international liability regimes with a view to providing a measure of damage predictability and protection within the space and public communities that it serves. It examines the legal relations between parties involved in the satellite navigation programme and identifies contractual and tort liability issues that could otherwise arise in the absence of an adequate liability scheme. The paper concludes with an appreciation of recent initiatives behind a liability proposal for Galileo satellite navigational services that could serve as the basis for a liability scheme, at least within Europe.

**INTRODUCTION**

Galileo is Europe's largest and most important high technology space project over the past decade. With a public sector commitment already in excess of its several billion euro projected budget and cooperation and investment agreements underway with various space and non-space-faring nations beyond the EU,<sup>1</sup> it stands to provide a high precision satellite navigation system<sup>2</sup> with five differing services ranging from Open Service (OS),<sup>3</sup> Public Regulated Services (PRS),<sup>4</sup> Commercial Service (CS),<sup>5</sup> Search and Rescue (SAR)<sup>6</sup> to Safety of Life (SoL).<sup>7</sup> Conceived in 1999,<sup>8</sup>

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1 Communication from Commission to European Parliament and Council, Galileo at a Cross Road, COM (2007) 261 final of 16<sup>th</sup> May 2007; bilateral agreements on use and funding have been agreed with various third countries, including China and Israel.

2 The atomic clock technology has been designed by the Swiss.

3 OS will provide a combination of open signals providing positioning, navigation and timing free of charge.

4 PRS is designed for emergency services and civil protection.

5 CS is designed with a view to developing the market for commercial use of Galileo services.

6 SAR is Galileo's future contribution to COSPAS-SARSAT effort on humanitarian search and rescue activities. The Galileo satellites will detect signals from the former and improve position accuracy.

7 SoL is designed for high-safety use such as aviation and maritime services. This is an open service that will be guaranteed.

Galileo promises global navigation assistance for civilian use that will provide Europe with a degree of independence from the United States' GPS.<sup>9</sup> It was intended to incorporate a unique form of public private partnership (PPP) in yet another novel step beyond the institutional and inter-governmental cooperation established in 2003 between ESA and the EU.<sup>10</sup> The concession system for industrial deployment was devised to involve Europe's home space industry, with a longer term public-private partnership and investment model in mind. In short, Galileo, together with the regional augmentation system EGNOS, is a high profile project of unique strategic importance to the EU and ESA.<sup>11</sup>

#### CREATING A LIABILITY REGIME FOR GALILEO

Damage resulting from signal failure or malfunctioning of Galileo services can easily occur on a global scale, given the world-wide availability of its services.<sup>12</sup> Any liability and compensation scheme must, therefore, include considerations for EU and foreign-based claims alike. A sustainable compensation scheme requires a clear basis of liability. In the field of high technology, a non-fault based system has distinct advantages over one that is fault-related, the goal being to provide a uniform solution, independent of whether damage is at catastrophe level or not and avoiding accompanying difficulties of proof of negligence or defect. Most important of all, however, is that liability be channelled onto those best equipped to bear

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8 Council Resolution on the involvement of Europe in a new generation of satellite navigation services OJ C 221/01 of 19.07.1999.

9 EU-US Agreement on the promotion, provision and use of Galileo and GPS satellite based navigation systems and related applications, 28<sup>th</sup> June 2004. See now EU-US Agreement on final design for GPS-Galileo common signal, 26<sup>th</sup> July 2007.

10 Framework Agreement between EC and ESA, approved by Council 7<sup>th</sup> October 2003, Council of European Union Document 12858/03, entered into force May 2004.

11 Commission Communication, n.1 above, p. 4; Commission Staff Working Document, Galileo at a Cross Road, SEC (2007) 624, p.7.

12 Thirty satellites are planned to achieve Galileo's full operational capacity, see Commission Staff Working Document, n.11 above, p. 9. Four satellites are currently in IOV phase.

it. This may be the public hand, the industry itself, or a mixture of both. Within Galileo, however, risk allocation remains a sensitive issue: the originally public-private nature of the cooperation, designed for its various phases, does not have a corporate background similar to that developed in the US under the US Commercial Space Launch Amendment Act 2004 which, despite operator insurance and public fund models, still retains a claim of last resort against the industry.<sup>13</sup> Even if the US has different insolvency laws, Europe has been concerned to find a system that does not antagonise the stake-holder interests involved. This should contain viable and clear regulation of liability, amenably spread between its shareholders.

A variety of international liability regimes serve as regulatory prototypes for major disaster or damage compensation schemes, on a par to those conceivable for Galileo. The best known relate to maritime (oil) pollution and nuclear accidents and are discussed below.<sup>14</sup> A review of these systems is preceded by a discussion of the rules of tort and contract law that could otherwise apply in the absence of such a functionally orientated liability scheme.

#### RECENT DEVELOPMENTS

At the time of writing, management of the concession scheme designed to deploy and operate Galileo<sup>15</sup> has fallen prey to financial and industrial governance problems which the EU is currently addressing.<sup>16</sup> Although not the immediate subject of this paper, some details are mentioned here, in so far as they have a bearing on the risk issues and corresponding liability. Initial assumptions made at the outset of the

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13 Commercial space operations in Europe are understood to mean revenue-generating activities. In the US, the term covers private activities, generally excluding those of government, see Dept. of Defence Financial Management Regulation, Support to US Commercial Space Activities, vol. 11 A, chapter 13, No.1304, available at [www.defense.gov/comptroller/fmr/11a/11a:13.pdf](http://www.defense.gov/comptroller/fmr/11a/11a:13.pdf).

14 See p.9.

15 Regulation 876/2002 of 21 May 2002 setting up the Galileo Joint Undertaking, OJ L 181/1 of 28.05.2002; Call for concession launched by GJU on 17<sup>th</sup> October 2003, OJ S 200 of 17.10.2003.

16 Commission Communication n. 1, above, p. 2 ff.

project - that certain risks could legitimately be transferred to the private sector are - under reconsideration at institutional level.<sup>17</sup> There is a close correlation between liability and risk allocation. Devising a predictable liability regime can only be of paramount interest to the manufacturing industry, particularly where – as was originally purported – it is expected to bear the brunt of financial and other risks inherent to the operational side of the Galileo programme. An announcement is expected by the Transport and Finance Ministers in September 2007 on the project's future structure, funding and risk allocation.<sup>18</sup> For this reason, certain aspects of the Galileo project, including names of participants, are referred to here in general terms only.

#### BASIS OF LEGAL LIABILITY

Risk is a generic term used to denote the probability – in legal and financial terms – of a party's liability to compensate for damage that has occurred through breach of contract or tort. The notion focuses on the ambit of specific legal duties – whether these arise through faulty, sub-standard goods or services, by negligence or by virtue of specific non-fault based liability rules, or any combination of the foregoing – towards third parties. Such duties are imposed by the general law and subject to rules variable in scope, depending on the applicable law in the individual case.<sup>19</sup> Breach of legal duties – whether by supervisory agencies, operators or manufacturers, towards contractual partners or third parties, be it in contract or tort, can – if established – lead to liability for failure to maintain the standard of duty involved. In many situations, the standard of care imposed is dictated by statute, particularly in cases of industrial products, and is generally strict.<sup>20</sup>

The foregoing appreciation serves as an entry into what is in this particular instance, a complex

<sup>17</sup> Commission Staff Working Document, n.11 above, p. 32-53.

<sup>18</sup> Commission Staff Working Document, n. 11 above, p.15.

<sup>19</sup> The significance of conflict of laws and applicable law is taken up below at p. 8.

<sup>20</sup> See revised general EC Product Safety Directive 2001/95 of 3 December 2001, OJ L 11/4 of 15.1.2002.

of legal relations between the ESA, the EU, the European GNSS Supervisory Authority, the space industry itself, Providers and Users, including manufacturers of navigational equipment. If this complex is transposed to Galileo-related damage at a trans-national level, the mix of substantive and procedural rules of law that may be applicable within a liability claim becomes a kaleidoscope of variables. Add to this the distinction in law between ground segment and in orbit functions, bringing the further dimension of state liability (or immunity) and the binding force of an international liability regime for outer space activities under national law into play,<sup>21</sup> the need to develop a specific independent liability regime applicable to Galileo appears self-evident. This would avoid legal uncertainty, or worse, over-diversity. If Galileo is to retain credibility, a uniform safety and compensation scheme must be forthcoming.<sup>22</sup> This has recently been conceded at EU level.<sup>23</sup>

The law of contract (sales, services) and/or tort prescribes a clear legal catalogue of duties to any of the following scenarios that lead to damage: satellite design and construction defects, manufacturing defects, instruction defects, product-monitoring defects, satellite failure, signal failure, signal delay, discontinuity of services, transmission of false signals, in particular imprecise location.<sup>24</sup>

In practice, such failures may lead to economic loss e.g. for damages resulting through claims for delay against just in time manufacturers. In SAR missions (safety of life) that go wrong as a result of signal or transmission failure, the

<sup>21</sup> UN Convention on International Liability for Damage caused by Space Objects 1972, 961 UNTS 187.

<sup>22</sup> Warsaw Convention 1929, as amended; Chicago Convention 1944 as amended, Montreal Convention 1999.

<sup>23</sup> Commission Staff Working Document, n. 11 above, p. 13 (for Galileo), p.62 (for EGNOS).

<sup>24</sup> A few examples serve as illustration only: signal or transmission failure, leading to aircraft accidents with resulting injury to persons and property; transport or cargo carriers using Galileo services to identify cargo location, leading to loss of control over container location.

outcome may be personal injury or death, with major catastrophes as the worst case scenario. As it stands, in the absence of a specific liability regime, members of the manufacturing consortium and/or supervisory agencies may face claims from third party Users and/or suppliers relating to the scope of satellite-generated Galileo products, applications and services, unless they are held harmless within the chain of contractual relations. Even if contractual arrangements can limit liability incumbent on industry though e.g. the use of flowdown clauses, such clauses are limited to the industry itself. Exclusion or limitation of certain types of liability generally remains invalid towards end-User victims.<sup>25</sup> The following exposé serves as an outline of the types of liability rules that might come into play if an all-round solution is not found.

#### LIABILITY IN CONTRACT

Space contracts are regularly multi-party and often tripartite, in that the supplier-purchaser relationship is extended to include the agency ordering or funding the project. At least during the Galileo IOV phase, ESA is the 'order placer' and in that context, contractual partner towards the space industry, whether in the provision of space (e.g. satellites) or other ground segments. For example, satellite manufacturers are liable towards ESA for the proper construction of satellites ordered under a contract of supply or service (referred to in US law as warranty liability). The space industry has no direct contractual relations towards Operators or end-Users at this level.<sup>26</sup>

Despite the lack of direct contractual relations between manufacturers to Operators and Users, there remains a further question in law whether a product manufacturer can become liable towards third parties (here - Operators and Consumers) by virtue of quasi-contractual liability – often referred to as *culpa in contrahendo* – or under the notion of reliance liability. The answer in

<sup>25</sup> Article 12 Directive 85/374/EEC on approximation of laws concerning liability for defective products OJ L 210 of 07.08.1985 as amended by Directive 1999/34/EC OJ L 141 of 04.06.1999.

<sup>26</sup> The contractual relations as manufacturer or quasi-manufacturer (*qua* supplier) of e.g. satellites are vis à vis ESA.

each instance remains a question of national law. Although there is some evidence rejecting these claims, no uniform response exists. Even if manufacturers are not held liable within the scope of contracts 'protecting' third party interests, the matter at least becomes one of loss of public image where things go wrong. ESA does not appear to fall under any special protective, duty-creating relations towards all potential Users of Galileo services, particularly where the services provided are open and free of charge.<sup>27</sup> The situation is different where, as is intended, the service is guaranteed and Galileo's four main technical characteristics – accuracy, availability, integrity and continuity are transposed into legal duties. Even if there is a degree of predictability about contractual liability, tort law rules for manufacturer and product liability are wider in scope and may open further grounds for establishing liability in the case of Galileo services and equipment.

#### LIABILITY IN TORT

Tort liability can arise under the general law of obligations<sup>28</sup> or under specific statutes. A distinction is generally drawn in third party liability issues between manufacturer's liability, services liability and product liability. Details of manufacturer's liability – general principles of tort law – as opposed to product liability, are not dealt with here for reasons of print economy. Where satellite construction (or design) defects lead to transmission failures in the use of Galileo services, there may well be an overlap between manufacturer and services liability.<sup>29</sup>

Taking the recent Concession consortium as a further example, individual members of the consortium may generally only be liable towards

<sup>27</sup> Civilian legal systems may impute third party protective interests, e.g. *Vertrag mit Schutzwirkung Dritter* in German law. Recognition of third party beneficial interests in Anglo-American jurisdictions vary with jurisdiction and belong traditionally within the ambit of trust law.

<sup>28</sup> G. Brügemeier, *Common Principles of Tort Law*, London, 2004, pp. 42, 172 ff. In the common law, these obligations are referred to as common law or statutory 'duties of care'.

<sup>29</sup> ESA is as 'designing authority' responsible for the design aspects of Galileo, see Commission Staff Working Document, n.11 above, p.6.

the consortium as a whole under the notion of ‘internalised’ tort law liability for the proper performance of respective duties within the space segments. This, however, will turn on the exact legal form of the consortium itself and may not apply to liabilities within a civil law structured partnership between Consortium members. Given its greater policy impact, it is now proposed to take a closer look at the law of non-fault product liability below.

#### PRODUCT LIABILITY IN TERMS OF PRODUCT LIABILITY DIRECTIVE

The European Product Liability Directive<sup>30</sup> and its national implementation statutes form the basis for all national statutory product liability rules relating to non-fault<sup>31</sup> product liability within the EU.<sup>32</sup> The Directive regulates liability for defective products (as defined); the corresponding duty to compensate for damage extends to the specific interests outlined in Article 9.<sup>33</sup> In product liability, the basis of liability is independent from and co-existent with liability under contract.<sup>34</sup>

The Directive’s scope is limited in application. It does not cover services liability.<sup>35</sup> A product in terms of Article 2 is movable property, even if it forms part of another movable piece of property or immovable property. It is questionable, however, whether the Directive applies to the various manifestations of damage conceivable within Galileo. Although satellites are moveable products, transmission of satellite signals takes place on the basis of resonance within electromagnetic fields. Electromagnetic fields and/ or resonances do not necessarily constitute

movable products.<sup>36</sup> There is no helpful authority on this issue. The Directive will apply where defective transmission is based on a defect in a satellite or individual component. Units are movable property.<sup>37</sup> In the absence of any court ruling, the applicability of product liability rules beyond defects in the manufacture

of satellites is insufficiently developed to found a liability ruling where the malfunction is not defect, but signal-related.<sup>38</sup> It is of course open for a court to hold that the operative aspects to a satellite – radio signals and the corpus itself – are so closely related that they form part of a whole, so that both signal malfunction and defect are implicitly conjoined for product liability purposes. Again, short of such a ruling, a Galileo-specific liability regime would avoid a legal vacuum arising in such cases in the first place.

#### DEFENCES

A further limitation of the Product Liability Directive is the availability of defences which give manufacturers – here, of space products – a let-out that is inconsistent with the public use and benefit tag that Galileo carries. Firstly, a product is deemed defective in terms of Article 6 Directive when it fails to offer the security which, having regard to all circumstances, including the time in which it is put on the market, and in particular its performance, can reasonably be expected (Article 6 (a) and (b)). The level of safety to be expected is to be determined on the basis of the potential group of users.

Secondly, there is no liability for defects arising where the product complied with mandatory legal requirements at the time the product was put on the market (Article 7(d)). In addition, there is no liability for ‘development defects’ i.e. those defects which, according to the state of art at the time that the product was put on the market, could not have been recognised (Article 7 (e)).<sup>39</sup> These two limitations in the Directive

30 EC Product Liability Directives 85/374 and 1999/34, n. 25 above

31 This is often referred to as strict liability, although this terminology is imprecise.

32 The directive was transposed in Germany through the *Produkthaftungsgesetz* 1989, into the UK by Consumer Protection Act 1987 and in France, by Articles 1386-1 to 1386-18 Code Civil.

33 Article 9 Directive 85/374, n.25 above, covers damage to persons and goods, other than the defective product itself.

34 This is referred to in American law as *contort* – or *Anspruchskonkurrenz* in German law.

35 EU Directive on services in the internal market 2006 /123/ EC of 12th Dec. 2006, OJ L 376/36 of 27.12.2006.

36 Electricity is, however, covered as a product under Article 1 Directive.

37 Article 2 Directive 85/374, n. 25 above.

38 The applicability of the Directive by analogy is not excluded.

39 Article 16 Directive 85/374 contains the option of imposing a ceiling limit on claims. In Germany, this

mean that the non-fault liability rules it contains do not confer liability in areas of state of the art technology. Given that ESA generally defines the standards that have to be met, the satellite manufacturing industry could rely on this as a defence in those jurisdictions which have not excluded the defence.<sup>40</sup> This is paradoxical in an area of law where, as matter of policy, principles of non-fault liability were introduced in cases of industrial processing in response to overloaded burdens of proof, particularly for damaged Consumers.<sup>41</sup> The advantage of an international liability scheme is that it would veer towards a solution concomitant with the inherent risks of space.<sup>42</sup>

#### LIABILITY CONSIDERATIONS PARTICULAR TO GALILEO OPERATIONS

The complex of liabilities in contract and tort within the Galileo Programme are no less diminished when it comes to the various possible defendants involved. Beyond those responsible for its development and construction, there are those bodies responsible for its administration and operations (service operators and providers).

Galileo has undergone a period of transition since its first regulatory body – Galileo Joint Undertaking (GJU),<sup>43</sup> the joint undertaking between the EU and ESA – was set up to

supervise the development phase. The GJU has since been superseded as of 31<sup>st</sup> December 2006 by the GNSS Supervisory Authority (GSA).<sup>44</sup> ESA is an inter-governmental organisation and a subject of international law. Its members are states and its Convention prescribes neither rules of liability nor rules of jurisdiction.<sup>45</sup> Secondly, ESA and the EU operate in the context of Galileo within the Framework Agreement between these Institutions, under which ESA supplies technical and scientific expertise and has specific financial volume generated by its Member States. There is no provision for private or public legal liability in relation to Galileo. In keeping with the GJU which was set up under Art 171 EC, the GSA is not a private entity with its own legal personality, but is a common supervisory and regulatory agency of the EU that cooperates within its remit with ESA.

The GSA represents the public interest in the area of EGNOS and Galileo.<sup>46</sup> Under its original remit, prior to most recent re-adjustments within the Galileo concession system, it was intended to act as procurement authority towards the Galileo Concessionaire,<sup>47</sup> conclude the concession contract(s) and supervises performance during deployment phase (FOC).<sup>48</sup> Although its future is unclear and supervision of the FOC phase has since been transferred to ESA, it remains an

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is € 85 Million under §10 ProdHaftG for damage inflicted on persons by a product or similar products with the same defect. Under Article 9(b) Directive, the injured party must bear the first 500 Euros damage in the case of damage to property (so-called 'excess').

<sup>40</sup> According to the Third Commission Report on Product Liability Directive, point 3.2, COM (2006) 0496 final of 14.09.2006, there is no perceived need for reform of the Directive, *ibid.* at point 3.2.

<sup>41</sup> Liability cannot be excluded in advance by contract and agreements to the contrary are null and void, Article 12 Directive 85/374, n.25 above.

<sup>42</sup> As a result of the EU/US Agreement on promotion and use of Galileo in 2004, agreement was reached between the two in July 2007 to adopt and provide an improved design for common signals, see <http://ec.europa.eu/dgs/energy:transport/galileo>, last visited 16.08.2007.

<sup>43</sup> Article 1 (1) Regulation (EC) No. 876/2002 of 21<sup>st</sup> May 2002 setting up the Galileo Joint Undertaking, OJ L 138/ 1 of 28.5.2002.

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<sup>44</sup> Regulation (EC) No. 1321/2004 of the Council of 12<sup>th</sup> July 2004 on the establishment of structures for the management of the European Satellite Radio Navigation Programmes OJ L 246/1 of 20.07.2004, as amended by Regulation 1942/2006 of 12<sup>th</sup> December 2006, OJ L 367/18 of 22.12.2006.

<sup>45</sup> Disputes arising within the ESA context are subject to arbitration between its Member States under Article XVII Convention of the European Space Agency (ESA).

<sup>46</sup> EGNOS and Galileo remain public property in full, the former belonging to ESA, the latter the EU, see Commission Staff Working Document, n.11 above p. 58.

<sup>47</sup> In terms of Article 2 Regulation 1321/2004, the GSA is entrusted with managing the operating agreement with EGNOS, coordinates Member States' activities in relation to securing frequencies needed to operate the system and will act as licensing authority towards the private concession holder responsible for implementing and deploying Galileo.

<sup>48</sup> See Regulation 1321/2004, n. 44 above, Recital (7).

authority with public duties to fulfil and as such, is bound to act according to standards of reliable administration.

GSA's relations to the Concessionaire are emphasised in Recital 5 Regulation 1321/2004, by which GSA has a particular duty to ensure maintenance of the public service. It is entrusted with ensuring that systems and components are certified according to related standards and specifications (Article 2(h)). Given GSA's supervisory and regulatory role, it is liable under European rules relating to administrative liability for breach of duty in public office. Under the concession system, GSA was also owner of the Galileo system so that liability could be easily established. This imposes explicit and inherent duties of monitoring and - were the concession system to have been pursued - of careful selection of the Concessionaire.<sup>49</sup> Administrative liability at this level does not, however, relieve the Concessionaire and its subcontractors from their civil law duties and liability.<sup>50</sup> GSA will generally only be liable in damages to third parties where the civil law liability of the Concessionaire or one of its subcontractors does not satisfy the claim or where the claim relates to maladministration at the higher level of GSA itself.<sup>51</sup> In cases of severe management failure to ensure safety, criminal law can also become relevant.<sup>52</sup>

Liability on the part of GSA is contained in Article 17 Regulation 1321/2004. It can be held liable in both contract and tort in terms of Article 17(1) and Article 17(2) Regulation 1321/2004 respectively. In cases of contract, liability is decided on the basis of the law applicable to the contract; in tort, liability is

49 Article 2(1) (a) Regulation 1321/2004, *ibid*.

50 There is a general principle of subsidiarity of administrative liability claims in relation to others within the sphere of administrative liability.

51 The remits and tasks of the GSA must be read in the light of its constituent legislation.

52 Criminal proceedings against managers and others responsible in European jurisdictions are not unknown, see the Austrian Kaprun Ski Tunnel tragedy (2004); German Trans-Rapid Emsland accident (August 2007); proceedings here have just been dropped.

determined on the basis of those principles common to all Member States. The European Court of Justice has jurisdiction over these disputes (Article 17(3)).<sup>53</sup>

It is not possible for GSA to delegate its inherent duties of responsibility to the Concessionaire involved. In general, delegated powers must be specifically defined within Community legislation: given that general rights of delegation could undermine the principle of Community control, their ambit and form is always subject to judicial review.<sup>54</sup>

This particular point, along with the question of status as a community institution, has already been the subject of litigation at European level in relation to liability of both the European Investment Bank (EIB) and European Central Bank (ECB). This comparison may, however, be somewhat limited, since the Community institutions are creations of primary law. The GSA is a Community body by virtue of secondary legislation.<sup>55</sup> The following section, nevertheless, is as a brief overview of liability under Community law as a preliminary assessment of legal duties at that level.

#### LIABILITY IN COMMUNITY LAW

Article 17 Regulation 1321/2004 mirrors in full the primary law provisions of Articles 288(1) and 288(2) EC relating to contractual and extra-contractual liability in EU law. GSA is a Community body and as such, governed in its institutional matters by EU and not national law. In this respect, parallels can be drawn between the two sets of rules, even in the absence of immediate precedents.

There is a long line of case law, commencing in 1969 (Case 4/69, *Lütticke*) relating to Community liability in tort under Article 228(2) EC. The cases can be subdivided into various categories among which there are three generally recognisable groups: those relating to 'wrong

53 See generally, v.d.Groeben, Schwarze (Eds), EGV-Kommentar, 2004, Article 288, pp. 1397-1445.

54 See C-85/86 *EIB v. Council and Commission*, judgment of ECJ [1988] ECR 1281; further C-11/00 *ECB v. Council and Commission (OLAF judgment)*, OJ 2003/C 213/0.

55 Article 4(1) Regulation 1321/2004 GSA, n. 44 above.

decision-making' on the part of the Commission or its agents in administering or operating EU law, particularly customs and cartel law;<sup>56</sup> those relating to the validity of secondary legislation<sup>57</sup> and finally, those relating to failure to implement European directives at national level, where the Community, in supervising the Member State, is seen to have failed to act as well.<sup>58</sup> Within the first two categories, there are indications that failure to prevent damage arising could be a head of claim, where it is established that there is a duty to prevent damage and liability because of failure to supervise maintenance of Treaty obligations.

In this instance, the GSA could be held liable for injury caused by its acts and omissions where, in terms of Article 17(2) Regulation, this would lead to tort liability within the legal systems of Member States. There is little authority, however, on which to base any conclusive statement as to the liability of the Community's newly formed agencies, as opposed to institutional bodies. Case law on EU liability relates predominantly to claims against both the Commission and the Council. In relation to the new agencies, each agency has its own constitutive law governing its powers and remit, as in the case of the GSA.<sup>59</sup> Any liability assessment takes place within the scope of powers delegated within the relevant legislation.<sup>60</sup>

As previously stated, GSA's powers cover the selection and monitoring of the concession

56 T-611/ 97 Transfluvia NV v. Council and Commission of the EC [2000] ECR II-2405.

57 This applies particularly within the Common Agricultural Policy (CAP), where legal rules that alter the basis of compensatory amounts for agricultural producers can lead to the latter claiming their illegality and compensation for loss of subsidies.

58 Derived from the *Francovich* doctrine; see U. Sauberlich, *Liability in European Community Law*, Beiträge zum ausländischen öffentlichen und Völkerrecht, 2005, Bd.183, 289-294.

59 The liability provisions for GJU have been referred to above, see Articles 17(1) and 17(2) Regulation 1321/2004, n. 44 above.

60 C-237/98 Dorsch Consult Ingenieurgesellschaft v. Council and Commission [2000] ECR I-4549 - validity of Community embargo against Iraq and claim in compensation for economic loss.

holder, including compliance with industrial specifications. It is obliged to ".....take all appropriate measures to ensure the continuity of service" in case of the latter's default.<sup>61</sup> More specifically, the GSA also determines the specifications and instructions to be set for manufacturing receivers for Public Regulated Service (PRS).<sup>62</sup>

The notion of 'damage' in Community law is a central issue and has proven to be an impediment to many claims. The majority of cases relate to pure economic loss. These claims are often rejected for reasons largely relating to lack of proof of causation or lack of special damage.<sup>63</sup> Given that liability, if recognised, is determined on the basis of the principles of liability common to Member States' legal systems, maladministration or failure to act correctly must be established. The ECJ measures liability on the basis of the common denominator between Member States' liability laws.<sup>64</sup> There is no automatic right of recourse against injury occurring through actions of the GSA, unless there is reckless or substandard activity.

#### PRIVATE INTERNATIONAL LAW

This section takes a look at liability for defective services from a cross-border legal perspective. Liability in cases containing foreign elements is determined according to the rules of international private law. There are two aspects involved: firstly, it is possible for the applicable substantive law and law of procedure of a forum to differ, so that a national court may be required to apply foreign law. Secondly, depending on state's individual constitutional or international private law arrangements, international treaties, insofar as acceded to by the state in question, may have priority over national statutes. In the context of liability law, this can lead to the

61 Article 1(a) Regulation 1321/2004, n. 44, above.

62 Article 2 (1) (vi) Regulation 1321/2004 *ibid*. This in itself could lead to defences by manufacturers in cases of manufacturer's liability through reliance on industrially prescribed standards.

63 C-237/98 Dorsch Consult Ingenieurgesellschaft v Council and Commission, note 59, above.

64 See L.J. Smith, *The Eye of the Storm: On the Case for Harmonising Principles of Damages as a remedy in Contract Law*, [2005] ECRL 227.



application of special international product liability rules such as those contained in the Hague Convention on the Law Applicable to Product Liability, which, as its title suggests, prescribes the applicable rules of law.<sup>65</sup>

#### JURISDICTION AND APPLICABLE LAW

A further aspect of international private law relates to the courts competent to hear cases where the accident did – or, indeed, did not – occur within their national jurisdiction. Jurisdiction can be founded before foreign courts by reason of specific connecting factors between the plaintiff and/or defendant. EU rules on jurisdiction and applicable law have been assimilated and subjected to uniform regulation.<sup>66</sup> This legislation reduces the likelihood of jurisdictions competing with one another and the possibility of litigants raising parallel proceedings before differing courts in various jurisdictions, thus curbing forum shopping. Further harmonised provisions of international private law in Europe, which include mandatory rules applicable to contractual and tort disputes relevant to cross-border litigation, are discussed below.

#### ROME I AND ROME II REGULATIONS

The Proposal for a European Regulation Rome I, recently amended,<sup>67</sup> is designed to align the national conflict of law rules relating to contractual obligations.<sup>68</sup> Under its provisions,

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65 Hague Convention on the Law Applicable to Product Liability of October 2<sup>nd</sup> 1973. The agreement regulates the law applicable to manufacturer, dealer and other persons undertaking repairs to products. The following places are relevant under its terms: the place where damage takes place, the domicile of the defendant, the place of business of the manufacturer and the place where the product was purchased. The Hague Convention has been ratified and entered into force in relation to 10 states: Spain, Finland, France, Netherlands, Luxemburg, Norway, Slovenia, Croatia, Macedonia and Yugoslavia.

66 Regulation 44/2001/ EC of 22 Dec. 2000, OJ L12/1 of 16.1.2001 ('Brussels I').

67 Meeting of Council of Ministers (Justice) Luxemburg, July 2007.

68 Proposal for a Regulation of the European Parliament and of the Council on the law applicable to contractual obligations of December 15<sup>th</sup> 2005 "Rome I", COM (2005) 650. This regulation will

parties will generally be free in their choice of rules – including non-governmental ones – as to the applicable law. There is now a presumption that the law of that state applies in which the parties are habitually resident.

Alongside Rome I, the European Community has recently passed a Regulation 'Rome II' to align national rules of conflict for non-contractual obligations.<sup>69</sup> The Rome II Regulation introduces the concept of advance agreement on choice of law within the EU in cases of tort liability.<sup>70</sup> Traditionally, the law of that state where the damages has occurred (*lex loci delicti commissi*) applies. A new rule now governs product liability cases, by which the law of that state applies where both the party liable and the injured party have their habitual residence at the time of damage (Article 4(2)), failing which, the law of the country where the damage occurs (Article 4(1)).

The Rome II Regulation contains a further provision governing allocation of claims in joint and several liability. To date, it has been questionable in cases with foreign elements and several defendants which law determines the right of recourse by one defendant against other co-defendants. There have been no uniform international rules on this point before. This development is particularly important in product liability cases, where several suppliers and sub-contractors are involved in the manufacturing process.<sup>71</sup> The Rome II Regulation comes into force in January 2009.

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replace the Rome Convention on the law applicable to contractual obligations of June 19<sup>th</sup> 1980.

69 European Parliament and Council Regulation on the law applicable to non-contractual obligations of 21.02.2006 (hereinafter Rome II), OJ L 199/40 of 31.07.2007. Its provisions include the international private law rules relating to, *inter alia*, tort, including liability for defective products arising by product and manufacturer's liability under Article 5.

70 Article 18 Rome II Regulation allows a direct claim by the injured party against the insurer, where either the law applicable to the insurance contract or the law applicable to the injured party's claim in damages provides for this. Article 26 Rome II marks a clear move away from punitive damages, in that it excludes the application of a system of law that leads to damage awards that are clearly disproportionate.

71 Article 20 Rome II provides that the right of recourse between parties is determined by the law

This review of the variable factors attached to trans-national tort litigation serves to demonstrate just how complex damage litigation may be. Even if the EU has gone a long way in introducing many uniform elements into its conflict of laws, this does not remove all hurdles from claiming compensation for damage resulting from manufacturing or transmission defects. The Commission recognises the need in principle for a liability system; other primary issues of project viability, however, have more immediate priority.

#### PROTOTYPE LIABILITY SOLUTIONS

The decision to operate an alternative liability regime has been faced by other industries in the past. This has been addressed using a combination of international convention or voluntary compensation models that are now be briefly examined. The purpose of specific liability schemes, which include various environmental conventions, is to identify and channel liability, in exchange for the industry's ability to limit this in time and level, combined with compulsory liability insurance.

#### Civil liability for oil pollution

Two main conventions regulate this area of liability, originating from the regime established under the 1969 Convention on Civil Liability for Oil Pollution, in conjunction with the 1971 Convention on the Establishment Fund for Compensation for Oil Pollution Damage. The older framework has since been amended by two protocols in 1992, so that the new Conventions – the 1992 Civil Liability Convention (CLC) and the 1992 Fund Convention – now form the basis of a system of strict liability for oil pollution damage.<sup>72</sup> Technical differences and differing membership of the Conventions lead to the newer regime in the nineties and the 1972 Fund is no longer in existence. Nevertheless, the main purpose of the 1992 International Oil Pollution Compensation Fund (IOPC), as that of its predecessor, is to provide compensation for those who otherwise do not obtain compensation

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which applies between the manufacturer and the creditor (obligee). It does not cover apportionment of costs incurred through international recall.

<sup>72</sup> For the operation of both Conventions, see Secretariat's explanatory guidelines available at <http://opcfund.org/>, last visited 17<sup>th</sup> August 2007.

under the 1992 CLC. This may arise for a variety of reasons, among which the shipowner's inability to meet the cost of damage or the applicability of the exemption provisions are the most likely.<sup>73</sup> The Fund is constituted from a levy on oil contributors – generally the oil companies themselves. Insurance is compulsory and claims can be brought directly against the insurer under the CLC. Since the Conventions came into force, previous voluntary compensation schemes devised by the oil industry to cover situations where compensation was otherwise unavailable have ceased to exist.<sup>74</sup>

#### International Convention on Civil Liability for Nuclear Disasters and other Models

The 1960 Paris Convention on Third Party Liability in the field of Nuclear Energy, as amended, and the 1963 Vienna Convention on Civil Liability for Nuclear Damage, amended 1997,<sup>75</sup> prescribe absolute liability for nuclear damage and channel this onto the nuclear plant operator, thereby excluding the liability of other possible (co)-defendants. A relatively far-ranging limitation of liability is possible in return for this channelling.<sup>76</sup> States are obliged by virtues of Article VIII Vienna Convention to ensure that compensation claims are met.

A further alternative form of damage regulation is the state waiver, a technique used in conjunction with the Inter Governmental Agreement (IGA) governing the International Space Station (ISS). This contains a state-party

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<sup>73</sup> The 1992 Protocol extends liability to damage occurring not only in territorial seas but also the Exclusive Economic Zone (EEZ), United Nations Convention on Law of Sea (UNCLOS), 1982, 1833 UNTS 397.

<sup>74</sup> The Tanker Owners Voluntary Agreement Covering Liability for Oil Pollution (Tovalong) and the Contract regarding a supplement to tanker liability for Oil Pollution (Cristal) ceased operating in 1997.

<sup>75</sup> These Conventions are open for signature to states on differing geographical bases: the Paris Convention (OECD 1960) relates to nuclear incidents within Western European Member States; the Vienna Convention 1997 offers a comparable scheme for global participation. The Paris Convention has attracted greater support among nuclear states.

<sup>76</sup> Germany has lifted the limitation of liability.

cross-waiver in Article 16 IGA based on the principle that each State Party will assume liability for its own nationals in the light of such inherently dangerous operations as those entailed on the ISS. Its origins are to be found within the provisions of the Liability Convention,<sup>77</sup> according to which a state is absolutely liable for damage caused in space that manifests itself on earth (Article II). State liability for damage occurring in space, is fault-related (Article III). There are exceptions to this (Articles VI and VII) that do not stand the test of novel forms of international cooperation such as the International Space Station (ISS). There are some views that the Intergovernmental Agreement (IGA) approach to liability should be seen as a new form of customary international law ('soft law') and as a model for international cooperation. If such a model were to be adopted for Galileo - in keeping with rules on international state liability - then clear demarcations as to joint and several liability should be included.

#### SELF-REGULATORY INITIATIVES

It comes as no surprise, therefore, to learn that the Italian government, in conjunction with the Italian space industry, has recently taken the initiative in developing a Draft Liability Regulation for Galileo, in collaboration with academic advisors and after relevant consultation. This proposal for a Regulation on civil liability<sup>78</sup> marks both the concern and interest in seeing effective regulation of liability at supranational level and is a welcome initiative for Galileo. The proposal was submitted to the European Commission in June 2007 for consultation. Its aim is to establish a liability regime for Europe, its scope restricted to damage arising within the EU<sup>79</sup> It applies to the exclusion of the Product Liability Directive. It is hoped that the draft will provide an impetus for further regulation or harmonisation at international level under the

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77 Convention on International Liability for Damage caused by Space Objects 1972, n. 21 above.

78 Proposed Regulation on Civil Liability and Compensation for damage resulting from the Malfunctioning of European GNSS Services and Equipment, 2007.

79 Article 4 Proposed Regulation, n. 78, above, i.e. within Member States, their Exclusive Economic Zones or and relevant air space.

aegis of UNIDROIT. It could serve as a possible basis for bilateral extension of its provisions to non-EU states wishing to participate.

The Draft Regulation foresees a mandatory system that distributes liability between registered 'qualified Providers' (Article 6) and the GNSS Operator on proof of GNSS malfunctioning.<sup>80</sup> It backs up a limitation of Provider's liability with a compulsory insurance fund (Article 8). Where the damage exceeds insurance coverage, Member States will meet the excess through public funds made available for this specific purpose (Article 12). No liability is imposed for damage resulting from OS operations (Article 18), unless these are provided on a commercial basis, in which case the Provider must register as a Qualified Provider or forego the limitation of liability provisions.

The jurisdictional provisions (Article 14) grant jurisdiction to courts of the States where the damage or incident occurs.<sup>81</sup>

While the draft proposal is a welcome initiative, certain aspects require further consideration. Firstly, the legal basis of liability is implicitly strict and not-fault related, but should be clearly stated as such. This is not apparent, as its wording addresses only 'incidents' that result from malfunctioning. This lack of specification could lead to gaps in determining the exact basis of liability. On the face of it, it covers signal malfunction alone, to the exclusion of all other remedies. Secondly, the draft applies to damage within the EU only, thereby leaving the door open to the possibility of foreign litigation and lack of coherency in legal outcome. It is important to establish a settled pattern for damage awards. Thirdly, the absence of manufacturer's liability within the scheme indicates that this type of action will still be available. Even if there are arguments for excluding the strict liability provisions under the European Product Liability Directive – there

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80 It excludes any subsequent recourse by such providers against GSA (Article 5 (a)).

81 The Draft Regulation calls this the 'Incident' Member State. This proposal needs consideration in the light of the applicable law under Rome II, n. 68 above.

could be an unclear demarcation between cases of product liability and proof of malfunction – strict product liability cases can still be raised, in so far as they are based on satellite or equipment defects. As a result, the entire field of strict product and warranty liability remains unaddressed and co-exists with the model rules. Having separate liability regimes for Galileo, one for signal malfunctions and another beyond the ambit of the Proposals, would create, alongside uncertainty, definitional and demarcation difficulties.

Potential maladministration on the part of GSA remains unaffected, in that the draft denies a right of recourse against the GSA. Nevertheless, the demarcation towards Regulation 132/2004 should be clearly drawn.

The positive aspects of the model include the compulsory insurance regime. The idea of channelling liability onto operators is a parallel to the other nuclear and oil tanker liability regimes. It remains open whether Article 308 should provide the only basis for European legislation in what is a sphere of law that broaches Consumer and User safety, legal harmonisation, if not uniformity, and international private law. Further legal competences may be derived from EC Treaty provision on the internal market, justice and international cooperation within such a liability regime.

#### CONCLUSIONS

In terms of reliability and predictability, it seems reasonable and necessary to introduce a special statutory regime to regulate liability within the Galileo programme. If there is no coherent regulation of liability for Europe – and one which applies beyond its borders – the EU will be seen as having only gone half-way in achieving its prestige programme that has been largely publicly funded. It would be regrettable if the first liability scenario occurred before agreement on suitable legislation had been reached. A clearly defined liability scheme could incorporate the safety and reliability that goes hand in hand with the flagship role that Galileo aspires to assume. Such a regime can be devised in a variety of ways, as previous international liability models have demonstrated. A fully fledged,

internationally applicable regime that covers stake-holders' interests and responsibilities must soon be given place on the Galileo agenda. This could mark a first clear legislative step within Europe's developing Space Policy.