Interaction Between the Transport of Dangerous Goods and Soft Law

Monica Diana Stanciu[1], Ioannis Manikas [2*], Petros Ieromonachou

[1]PhD.S., Law Doctoral School, Police Academy „Al. I. Cuza", Bucharest, monica.d.stanciu@gmail.com

[2]Associate Professor in Logistics and SCM, Faculty of Business, University of Wollongong in Dubai, ioannismanikas@uowdubai.ac.ae

[3]PhD, MSc, MA(Ed), PGCert(HE), BEng Hons, Head of Department, Department of Systems Management and Strategy, Business School, University of Greenwich,p.ieromonachou@gre.ac.uk

Abstract

The article presents the interaction between soft law and hard law in the regulations governing the transport of dangerous goods. The regulations on the transport of dangerous goods are presented as a model of complex integrative normative assembly of rigorous scientific thinking and action, of reaction and continuous adaptation to technical-scientific progress, concomitant with the process of progressive harmonisation and simplification of their dispositions which triggers the need to broadly use soft law.

The authors identified three sets of functions with regard to the use of soft law in the transport of dangerous goods regulations: 1. development and harmonization, 2. completion and substitution, 3. interpretation and explanation of the application legal norms.

*Keywords:*transport, dangerous goods, soft law, ADR/RID/ADN, UN Model Regulations

* Corresponding author: Ioannis Manikas, ioannismanikas@uowdubai.ac.ae

1. Introduction

In the contemporary society, scientific, theoretical and experimental research is the instrument that all branches of science use in order to broaden the realm of knowledge and as knowledge goes further through the structure of matter, of natural phenomena in the micro- and macro-cosmos, the branches of science diversify and a necessity to create new scientific branches is further enhanced, resulting in a deeper specialisation.

In the context of this diversification, the article contains some considerations with regard to the use and manifestations of soft law and its interaction with the transport of dangerous goods world. These knowledge manifestations, which are very interesting and quite concluding from our point of view, are sometimes considered *trifles* of legal norms, although they have reached maturity and acquired full value, becoming a major instrument for the development, substitution, completion, interpretation and explanation of legal norms in the case of transport of dangerous goods.

Transport is considered, in the simplest analyses, the heart of commerce, mobility and economic growth, and in a socio-philosophical description "transport is the human being in its relationship with humanity. As a linking factor between men, nations, peoples, transport allows humanity to integrate the space-time notions through fulfilment of the needs of movement for goods, persons, information"(Raicu, 2007), which entitles us to believe that it is an important player in the enhancement of human essence, seen as the assembly of social relations.

Transport activity, as we know it today, began with the first organised manifestations of socio-economical life, and, from an historical point of view, "transport of dangerous goods" as a notion is linked particularly with the evolution of the production of goods, especially with the development of chemical industry and of its closely related branches, which use chemical substances and mixtures. At the same time, at a global level, the production and use of chemical substances which present a certain danger in transport had a noticeable unprecedented raise starting with the 1960s. In the past few years, the value of chemical substances represents approximately 10% of the worldwide commerce and the number of chemical products commercialised exceeds 100 Million[1].

Moreover, the continual diversification and the specialization of production, as well as the intense competition resulted in an increase of the distance between the producer and the consumer, diverting the offer from the demand, which results in an increase in the need for transport.

The development and evolution of these regulations[2] were the expression of the necessity to introduce order in the transports ensuring commercial exchange with regard

[1] Chemical Abstracts Service (www.cas.org), a division of the American Chemical Society, registers chemical substances by issuing unique numbers. On June 29th 2015, they announced the registration of the 100 millionth chemical substance. (https://www.cas.org/news/media-releases/100-millionth-substance).However, not all substances fall in the category of dangerous goods. For dangerous goods classification see note 28.

[2] The three inland transport modes – rail, road and inland waterway transport are regulated by means of three international agreements which are a part of the international public law:

- The Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), Appendix C to the Convention concerning International Carriage by Rail (COTIF) of 9 May 1980. The first International Convention concerning the Carriage of Goods by Rail dates from the year 1890[2]. (http://www.otif.org/en/publications/rid-2015.html)

to prime matters, materials, but also products and sub-products with specific characteristics, which could endanger human life and property.

The regulating activity in the field of transport of dangerous goods meant a gradual sedimentation of the public law norms from private law, because the danger they presented could affect both man and his propriety (the environment was not yet acknowledged as a fundamental value in the early 1950s). Even if the agreements were meant to regulate *also* private relations, they had to be provided in an appropriate way that they would benefit of a minimal safety level, by means of the application of this agreement. The motif of this displacement in favour of the public domain, of this "imposition of the state in private activities" is not a reflex of "economic interventionism" (Fontaine et al., 1998), but rather a preoccupation for the security of the economic activity performed. "Public policies are the main instrument of the state in a given field at a certain moment in time; they constitute the assembly of the decisions taken and of the actions put forward by the investment and social players in view to finding a solution in order to solve a collective problem" (Duţu, 2012).

But, according to the new development of the environmental policy, in the past few years, the conception with regard to transport was changed and today one of the major preoccupations is sustainable transport, which has to "contribute to the economic prosperity, social wellbeing, without endangering the environment or the health of the people" (Koleva, 2014), because the action of "transforming the nature of the planet into a humanized nature" (Volkov, 1969) resulted in the apparition of the geological era of humanity (Monastersky, 2015), seen as the historical moment when the human being had a fundamental irreversible negative impact on Terra, causing a similar modification to the one induced by the impact of a meteorite on Earth.

Thus, there is a need for an evolution which should be developed in the direction of rational predetermined objectives which should include, implicitly, the ideas of "better" and "time", which have to correspond in order to ensure progress both from the point of view of the subject (the human being), and of the object (the environment) and of the duration. "Ecologic aspects are too important for all of us in order to let them be managed by some individuals who are prisoners of the competition logic, thus, it is only the state who could be the defender of the common interest of the protection of the environment" (Duţu, 2012).

- The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) was done at Geneva on 30 September 1957 under the auspices of the United Nations Economic Commission for Europe, and it entered into force on 29 January 1968. (http://www.unece.org/trans/danger/publi/adr/adr_e.html)
- The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) done at Geneva on 26 May 2000 under the auspices of the United Nations Economic Commission for Europe (UNECE) and the Central Commission for the Navigation of the Rhine (CCNR) entered into force on 28 February 2008. (http://www.unece.org/trans/danger/publi/adn/adn_e.html)

There are two global conventions governing the international transport of dangerous goods:

- The International Maritime Dangerous Goods (IMDG) Code;
- Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Technical Instructions).

2. Soft law as a concept

We took up from the doctrine the concept of „soft law", in order to refer to the texts that are not warranted by the coercive force of the state, but are successfully imposed as an effect of the prestige of the international organisations that promote or initiate them, and which include guiding principles, recommendations, best practice, standards, etc. Soft law reaches its objective of simplification of the law at a national and international level, and succeeds in facilitating international commerce. „If used rationally, it can contribute to the policy of simplification of legal texts and of enhancement of normative quality" and „it is not a sign of the degeneration of the legal order, but it is the very symptom of its adaptability" (Duţu, 2014). On the other hand, soft law can be read as a sign of the democratisation of international law-making processes in the sense that its development is more inclusive than hard law: it typically emerges not just from the interests of states but in multilateral fora with the engagements of international organisations, non-government organisations and individuals (Charleswort, 2012).

The term „soft law" was used for the first time in 1930 by Arnold McNair, and it has been since then brought constantly to the attention of the lawyers worldwide. According to other researchers, „soft law is a creature of the UN era, is a product of multilateral processes, institutions, even individuals operating in the international sphere"(Charleswort, 2012). Some of the recent debates come from the activity of the Legislative Council in France, which studied the question of the relevance of „droit souple" („soft law") in 2013. This study was preceded by another study regarding the „droit mou" ("flexible law"), in 1991, „De la sécuritéjuridique", in order to refer to the heterogeneity of the normative system in the so-called hard law (Richard et. al. 2013). The opposition between „hard law" and "soft law" reflects specific differences which can be summed up in the presence or absence of „coercion".

According to the interpretation of the Legislative Council in France, the soft law represents „the assembly of instruments which comply with three cumulative conditions":

- They aim to modify and orient the behaviour of those addressed by them, trying to gain, as far as possible, their adhesion;
- They do not create by themselves rights and obligations for those they are addressed to;
- They present, by their content and the way they are elaborated a high degree of formalisation and structuring, which is related to the general rule of law" (Conseild'État, 2013).

The content of „soft law" evolved over the years, and there is still undergoing discussion with regard to its definition. Nevertheless, „the language of soft law is frequently legal language up to a point in which its instruments could be transformed in hard law by their simple homologation". Its drafting process can be „structured similarly with the one in hard law" (Duţu, 2013). The doctrine pleads mostly for the complete validity of the „soft law". Soft law instruments that provide predictable and enforceable solutions are also based on a realistic prospect that the intended users will be interested in committing to the proposed solution (Cordero-Moss, 2012).

3. Functions of soft law in the agreements on the transport of dangerous goods

In this hypostasis, soft law can be presented only by means of three of its constructive "avatars", as follows:

(1) The guidelines and recommendations adopted at the UN in order to orient, develop and harmonize the rules regarding the transport of dangerous goods,

(2) Standards used in these regulations, elaborated within the standardizing body – ISO, and the European bodies – CEN/CENELEC and ETSI[3];

(3) The Guidelines drafted by the representatives of the European transport industry in order to interpret and explain the security provisions applicable to the transport of high consequence dangerous goods in Chapter 1.10 of RID/ADR/AND.

The doctrine says that „each one of these soft law instruments fulfils its own function and there are three different roles that they can play in the international legal environment: a preliminary stage for hard law evolution, a complementary instrument for the application of hard law and an autonomous system in international relations regulation" (Duţu, 2012). Enlarging upon this classification of the functions of soft law, we will suggest further on a rewording of the above, illustrating the relevance of soft law in the current system of transport of dangerous goods. The following three sets of functions of the soft law are to be encountered in this field:

- Soft law pays an essential role in the *development* of hard law, and predates it. At the same time, it helps in the *harmonization* of hard law dispositions in the international agreements on the transport of dangerous goods;
- Soft law *complements* and *substitutes* the dispositions of the agreements, a set of functions which is manifested concomitantly,
- Soft law interprets and explains the application of the dispositions of the agreements, which is manifested prior to the adoption of their dispositions.

3.1 The development and harmonization of legal norms function

In the transport of dangerous goods, the development and harmonization of legal norms function is ensured by the Guidelines and the Recommendations adopted by the Sub-Committee of Experts on the Transport of Dangerous Goods of the UN Economic and Social Council, as well as by the dispositions adopted by the RID/ADR/AND Joint Meeting.

The basic condition for principles or recommendations to influence legal norms, in a certain field which is regulated, is the prior formulation of the norms, that the drafting of the principle/recommendation precedes it in time, because the harmonisation of laws

[3] The three standardisation bodies which are officialy recognised are: the European Committee for Standardization – CEN, the European Committee for Electrotechnical Standardisation – CENELEC and the European Institute for Standardisation in Telecommunications (ETSI). The cooperation between CEN and CENELEC was enhanced in 2010, by the creation of a Common Management Center. European Standards bear the symbol EN in their code. http://www.cencenelec.eu/aboutus/Pages/default.aspx.

is a difficult, complex and continuous process, which has to include some restrictions, opportunities and conjunctures (e.g. political contexts, related treaties, events).

From the point of view of the branch of the law that regulates it, carriage is defined by „4 elements: a *movement in space*; the *object* of this movement, which can be represented by passengers or goods; the movement is being done with a *means of transport* (vehicle) on a *carriageway."* (Piperea, 2013)There are only two elements which are common to all transport modes – the movement and the object of the transport. The movement is a *sine qua non* condition of transport, as the activity per se cannot exist without the changing of place of objects, in our case. This is extremely important, as the dispositions regarding classification, listing and homologation of packagings, stowage of goods, filling of tanks should be established taking into consideration normal transport conditions, which differ significantly from the conditions provided for in the depots of the factories or commerce. Nevertheless, the dispositions which can make up the subject of further harmonization and simplification of the norms point to only one element: the object of the movement –dangerous goods.

The carriage of dangerous goods is regulated in order to prevent and diminish, as far as possible, the incidents that can endanger public safety or the environment. Furthermore, the regulations have to be elaborated in a manner that should not prevent dangerous goods from being moved, with the exceptions of those goods which are too dangerous to be transported and are barred from such transports. The aim of the regulation is to make the carriage of such goods feasible and safe, by reducing the associated risks to a minimum level.

The simultaneous strive to achieve the aims of ensuring the safety of the people, goods and of the environment and the facilitation of international commerce leads to the need of substantial regulations, which means that the applicable technical norms for this type of transport cannot be left to chance. This activity needed – from the very beginning of the regulating activities in the early 1950s – the existence of a specialised organism, in which experts work on behalf of governments and develop the main actions, such as: the definition of common general principles for the development of transport of dangerous goods; the development of common safety goals and common safety methods, as well as means to ensure a higher and more constant level of safety; the definition of the main responsibilities of the participants and the harmonization of the structure of regulations which were emerging both at an international, and a national level.

As a follow up, in order to elaborate uniform regulations which are universally acceptable, the United Nations, on the basis of and according to the limits of its constitutive mandate, created the Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labelling of Chemicals **(**GHS**)** within the Economic and Social Council of the United Nations.

„The development of commercial transactions between several countries, in different conditions from one country to another and over long distances imposed the organisation of multimodal transport, which proved its efficiency over the past decades." (Mazilu, 2011)

As a consequence, the governments and the industry acknowledged that traffic is increasingly multimodal, even at a national level. For dangerous goods, this recognition determined the Sub-Committee of Experts on Transport of Dangerous Goods to

restructure its own recommendations in a new logical structure and to publish them as the „Recommendations on the transport of dangerous goods. Model Regulations", which any country can use as a basis for further national regulations. This also ensures a basis for standardisation of the domestic and international regulations applicable for each transport mode.

In the past twenty years, the flexibility and viability of the universal regulatory system on the transport of dangerous goods is ensured in a complex normative construction, which complements the Model Regulations developed within the Economic and Social Council of the UN, which are used as the main source of harmonization, amendment and updating of the international agreements which are specific to each transport mode, with the recommendations contained in the best practice guidelines and the standards drafted under the aegis of specialised institutions or specialised nongovernmental organisations.

The UN Recommendations on the transport of dangerous goods are presented under the form of the „Model Regulations", constituted as an annex. „The Model Regulations are a scheme of basic provisions that will allow uniform development of national regulations and international regulations governing the various modes of transport. However, the Model Regulations are intended to be flexible enough to accommodate any special requirements."[4]

Thus, it can be observed that by the UN Model Regulations, the UN created a soft law instrument meant to orient and facilitate the amendment and update of international treaties or national legislations in the field. It can thus function as a premise for the harmonization of the regulations applicable in the field of transport of dangerous goods regardless of the specific mode of transport.

From this perspective, it can be stated that the UN Model Regulations function as a catalyst for other *soft* instruments. E.g., the Model Regulations are synchronised with the Globally Harmonized System of Classification and Labelling of Chemicals **(**GHS**)**, thus ensuring the appropriate link between transport regulations and the rules applicable for the industrial production of dangerous goods.

The UN Model Regulations create a unique classification system[5], listing, packaging, marking, labelling, placarding or documentation system which is to be used generally and remain an open guideline, which is updated every two years in order to be adapted to scientific and technological progress[6].

[4] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), p. 6 http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf.

[5] Class 1 – Explosives, Class 2 – Gases, Class 3 – Flammable liquids, Class 4 - Flammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases, Class 5 - Oxidizing substances and organic peroxides, Class 6 - Toxic and infectious substances, Class 7 – Radioactive material, Class 8 – Corrosive substances, Class 9 - Miscellaneous dangerous substances and articles, including environmentally hazardous substances. For further information, see 2.0.1.1 of the UN Model Regulations. For the list of dangerous goods, see Chapter 3.2 in the UN Model Regulations and Chapter 3.2 in RID/ADR/ADN.

[6] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), p. 6 http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf.

It was compulsory to find methods and use instruments that could actively influence the development of the UN Model Regulations and of the international regulations. These methods and instruments are summarized in the Guiding Principles for the development of UN Model Regulations, which the UNSCETDG started publishing on its website in 2010[7].

The principles have a necessary scope, they gain purpose and significance or a socio-human value in the context of the idea of progress, and their task is to facilitate and surpass the obstacles in the international intermodal transport of dangerous goods.

Therefore, the UN Model Regulations are based on the Guiding Principles which „ are a dynamic set of principles to be reviewed and amended as necessary as each future revised edition of the Model Regulations is adopted"[8].

The Principles are an efficient and rigorous instrument for comprehensive standardisation. They are *in nucae*a methodology project for a thorough substantiation for the approach of various potential risks which are specific to dangerous goods in transport, as well as for the development of adequate dispositions for diminishing and eliminating their negative effects during transport.

The principles are amended in order to reflect technical progress, development of new material and substances and the requirements of modern multimodal transport. The Principles and the Regulations are addressed to governments and international organisations which are competent in the safety and regulation of the transport of dangerous goods.

Therefore, these are a set of soft law instruments, created within the ECOSOC in order to help governments, international governmental and nongovernmental organisations in the „revising or developing regulations regarding the transport of dangerous goods (…), thus contributing to worldwide harmonization in the transport of dangerous goods"[9].

In conclusion, the UN Recommendations – by means of the UN Model Regulations, the Manual of Tests and Criteria and the Guiding Principles which are the basis of the UN Model Regulations are soft law instruments adopted by the Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labelling of Chemicalswithin ECOSOC. These instruments have a double aim: to develop and harmonize the legal norms applicable for the different modes of transport, in different geo-political spaces.

As they are taken over in the treaties or directly in national legislation, these soft law instruments are meant to harmonize and develop the regulations under the pressures of globalization.

[7]For further details regarding the sequence of Guiding Principles for use with the UN Model Regulations, see http://www.unece.org/trans/danger/publi/unrec/guidingprinciples/guidingprinciplesrev15_e.html

[8] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), p. 6 http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf

[9] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), p. 6 http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf

3.2 The function of completion and substitution of the legal norm

In the transport of dangerous goods, the standards are the ones that ensure the function of completion and substitution of the legal norm. The adoption of standards results in the „simplification and reduction of the number of the legal texts" (Peyratet.al., 2013), thus helping the development of public policy[10] and the respect of international agreements[11].

A standard is a document which establishes norms and prescriptions with regard to the quality, characteristics, dimensions, as well as the elements which define a product in order to ensure unitary regulations. The standard has to reflect the state of the art science, technique and practice. Standards are elaborated by new methods of analysis, incorporation of scientific notions, symbols etc. (Academia, 1966).

When the application of a standard is required and there is a conflict with the dispositions regarding the transport of dangerous goods, the legal norms take precedence. The requirements of the standard that do not conflict with transport provisions shall be applied as specified, including the requirements of any other standard, or part of a standard, referenced within that standard as normative.[12]

Analysing the provisions on standard application it is evident that the standards are meant to complement the legal norm. At the same time, their use is mandatory, provided that they do not conflict with the prescriptions of the agreements. Practically, the dispositions presented previously illustrate the possibility to transform a soft law instrument into a hard law instrument. In the case of the transport of dangerous goods, standards started to be applied since the 1 January 2009.

Furthermore, with regard to standards, the regulations on the transport of dangerous goods take into account the following principles:

(a) When a standard is replaced and a revised edition of the standard or a different standard with the same field of application is published, a transitional period is provided for in the regulations, in which either the new, or the old standard can be used. This allows for the issuance of type approvals according to the new standard, the adjustment of the procedures and, if necessary, the acquisition of new equipment in order to comply with the new requirements.

(b) This period is expressed by means of deadlines, after which the old standard cannot be further used. The new standard can be used from the date at which the regulations stipulating its use enter into force.

If the Sub-Committee of Experts on the Transport of Dangerous Goods considers that the new standard represents a significant improvement to public safety, it can provide for shorter transitional measures.

3.3 The function of interpretation and explanation of the application of the legal norm

Until the 9/11 terrorist attacks in the US, the UN Model Regulations contained only dispositions regarding the safety of dangerous goods in transport. Thereafter, it was

[10] *Idem,* p.280.
[11] *Ibidem,* p. 282.
[12] See section 1.1.5 in RID, ADR and ADN.

considered necessary "to consider the general prescriptions on security for dangerous goods as a sub-set of safety provisions"[13]. The Model Regulations now include general security requirements for all dangerous goods transported above the appropriate limited quantity thresholds. At the same time, stricter transport provisions were included in order to regulate high consequence dangerous goods[14].

A rethinking of transport conditions was necessary for the dangerous goods which "have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly for Class 7, mass socio-economic disruption."[15] In principle, it is left for the competent authorities to add or eliminate substances from the list of high consequence dangerous goods according to the existent conditions at a national level and in conformity with the level of threat perceived at any particular time[16].

In RID/ADR/AND, the dispositions of Chapter 1.4 Security provisions from the UN Model Regulations were taken over in Chapter 1.10 in each one of the agreements.

Chapter 1.10 contains: general dispositions (1.10.1); security training (1.10.2); provisions for the high consequence dangerous goods (1.10.3) - this subsection includes the definition of the high consequence dangerous goods quoted above, as well as the table which synthesises the goods and the quantities of goods which fall into this category (for classes from 1 to 6, 8 and 9 – the table of 1.10.3.1, and for class 7 – 1.10.3.1.3) and the dispositions regarding the "security plans" that all participants to transport (including the consigner and the consignee) have to draft, apply and respect in order to ensure the necessary level of safety for these transports, according to section 1.10.3.2.

Practically, Chapter 1.10 RID/ADR/AND represents the regulations for the "peak" of the potential danger with regard to transport of explosives, flammables, toxic, infectious, self-reactive substance, radioactive materials etc. It is the critical area of the agreements, in which measures have to be weighted with the greatest care in order to allow further movement of dangerous goods that have to circulate and to bring added value in the economic circuit, without endangering the human beings, the environment or property. The role of these actors is essential, starting with the consignor, carrier, consignee, and including the loader/unloader and the competent authority. Apart from the safety obligations of the main participants – which are presented in Chapter 1.4, in Chapter 1.10 includes a plan meant to impose a "specific allocation of responsibilities for security to competent and qualified persons with appropriate authority to carry out their responsibilities", according to paragraph 1.10.3.2.2 (a).

The insertion of these regulations generated a need for clarification on the way to implement them in practical activities, in the context in which security plans had to

[13] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), p. 8 http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf

[14] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), p.7- 8 http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf.

[15] See 1.4.3.1.1 in UN Model Regulations and 1.10.3.1.1.in RID/ADR/AND.

[16] ***, Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013), pp.9, http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/GuidingPrinciples/Guiding_Principles_Rev18.pdf.

cover the whole transport operation (which includes also the stops made necessary by transport conditions and the intermediate temporary storage of dangerous goods during the course of intermodal transfer or transhipment between units as appropriate[17]), as well as the security politics, operational practices, procedures and measures which ensure that the distribution of information contained in the security plan are limited to those who need to know them[18]. Furthermore, it is stipulated that "carriers, consignors and consignees should co-operate with each other and with competent authorities to exchange threat information, apply appropriate security measures and respond to security incidents"[19]. Thus, regardless of the strictness of *hard law*, the essential aspect is the cooperation between the actors involved in the development of these activities.

In this context, a series of non-governmental organisations[20] decided to draft and update regularly, if necessary, the Industry Guidelines for the Security of the Transport of Dangerous Goods by Road, which contain the guiding principles for as comprehensive a range of technical and operational options as possible, from which users can select their optimum mix of options to achieve compliance with the regulatory requirements of Chapter 1.10[21]. It is a practical solution meant to address the different legal and economic systems in Chapter 1.10 of the RID/ADR contracting parties from Europe, Asia and North Africa.

Developing upon the current regulation and warning the users that the specific solutions to be adopted by each company depends on the specific activities performed within the transport chain, and that the assessment of the risks and possible outcomes is necessary[22], the Guide has an indicative character, providing for a wide range of technical and operational possibilities, allowing each user to choose the most appropriate version in view to implementing Chapter 1.10.

Written for the first time in 2005, when Chapter 1.10 entered into force, on the basis of the Guidelines which existed at the time in the United Kingdom and Germany, the Guidelines were updated for the 2015 edition of RID/ADR/AND and is published – in order to facilitate access – on the website of the Directorate General for Mobility and Transport of the European Commission, the UNECE website[23], as well as on the websites of international organisations which represent the industry, but also on the websites of the competent authorities.

We have to mention that in ADR there are other guidelines mentioned. They usually explain the application and implementation of the legal provisions. For brevity reasons,

[17] See, therefore, para. 1.10.3.2.2 (c), and the definition for "carriage" in section 1.2.1.
[18] The regulations applicable to security plan in available in 1.10.3.2.2 RID/ADR/ADN.
[19] See the Note under 1.10.3.2.2 RID/ADR/AND.
[20] The complete list of the organisations is available at p.2 of the Industry Guidelines for the Security of the Transport of Dangerous Goods by Road, which is available on the website of the European Commission at the address http://ec.europa.eu/transport/road_safety/topics/dangerous_goods/index_en.htm.
[21] Industry Guidelines for the Security of the Transport of Dangerous Goods by Road, January 2015, p.3, http://ec.europa.eu/transport/road_safety/topics/dangerous_goods/index_en.htm.
[22] Industry Guidelines for the Security of the Transport of Dangerous Goods by Road, January 2015, p.3, http://ec.europa.eu/transport/road_safety/topics/dangerous_goods/index_en.htm.
[23] E.g. The 2013 revised version was announced by means of the document INF. 4, *Industry Guidelines for the Security of the Transport of Dangerous Goods.* Transmitted by AEGPL, AISE, CEFIC, CEPE, ECTA, EIGA, FEA, FECC, Fertilizers Europe, FIATA, IRU, Geneva, 4-8 November 2013, http://www.unece.org/fileadmin/DAM/trans/doc/2013/dgwp15/ECE-TRANS-WP15-95-inf4e.pdf.

we will resume ourselves to referring to *A General Guideline for the Calculation of Risks in the Transport of Dangerous Goods by Road may be consulted on the website of the secretariat of the United Nations Economic Commission for Europe* (http://www.unece.org/trans/danger/danger.htm), which is referred to in the footnote 1 under subsection 1.9.4.

The effort of the industry to self-regulate by means of a soft law instrument with regard to the way in which the activity of the companies involved in the transport of the high consequences dangerous goods was a viable solution for a critical problem for the competent national authorities, and also for the intergovernmental organisations involved in regulation and enforcement. Interpreting and explaining the application of the regulations, the representatives of the industry drafted a post-normative instrument which prevents an unwanted interference with a potential of encouraging the competent authorities to devise too stringent provisions in order to regulate on an individual basis each one of these provisions.

4. Conclusions

Transport is one of the main triggers of globalisation and its development resulted in one of the main characteristics of our era – the increase in commercial exchange, which is accompanied by the increase in the distance between the producer and the consumer. Thus, the need of finding efficient solutions for the carriage of dangerous goods. The current system of regulations, far from being perfect, addresses the matter in an efficient manner for the current state of the sector. The prerequisite of safe and secure transport of dangerous goods are assured by means of both hard and soft law, of legal norms and non-compulsory international regulations, guidelines, and standards which are put in place in order to offer the leeway necessary for this activity to develop.

It is our view that hard and soft law come in pairs – as they cannot exist one without another – because law as a "system of valid norms" (Kelsen, 2010) is, indeed, a hierarchical structure, but it is a superposed structure upon other systems of hierarchical norms – which are non-compulsory from the point of view of the state, but which are compulsory *per se*, inside the wider system in which they function.

In the margins of the hard law, soft law functions as a means of *development* and *harmonization* of legal norms, *completion* and *substitution* of the legal norm, as well as *interpretation* and *explanation* of the application of legal norms.

The dual organisation that we provided for the functions described above seems necessary in the context of the current state of the affairs – you cannot have development of the international agreements without the harmonization of the existing legal norms through soft law, but – mainly due to technical achievements (e.g. the significant change in vehicle speed in the past 50 years for all transport modes) – a political decision that would stop development of the agreements seems very unlikely. In order to complete the puzzle represented by legal normativity, substitution and interpretative soft law instruments are required in order to explain the *core* hard law.

Just as harmonization of legal systems is necessary, it is necessary to achieve technical harmonization. In this way, the jigsaw of technical development relies on complementary efforts of international organisations, which we briefly referred to by acknowledging the contribution of the EU in publicising the interpretative guidelines for UN safety requirements, and further down or up the road a complementary effort of

states, NGOs and companies is necessary in order to allow transport of dangerous goods to be performed. We thus agree with the views expressed that "sometimes it is useful to think of hard law-soft law phenomenon as a continuum rather than a dichotomy and complementing rather than competing with each other" (Atapattu, 2012) and that "while it is analytically possible to disentangle "soft" from "hard" laws, they are almost seamlessly interwoven in the fabric" of international law (Hirsch, 2012).

In our view, transport of dangerous goods is at the forefront of legal developments as it has to deal with problems in a fast and forward manner. Consequently, it can be observed that the regulations on the transport of dangerous goods constitute a model of complex integrative normative assembly of rigorous scientific thinking and action, of reaction and continuous adaptation to technical-scientific progress, concomitant with the process of progressive harmonisation and simplification of their dispositions.

References

1. Raicu, Ş. (2007) *Sisteme de transport,*Editura A.G.I.R., Bucureşti, Romania.
2. FontaineM., CavalerieR., FouilhéD., HassenforderJ.-A. (1998)*Notions fondamentales de droit*, Éditions Foucher, Paris, France.
3. Duţu M. (2012) *Politicipublice de mediu*, EdituraUniversulJuridic, Bucureşti, Romania.
4. Koleva, P. (2014) "Transport and sustainable development, in communications and in practice: A comparative analysis of the strategies of three French firms*", East-West Journal of Economics and Business,* Vol. 17, no. 1.
5. Volkov, S.N. (1969) *Sociologiaştiinţei,* EdituraPolitică, Bucureşti, pp. 103.
6. Monastersky, R.(2015) "Anthropocene: The human age*"*, *Nature*,Vol. 519, pp. 144–147
7. Duţu, M. (2012) *Politicipublice de mediu*, EdituraUniversulJuridic, Bucureşti, Romania.
8. Duţu, M. (2014) "Dreptulsuplu", între concept şipractică", in „*Pandecteleromâne"*, nr. 6/2014, Bucureşti, Romania.
9. Charleswort, H.(2012) "Law-making and sources"In Crawford, J.,Koskenniemi,M. (eds.), *The Cambridge Companion to International Law*, Cambridge University Press, Cambridge, UK.
10. McNair, A. (2013)*The Function and Differing Legal Character of Treaties,* in *British Yearbook of International Law,* 1930 in France. Conseil d'État, *Etude annuelle 2013 du Conseil d'Etat - Le droit souple*, Ed. La Documentation française, Mai 2013, p. 23,
11. Richard, J.,Pastor, J.M.(2013) *Interview: Le droit souple: quelle efficacité, quelle légitimité, quelle normativité?* In *Dalloz actualité. Le quotidien du droit*, 3 Octobre 2013
12. France. Conseil d'État (2013) *Etude annuelle 2013 du Conseil d'Etat - Le droit souple*, Ed. La Documentation française, Mai 2013, p. 9

13. M. Duţu, (2014) *Dreptul: întreipostazeteoreticeşiavatarurilemondializării*, Ed. AcademieiRomâneşiUniversulJuridic, Bucureşti.
14. Cordero-Moss G. (2012) "Soft law codifications in the area of commercial law", In Bjorklund, A. K.,Reinisch A.(eds.), *International Investment Law,* Edward Elgar, Cheltenham.
15. PipereaG. (2013) *Dreptul transporturilor,* Ediţia 3, Ed. C.H. Beck, Bucureşti.
16. Mazilu, D. (2011) *TratatprivindDreptulcomerţuluiinternaţional,* EdituraUniversulJuridic, Bucureşti, Romania.
17. Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013)
18. Guiding Principles for the Development of the UN Model Regulations, 4th Version (2013)
19. Peyrat, O.,Lelart, C. (2013) "L'utilisation des normes volontaires dans la réglementation, in France". Conseil d'État, *Etude annuelle 2013 du Conseil d'Etat - Le droit souple*, Ed. La Documentation française, Mai 2013, p. 278,
20. Academia R. S. R., (1966),,Dicţionar enciclopedic romîn", volumul IV, Q-Z, *Editura Politică*, Bucureşti, 1966.
21. Industry Guidelines for the Security of the Transport of Dangerous Goods by Road, January 2015, p.3,
22. Kelsen, H.(2010) "Pure Theory of Law", M. Knight, trans., 218, In Marmor, A.,Zalta E. N. (Eds.)*The Stanford Encyclopaedia of Philosophy* Berkeley: University of California Press, 1960/1967, (Fall 2010 Edition).
23. Atapattu S (2012)."Non-State Actors, Soft Law and Protective Regimes"In Cecilia M. Bailliet (ed),. *From the Margins*, Cambridge Univeristy Press, New York.
24. Hirsch,M. (2012), "Sources of international law",In Andreea K. Bjorklund, August Reinisch (eds.), *International Investment Law and Soft Law,* Edward Elgar, Cheltenham, UK.

Acknowledgements

This paper is supported by the Sectorial Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number SOP HRD/159/1.5/S/136077.