



Rapport de recherche

2016

Open Access

This version of the publication is provided by the author(s) and made available in accordance with the copyright holder(s).

Cross-border traffic accidents in the EU - the potential impact of driverless cars

Kadner Graziano, Thomas

How to cite

KADNER GRAZIANO, Thomas. Cross-border traffic accidents in the EU - the potential impact of driverless cars. 2016

This publication URL: <https://archive-ouverte.unige.ch/unige:85292>

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT

CITIZENS' RIGHTS AND CONSTITUTIONAL AFFAIRS



Constitutional Affairs

Justice, Freedom and Security

Gender Equality

Legal and Parliamentary Affairs

Petitions

Cross-border traffic accidents in the EU - the potential impact of driverless cars

STUDY FOR THE JURI COMMITTEE



Cross-border traffic accidents in the EU - the potential impact of driverless cars

STUDY

Abstract

Commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs at the request of the JURI committee, this study provides an analysis of the potential legal impact of the introduction of connected and autonomous vehicles on rules of private international law determining jurisdiction and applicable law in the EU Member States in the event of a cross-border traffic accident. Following a case-studies approach, it makes a number of recommendations to improve the legal framework. In line with recent EU law trends towards enhanced protection for the victims and given that products liability is likely to gain more importance in the area, the study suggests the introduction of a duty for car manufacturers to contract liability insurance covering traffic accidents victims; the possibility of a direct action against a manufacturer's liability insurer and the establishment of a forum at the domicile of the victim for claims against manufacturers of cars using new technologies. In order to increase legal certainty, the study recommends to redefine the respective scopes of application of the two systems of private international law currently coexisting in the EU to determine the law applicable (the Rome II Regulation and the 1971 and 1973 Hague Conventions), and to apply Rome II in cases in which both the claimant and the defendant are domiciled in EU Member States. Finally, autonomous technologies may increase the difficulty to initiate extra-contractual liability claims therefore the study proposes that limitation periods be extended at the substantive law level or that a cumulative connecting mechanism be introduced at private international level for the benefit of the victims.

ABOUT THE PUBLICATION

This research paper was requested by the European Parliament's Committee on Legal Affairs and commissioned, supervised and published by the Policy Department for Citizens' Rights and Constitutional Affairs.

Policy departments provide independent expertise, both in-house and externally, to support European Parliament committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU external and internal policies.

To contact the Policy Department for Citizens' Rights and Constitutional Affairs or to subscribe to its newsletter please write to: poldep-citizens@europarl.europa.eu

Research Administrator Responsible

Céline Chateau
Policy Department C: Citizens' Rights and Constitutional Affairs
European Parliament
B-1047 Brussels
E-mail: poldep-citizens@europarl.europa.eu

AUTHOR

Professor Thomas Kadner Graziano, Director of the Department of Private International Law and of the Program on Transnational Law, University of Geneva, Switzerland

LINGUISTIC VERSIONS

Original: EN

Manuscript completed in June 2016
© European Union, 2016

This document is available on the internet at:
<http://www.europarl.europa.eu/supporting-analyses>

DISCLAIMER

The opinions expressed in this document are the sole responsibility of the author and do not necessarily represent the official position of the European Parliament.
Reproduction and translation for non-commercial purposes are authorized, provided the source is acknowledged and the publisher is given prior notice and sent a copy.

CONTENTS

LIST OF ABBREVIATIONS AND REFERENCE INSTRUMENTS	6
EXECUTIVE SUMMARY	8
1. GENERAL INTRODUCTION	12
1.1. Preface	12
1.2. Study objective	12
1.3. Methodology	13
2. THE RELEVANT INSTRUMENTS TO BE ANALYSED	14
2.1. Instruments determining jurisdiction	14
2.2. Instruments determining applicable law	14
2.3. Instruments establishing uniform rules and requirements at the <i>substantive law</i> level	15
3. OVERVIEW OF THE CURRENT STATUS OF THE LEGAL FRAMEWORK (AT THE EUROPEAN AND GLOBAL LEVEL) GOVERNING CROSS-BORDER TRAFFIC ACCIDENTS, IN RELATION TO CIVIL LIABILITY AND INSURANCE ISSUES	18
3.1. Jurisdiction	18
3.1.1. Claim against driver, keeper, or owner of a vehicle involved in causing the damage	18
3.1.2. Heads of jurisdiction for direct claims against liability insurers	18
3.2. Applicable law	20
3.2.1. Cross-border traffic accidents: Introduction	20
3.2.2. The relationship between the Rome II Regulation and the Hague Traffic Accident Convention	21
3.2.3. Similarity and Differences between the Rome II Regulation and the Hague Traffic Accident Convention	22
3.2.4. The major differences between the two instruments in practice – four case studies	24
3.2.5. Applicable law: concluding remarks	27
3.2.6. A way out of the dilemma	27
3.2.7. The law applicable to direct claims against civil liability insurers	28
3.3. Conclusions	29
4. OVERVIEW OF THE CURRENT STATUS OF THE LEGAL FRAMEWORK (AT THE EUROPEAN AND GLOBAL LEVEL) GOVERNING PRODUCT LIABILITY	30
4.1. Introduction	30
4.2. Jurisdiction	30

4.2.1.	Place of acting of the person claimed to be liable	31
4.2.2.	Place where the damage occurred	31
4.3.	Applicable law	32
4.3.1.	The applicable law according to the Rome II Regulation	32
4.3.2.	The applicable law according to the 1973 Hague Convention on the Law Applicable to Products Liability	35
4.4.	Conclusions	36
5.	A LEGAL ANALYSIS OF THE POTENTIAL IMPACT OF CONNECTED AND AUTONOMOUS VEHICLES ON THE INSTRUMENTS APPLICABLE TO CROSS-BORDER TRAFFIC ACCIDENTS IN THE EU	37
5.1.	Potential new causes of road traffic accidents due to new technologies	37
5.2.	A literal analysis of existing PIL instruments	38
5.3.	Solutions to the case scenarios in Part 3 had the accident been caused by a failure of the new technology rather than driver error	40
5.3.1.	Road traffic accident: one single car involved	40
5.3.2.	Road traffic accident: two cars involved, claim brought by the passengers against the driver or keeper of the other car	40
5.3.3.	Road traffic accident: more than one car involved, claim of passenger against driver or keeper of the car he was in	41
5.3.4.	Road traffic accident: one car involved, victims outside the car	41
5.3.5.	Concluding remarks	42
5.4.	An analysis of the Brussels I Regulation (recast), the Rome II Regulation, and the 1971 Hague Convention: a Case Study on damage caused following the use of new technologies	42
5.4.1.	Introduction	42
5.4.2.	Scenario: software failure, several parties injured	42
5.4.3.	Jurisdiction	43
5.4.4.	Conclusions and potential recommendations on jurisdiction	45
5.4.5.	Applicable law	46
5.4.6.	Conclusions on applicable law	49
5.4.7.	Recommendations on applicable law	51
6.	FINAL CONCLUSIONS AND RECOMMENDATIONS	52
6.1.	Basic assumptions	52
6.2.	Jurisdiction: conclusions	52
6.3.	Jurisdiction: recommendations	54
6.4.	Applicable law: conclusions	54
6.5.	Applicable law: recommendations	57

ANNEX: AN OVERVIEW OF RECENT LITERATURE AND RESEARCH ON THE TOPIC **58**

1. On the new technologies in general (substantive law, new technologies, policy issues)	58
2. On cross-border legal aspects of international traffic accidents	62
On issues of Private International Law regarding traffic accidents (in general)	62
On issues of Private International Law regarding products liability (in general)	63
Cross-border traffic accidents: issues of <i>substantive law</i> regarding the Vienna Convention on Road Traffic of 8 th November 1968	64
On issues of Private International Law regarding new technologies for connected and autonomous vehicles	64

LIST OF ABBREVIATIONS AND REFERENCE INSTRUMENTS

Brussels I Regulation	Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast), [2012] OJ L 351/1
CJEU	Court of Justice of the European Union
EU	European Union
DG	Directorate General
Directive 2007/46/EG	Directive (EC) No. 2007/46 of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive), [2007] OJ L 263
General Data Protection Regulation	Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, [2016] OJ L 119
Geneva Convention	Geneva Convention of 19 September 1949 on Road Traffic, 125 UNTS 3. Text and status available at https://treaties.un.org/Pages/ViewDetailsV.aspx?src=TREATY&mtdsg_no=XI-B-1&chapter=11&Temp=mtdsg5&lang=en
Hague Traffic Accident Convention	Hague Convention of 4 May 1971 on the law applicable to traffic accidents, 965 UNTS 415. Text and status table available at https://www.hcch.net/en/instruments/conventions/full-text/?cid=81
Hague Products Liability Convention	Hague Convention of 2 October 1973 on the law applicable to products liability, 1056 UNTS 191. Text and status table available at https://www.hcch.net/en/instruments/conventions/full-text/?cid=84

- Lugano Convention** Convention of 30 October 2007 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters, [2007] OJ L 339/3
- Motor Insurance Directive** Directive 2009/103/EC of the European Parliament and of the Council of 16 September 2009, relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability (codified version), [2009] OJ L263/11
- PIL** Private International Law
- Products Liability Directive** Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, [1985] OJ L210/29
- Rome II Regulation** Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II), [2007] OJ L 199/40
- UN** United Nations
- UNTS** United Nations Treaty Series
- UNECE** United Nations Economic Commission for Europe
- Vienna Convention** The Vienna Convention on Road Traffic, of 8th November 1968. For the latest official consolidated version [2006], see http://www.unece.org/fileadmin/DAM/trans/conventn/Conv_road_traffic_EN.pdf. For an up to date consolidated version in German language see <https://www.admin.ch/opc/de/classified-compilation/19680244/index.html>
- VDA** Verband der Automobilindustrie ("German Association of the Automotive Industry")

EXECUTIVE SUMMARY

The introduction of new technologies for autonomous and connected cars is likely to fundamentally change the traditional car ownership/car usage paradigm. On the one hand, new technologies are expected to contribute to the safety on roads in the EU. On the other hand, first experiences during the testing period show that traffic accidents will continue to happen, and that human failure might, to a certain extent, be replaced by failure of new technical devices used in cars.

This study is based on the assumptions that

- the liability of the *driver* of the car, which in many systems is fault-based, will possibly become less important the more the car is to be driven by the new technologies,
- strict liability of the *keeper* of a vehicle (or any other person on which strict liability is currently focussed in most liability systems in the EU) will continue to be the main focus of the large majority of national liability regimes for road traffic accidents (and conceivably, once the new technologies are introduced, strict liability may need to be introduced in jurisdictions where it does not yet exist),
- product liability may take on a bigger role as claims against the manufacturer of the vehicle, or indeed the developer/provider of its defective software, may gain in importance once these new technologies will be used.

The current system on jurisdiction and applicable law

Regarding a claim for compensation for damage suffered in a road traffic accident, the injured party often has a choice between the courts of the state of the defendant's domicile, pursuant to art 4(1) of the Brussels I Regulation (recast), and the courts at the place where the accident occurred, according to art 7(2) of the Brussels I Regulation (recast). For claims against the defendant's car liability insurer, the injured party has the same options (arts. 11(a) and 12)) plus the further option to bring a claim before the courts of his or her own domicile, pursuant to art 13(2), 11(1)(b) of the Brussels I Regulation (recast). If the action is based on a defect of the car, or of the software/hardware used in the car, and a claim brought against the manufacturer of the car that caused the accident, the victim may bring his or her claim before either the courts of the Member State where the defendant is domiciled, pursuant to art 4(1) of the Brussels I Regulation (recast) or the courts of the Member State where the accident occurred, pursuant to art 7(2) of the Brussels I Regulation (recast). The victim thus often has the choice between the courts of different countries when it comes to bringing a claim for compensation.

In Europe, the law applicable to road traffic accident liability is determined under one of two alternative PIL systems, depending on the country where the claim is brought: either under the **1971 Hague Traffic Accident Convention** (for any claim brought before the courts of an EU Member State that is a Contracting State to the Hague Convention), or the **Rome II Regulation** (for any claim brought before the courts in an EU Member State that is *not* a Contracting States of the Hague Convention). There are significant differences with regard to the applicable connecting factors under the Rome II Regulation and the Hague Convention respectively, though either instrument may be used to determine the applicable law, depending on the State where the claim was brought.

In some scenarios, the focus might however shift from liability on the part of the driver or keeper of the car, and onto the car manufacturer or technology producer. For product liability claims brought against the manufacturer of the driverless car or the manufacturer of its (defective) new technologies, again, two alternative systems of PIL apply depending on the

country where a claim is brought: the **1973 Hague Products Liability Convention** (for any claim brought before the courts of an EU Member State that is a Contracting State of the Hague Convention), or the **Rome II Regulation** (for any claim brought before the courts of a EU Member State that is *not* a Contracting State of the Hague Convention). These instruments use different connecting factors. In some scenarios they may lead to the same result, in other scenarios they lead to different results in regards to which law is applicable to a products liability claim.

The rules of the Brussels I Regulation (recast) which are applicable to determine jurisdiction in cross-border traffic accidents, and the rules of the Rome II Regulation on the one hand and of the 1971 Hague Traffic Accident Convention and the 1973 Hague Products Liability Convention on the other, do not refer to any particular causes of the accident (such as human failure or a defect of any technology used in a vehicle). The traditional PIL instruments for traffic accidents (that is, the Rome II Regulation and the 1971 Hague Traffic Accident Convention) can thus be applied to, and will cover, cases of accidents which were caused by defective new technologies for connected or autonomous vehicles. **A pure literal analysis of these instruments thus does not reveal any immediate need for specific legislative action.**

However, scenarios drawn from the practice of courts in Europe demonstrate that, as long as in the different EU Member States different PIL instruments apply, the choice of forum and thus of the applicable PIL system, might have a significant impact on the applicable law, and, given the differences in domestic substantive laws on road traffic accident liability, on the outcome of a given case. The case scenarios presented in this study further illustrate the considerable complexity of applying several different systems of Private International Law for determining the applicable law to traffic accidents in the EU. **Given that in most cases of cross border traffic accidents, the victim/claimant has the choice between the courts of different countries** (see the scenarios exposed in this study), **before a case comes to court, the applicable PIL system, and thus the law that will ultimately apply, is often not foreseeable for the parties.** This has been considered problematic since the entry into force of the Rome II Regulation. **This may seem even more problematic when new risks are to be dealt with, such as defects of new technologies leading to traffic accidents.**

The situation of traffic accident victims has considerably been strengthened over the last decades, both at the *substantive law level* and the level of *civil procedure* (introduction of *strict liability regimes* in many national jurisdictions; obligation to have contracted liability insurance for damage caused by the use of a motor vehicle; introduction of a direct action of victims against the car's liability insurer) as well as at the level of jurisdiction in Private International Law (forum at the victim's domicile for a direct action against the car's liability insurer in case of cross-border accidents). Currently, **victims of traffic accidents greatly benefit from a forum at their own domicile for any direct claim made against the liability insurer of the car that caused, or was involved in, the accident.** This forum has gained considerable practical importance since the CJEU's judgment in the *Odenbreit* case. *From a point of view of Private International Law*, the (in most systems: strict) liability of the keeper of a motor vehicle for damage caused in the course of the use of the vehicle, and the direct action against the liability insurer, should thus remain at the centre of *substantive liability law*, once the new technologies are introduced.

Regarding **claims against manufacturers of defective cars using new technologies, victims do in many European jurisdictions not benefit from a direct claim** against the defendant's liability insurer (should the defendant have contacted liability insurance), and

they are **not offered a forum at the victims' domicile** where they can directly sue such insurers, and possibly also manufacturers together with their insurers. Instead of having the option to bring a claim against these parties at their own domicile, victims of traffic accidents would have to bring a claim against the manufacturer of a defective device, or of a defective car, that caused a traffic accident, before the courts of the country where the manufacturer is domiciled or at the country and place where the accident has happened.

Recommendations regarding jurisdiction

Regarding jurisdiction in cross border traffic accidents in the EU, it might be considered to introduce the following:

- (at the substantive law level) a **duty** for car manufacturers using new technologies, and possibly for software producers developing them, **to contract liability insurance covering liability towards traffic accident victims**,
- (at the substantive law level) the possibility of a **direct action against the manufacturer's liability insurer** covering the case that a defect of new technologies used in cars causes a traffic accident,
- and consequently (at the Private International Law level) the establishment of a **forum at the domicile of the victim for claims against manufacturers of cars using new technologies**, following a car accident.

Recommendations regarding applicable law

Regarding applicable law in cross border traffic accidents in the EU, the following recommendations might be considered:

- Having two coexisting systems of PIL (the Rome II Regulation and the 1971 and 1973 Hague Conventions) reduces legal certainty with respect to the applicable law. The solution could be to **redefine the respective scopes of application of the three instruments with respect to each other and to apply the Rome II Regulation in cases in which both the claimant and the defendant are domiciled in EU Member States** and to reduce the scope of application of the Hague Conventions to scenarios in which the claimant or defendant is domiciled in a third State, that is a non-Member State of the EU. To achieve this outcome, art 28 of the Rome II Regulation could be complemented by a paragraph stating the following: **"Where the person claimed to be liable and the injured person have their habitual residence in EU Member States at the time the damage occurred, this Regulation will take precedence over other conventions to which the Member States are or become party"**. Such a modification would imply the renegotiation of the scope of application of the Hague Traffic Accident Convention between the EU and the Hague Conference. It would avoid uncertainties regarding the applicable law and make the law applicable to cross-border traffic accidents in the EU much more foreseeable. This issue may not be specific to situations involving the new technologies, but it may become even more apparent once the new technologies are introduced (and once the 1973 Hague Products Liability Conventions may gain in practical importance).
- For a victim of a traffic accident in which autonomous technologies were involved, it may be difficult, costly, and time consuming to identify the exact cause of the

accident, to provide proof of that cause, and consequently to decide against whom to bring a liability claim (the keeper of a car or its liability insurer on the one hand, or a car or component manufacturer on the other). Some European jurisdictions provide very short limitation periods for extra-contractual liability claims. These might work (well) in a purely national context. However, **given the particular challenges a victim of a cross-border accident might face when new technologies play a role, short limitation periods may end up being particularly harsh on victims of cross-border traffic accidents.** This specific problem could be addressed on the Private International Law level by **introducing a cumulative connecting mechanism** according to which a claim is only to be time-barred if it is time-barred both under the law governing the claim and, in addition, under the law of the country in which the victim has his or her habitual residence. Such a rule could, for example, have the following wording: ***"Limitation periods. The claim for extra-contractual liability is time-barred only if the limitation period of the applicable law and the limitation period of the law of the country of the victim's habitual residence at the time of the accident have expired."***

The suggested changes would better protect victims and make law applicable to traffic accidents that are due to the use of new technologies for autonomous or connected vehicles (and the law applicable to traffic accidents in general) in many scenarios considerably more foreseeable.

1. GENERAL INTRODUCTION

1.1. Preface

This study has been commissioned by the Policy Department on Citizens Rights and Constitutional Affairs at the request of the Committee on Legal Affairs (JURI) of the European Parliament, to examine the potential impact of the introduction of connected and autonomous vehicles on the legal framework applicable to cross-border traffic accidents in the EU, with a particular focus on the possible need to adapt existing international instruments. The topic arose at a crossroads between two current areas of work carried out by the JURI Committee - limitation periods for traffic accidents and civil law rules on robotics, which include driverless cars. At the time of drafting this study, the Committee was preparing reports on both topics, aiming at asking the European Commission to take legislative action (legislative initiative procedure).

Following the introduction of these new technologies into vehicles, a number of legal challenges may arise both at the substantive and private international law level in the event that the new technologies should lead to a cross-border accident.

The present study focuses on the latter and analyses the possible impact that the introduction of connected and autonomous vehicles might have on the relevant private international law rules determining jurisdiction and applicable law in the EU Member States. It concludes with recommendations into which aspects are to be addressed when preparing, adapting, and not least facilitating the current system of private international law for the period leading up to the introduction of the new technologies.

1.2. Study objective

The purpose of the study is to provide the Members of the Committee on Legal Affairs of the European Parliament (JURI) with expertise on the impact of advances in driverless car technology on the existing legal framework applicable to cross-border traffic accidents in the EU. Particular attention was to be paid to whether existing international instruments need to be adapted.

The overview of recent literature on the new technologies regarding connected and autonomous vehicles presented in annex revealed that, over the last few years, much has been written on the new technologies and on issues of substantive law (extra-contractual or tortious liability) in general. There is also a considerable amount of recent legal literature on issues of Private International Law regarding cross-border traffic accidents and cross-border product liability. A number of articles have also been published on the need to modify international conventions on substantive law issues in relation to international road traffic accidents, in particular on the need to modify the Vienna Convention on Road Traffic. However, no articles or other publications could be found regarding the possible impact of the new technologies on PIL instruments applicable to cross-border accidents in the EU, the topic of this study. It appears, therefore, that this study is the first paper to analyse the PIL issues surrounding these new technologies.

The central purpose of the study is to assess whether legislative action needs to be taken at the EU level, and to study the potential benefits of taking such action. Hence, the analysis looks to identify relevant issues of applicable law and jurisdiction in cross-border traffic

accidents against the backdrop of the fundamental objectives of private international law to improve legal certainty and predictability.

1.3. Methodology

In order to demonstrate and evaluate the response of PIL to cross-border traffic accidents in a clear and vivid way, especially considering the legal complexity of cross-border accidents involving a multitude of persons, a case studies approach was adopted. The study contains a number of scenarios which display the current status of PIL, whereby each case study is drawn from actual European case law. The subsequent section builds upon these case studies and adapts them to scenarios which may be conceivable once driverless vehicles have been introduced. Conclusions were reached based on the outcome of these case scenarios.

The following parts of this study are structured as follows:

- Part 2 presents the relevant instruments determining jurisdiction and applicable law to lay out the foundations necessary to approach the subsequent legal analysis. In addition, this part shall briefly describe each of the most important international instruments establishing rules of substantive law.
- Part 3 contains an overview of the liability regime currently in place for cross-border traffic accidents in Europe, beginning with a short summary and followed by case scenarios applying the relevant legal instruments. This is the first set of legal instruments applicable to future cross-border accidents involving driverless vehicles.
- Part 4 presents the current legal framework governing product liability at the European and global level, which form the second set of legal instruments applicable to cross-border accidents involving driverless vehicles.
- The main section of this study, Part 5, analyses the functioning of the instruments presented in Parts 3 and 4 with respect to accidents caused by new connected and autonomous vehicle technologies, followed by case scenarios. On this basis, conclusions are drawn regarding jurisdiction and applicable law.
- Part 6 then concludes with a number of final conclusions and recommendations both on jurisdiction and applicable law in response to the fundamental questions of the study.

2. THE RELEVANT INSTRUMENTS TO BE ANALYSED

This study focuses on the potential impact that new technologies regarding connected and autonomous vehicles might have on the legal framework (international and EU instruments) applicable to cross-border accidents in the EU. It focuses on *Private International Law instruments*, that is, instruments determining *jurisdiction* in cross-border traffic accidents on the one hand, and the *applicable law* on the other. *Substantive rules* on extra-contractual liability are only discussed where necessary to understand the applicable PIL rules.

Regarding jurisdiction and law applicable to cross-border traffic accidents, the following instruments apply, and consequently need to be analysed:

2.1. Instruments determining jurisdiction

- The **Brussels I Regulation**

With respect to some non EU-Member States (such as Norway and Switzerland), courts in EU Member States may, under certain circumstances, apply the Lugano Convention rather than the Brussels I Regulation:¹

- The **Lugano Convention**

With respect to the issues of jurisdiction discussed in this study, the content (though not the numbering) of the rules of both instruments are identical. All references made to provisions of the Brussels I Regulation are thus intended to incorporate corresponding provisions of the Lugano Convention.

2.2. Instruments determining applicable law

- The **Rome II Regulation**
- The **1971 Hague Traffic Accident Convention**

In substantive liability law, the use of connected and autonomous vehicles might lead to a (partial) shift away from the basic rules on extra-contractual liability of the keeper or driver of a car towards liability of the manufacturers of cars or devices using the new technologies. The importance of rules on product liability may thus increase once these new technologies are introduced. It is therefore useful, or perhaps even essential, to have a look not only at the rules of PIL for traffic accidents but also at the application of PIL rules on product liability in the EU, that is (in Contracting States to this Convention):

- The **1973 Hague Products Liability Convention**

¹ According to Art. 64 (1) of the Lugano Convention, the Brussels I Regulation takes precedence over the Lugano Convention where the conditions set up in the rules on the scope of applications of both instruments are fulfilled.

2.3. Instruments establishing uniform rules and requirements at the substantive law level

Further instruments establish *rules of substantive law* which aim to facilitate cross-border traffic or the circulation of products across borders, such as

- the Motor Insurance Directive,
- the 1968 Vienna Convention,
- the Products Liability Directive.

Among these instruments, particular important is the 1968 Vienna Convention on Road Traffic.² Although the focus of this study is on Private International Law instruments (covering international jurisdiction and applicable law), as opposed to instruments creating common standards of substantive law, it may be useful to have a brief look at the Vienna Convention: The Vienna Convention on Road Traffic was concluded in 1968 “to facilitate international road traffic and to increase road safety through the adoption of uniform traffic rules.”³ It contains rules on both registration and conduct obligations. According to art 3(3), the “Contracting Parties shall be bound to admit to their territories [...] motor vehicles [...] which fulfil the conditions laid down [in the Convention].” The result of this text is that vehicles which are not designed in accordance with the technical requirements set out by the Vienna Convention do not need to be accepted onto the roads of other Contracting States.

The key provision in respect to this study is to be found in art 8(1) of the Vienna Convention, which states that “every moving vehicle or combination of vehicles shall have a driver.” In addition, art 8(5) stipulates that “every driver shall at all times be able to control his vehicle [...]”. The result of these provisions is that driverless vehicles are not permitted on the roads of Contracting States to the Vienna Convention. In order to remedy this matter, the Vienna Convention was amended by art 8(5bis),⁴ adding two sentences. The amended version came into force on the 23rd March 2016.⁵ The new art 8(5bis) reads as follows:

“Vehicle systems which influence the way vehicles are driven shall be deemed to be in conformity with paragraph 5 of this Article and with paragraph 1 of Article 13, when they are in conformity with the conditions of construction, fitting and utilization according to international legal instruments concerning wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles.

Vehicle systems which influence the way vehicles are driven and are not in conformity with the aforementioned conditions of construction, fitting and utilization, shall be deemed to be in conformity with paragraph 5 of this Article and with paragraph 1 of Article 13, when such systems can be overridden or switched off by the driver.”

² There are currently 73 Contracting States, thereunder most of the European countries, see status: https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XI-B-19&chapter=11&Temp=mtdsg3&lang=en. By contrast, the UK and Spain are not party to the Convention and still bound by the Geneva Convention on Road Traffic.

³ Preamble of the Convention, http://www.unece.org/fileadmin/DAM/trans/conventn/Conv_road_traffic_EN.pdf.

⁴ For the report of the relevant 68th working session. See <http://www.unece.org/fileadmin/DAM/trans/doc/2014/wp1/ECE-TRANS-WP1-145e.pdf>.

⁵ See press release of the UNECE, <http://www.unece.org/info/media/presscurrent-press-h/transport/2016/unece-paves-the-way-for-automated-driving-by-updating-un-international-convention/doc.html>.

The first sentence applies to vehicle systems, such as brake assists, which must be in operation at all times.⁶ Such devices are permitted so long as they are in conformity with UNECE vehicle regulations, which are set up by the UNECE World Forum for Harmonization of Vehicle Regulations (UN Working Party WP.29).⁷ Even though UNECE regulations are capable of being modified at a quicker rate than the corresponding rules under the Vienna Convention,⁸ driverless vehicles are currently not admissible under these regulations. The most pertinent provision is that of rule no. 79, concerning steering systems and equipment, whereby driverless steering systems are not permitted where the driver is not in primary control of the vehicle.⁹ For automatically commanded steering functions, "the control action shall be automatically disabled if the vehicle speed exceeds the set limit of 10km/h by more than 20% [...]."¹⁰ Consequently, certain assistance systems which may already be technically possible,¹¹ are not yet allowed under the UNECE rules. However, such hurdle is expected to be removed within the next year.¹²

There is also a considerable degree of controversy in regard to the second sentence of the amended art 8(5^{bis}), which requires that automatic vehicle systems may be overridden or switched off by the driver.¹³ Problems arise by the fact that the Vienna Convention does not only contain technical requirements for vehicles, but also rules of conduct. For example, pursuant to art 7(3), "drivers shall show extra care in relation to the most vulnerable road-users, such as pedestrians and cyclists and in particular children, elderly persons and the disabled." Art 8(6) prohibits activities other than driving. Moreover, according to art 13(1), "every driver of a vehicle shall in all circumstances have his vehicle under control so as to be able to exercise due and proper care and to be at all times in a position to perform all manoeuvres required of him."

It is obvious that these requirements cannot be fulfilled when the driver is using vehicle systems which, at least under certain circumstances, allow him to not focus on the road and traffic, and concentrate on other activities while the vehicle is in motion. Some legal authors therefore consider art 8(5^{bis}) to be a *lex specialis*¹⁴, and others propose a teleological interpretation¹⁵ of the Vienna Convention, so long as the vehicle is being controlled by the technical device. Irrespective of the exact justification raised, it is consensus that Contracting

⁶ See Working Party Report <https://www.unece.org/fileadmin/DAM/trans/doc/2014/wp1/ECE-TRANS-WP1-145e.pdf>, 11.

⁷ http://www.unece.org/trans/main/wp29/meeting_docs_wp29.html: "Any member country of the United Nations and any regional economic integration organization, set up by country members of the United Nations, may participate fully in the activities of the World Forum and may become a Contracting Party to the Agreements on vehicles administered by the World Forum." Application examples for the first sentence are technical systems which cannot be overridden by the driver but still have a significant influence on driving characteristics like for example emergency brake system or brake assistant, see Working Party Report <https://www.unece.org/fileadmin/DAM/trans/doc/2014/wp1/ECE-TRANS-WP1-145e.pdf>, 11.

⁸ See L.S. Lutz, [2015] *NJW*, 119 at 123.

⁹ UNECE Regulation No. 79 Introduction, <https://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/r079r2e.pdf>.

¹⁰ UNECE Regulation No. 79 Rule 5.1.6.1., <https://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/r079r2e.pdf>. This rule is also in place for the European Union, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:137:0025:0051:EN:PDF>.

¹¹ For an overview see http://www.europarl.europa.eu/RegData/etudes/STUD/2016/573434/IPOL_STU%282016%29573434_EN.pdf, 42.

¹² <http://www.unece.org/info/media/presscurrent-press-h/transport/2016/unece-paves-the-way-for-automated-driving-by-updating-un-international-convention/doc.html>: A modification until September 2016 and an adoption in 2017 seems possible.

¹³ According to L.S. Lutz, [2015] *NJW*, 119 at 123, the theoretical potential to override is sufficient.

¹⁴ As for example L.S. Lutz, [2016] *DAR*, 55 at 56.

¹⁵ As for example B. v. Bodungen and M. Hoffmann, [2016] *SVR*, 93 at 97.

States be permitted to implement dispositions which permit the use of partly autonomous vehicles. Consequently, such vehicles must be permitted in law to drive on the roads of Contracting States.

Yet, according to the prevailing opinion in legal literature, the Vienna Convention still does not permit *full automation*, since it remains a basic assumption of the Vienna Convention that vehicles need to have a human driver. Therefore, both automobile associations, like the German VDA,¹⁶ and Contracting States, in particular Belgium and Sweden, have advocated that further amendments be made to the Vienna Convention¹⁷ to prepare the ground for future technical advances.

One last issue to be mentioned in regards to the UNECE rules is that the European Union is a Contracting Party to the 1958 Agreement which establishes a central body of technical rules and regulations on vehicles, which, as stated above, are not yet ready for driverless vehicles. Direct reference to the requirements of these UNECE rules is made by art 35 of Directive 2007/46/EG. Consequently, European legislation is also in a position where it does not yet permit a number of driving assistance systems which are already technically possible.

To sum up, partly autonomous vehicles are now permitted under the Vienna Convention so long as the systems may be overridden by the driver. By contrast, UNECE rules are not yet ready for such devices, but these rules may well be modified in the near future. **With respect to these rules and instruments of substantive law, for fully autonomous vehicles, further action is consequently needed.**

¹⁶ Verband der Automobilindustrie, Automotive Industry Association; for their position see: <https://www.vda.de/en/topics/innovation-and-technology/automated-driving/a-secure-legal-framework-for-automated-driving>.

¹⁷https://www2.unece.org/wiki/download/attachments/25886757/%28ITS-AD_04-04%29%20Report%20from%20WP1%20%28ECE-TRANS-WP1-INT-2e%29.pdf?api=v2. For an analysis of the document see B. v. Bodungen and M. Hoffmann, [2015] NZV, 521.

3. OVERVIEW OF THE CURRENT STATUS OF THE LEGAL FRAMEWORK (AT THE EUROPEAN AND GLOBAL LEVEL) GOVERNING CROSS-BORDER TRAFFIC ACCIDENTS, IN RELATION TO CIVIL LIABILITY AND INSURANCE ISSUES¹⁸

The following part provides a comparative overview of the instruments that determine jurisdiction and the law applicable to cross-border traffic accidents in the EU. On jurisdiction: the **Brussels I Regulation (recast)**, on applicable law: the **Rome II Regulation** and the **Hague Traffic Accident Convention**.

3.1. Jurisdiction

Given that each court in Europe determines applicable law according to the PIL rules that are in force in the *forum state*, it is essential to determine which country's or countries' courts will have international jurisdiction over a particular international traffic accident case. To this end, the following first chapter outlines the fundamental rules on jurisdiction applicable to international traffic accident claims against the driver, keeper or owner of a vehicle, on the one hand, and for claims against insurers on the other.

3.1.1. Claim against driver, keeper, or owner of a vehicle involved in causing the damage

If a traffic accident victim brings a **claim against the driver, keeper, or owner** of a vehicle involved in causing the damage, jurisdiction in the courts in Europe is to be determined by the Brussels I Regulation (recast). A claim may, in principle, either be brought under art 4(1) of the Brussels I Regulation (recast), before the **courts of the State of the defendant's domicile**,¹⁹ or under art 7(2) of the Brussels I Regulation (recast) before the **courts of the place where the accident occurred**.²⁰

3.1.2. Heads of jurisdiction for direct claims against liability insurers

In the case of European traffic accidents, the victim has a further option to bring a direct claim against the liability insurer of the car involved in causing the damage.²¹ In practice, according to information from practitioners the claim is indeed usually brought directly against the insurer.

According to the Brussels I Regulation (recast), a **claim against a liability insurer domiciled in an EU Member State**, may be brought in the **courts of the State of the insurer's domicile**, by virtue of art 11(1)(a) of the Brussels I Regulation (recast). "In

¹⁸ Part 3. is based on a contribution initially prepared for the *European Encyclopedia of Private International Law* (eds.: J. Basedow/F. Ferrari/P. de Miguel Asensio/G. Rühl), Cheltenham: Edgar Elgar Publishing, Vol. 2 (forthcoming).

¹⁹ Art. 4(1) states: "Subject to this Regulation, persons domiciled in a Member State shall, whatever their nationality, be sued in the courts of that Member State."

²⁰ Art. 7(2) provides: "A person domiciled in a Member State may be sued in another Member State [...] in matters relating to tort, delict or quasi-delict, in the courts for the place where the harmful event occurred or may occur".

²¹ See art 18 of the Motor Insurance Directive: "Member States shall ensure that any party injured as a result of an accident caused by a vehicle covered by insurance as referred to in Article 3 enjoys a direct right of action against the insurance undertaking covering the person responsible against civil liability."

respect of liability insurance ..., the insurer may in addition be sued in the **courts for the place where the harmful event [that is the accident] occurred**", under art 12 Brussels I Regulation (recast). These two heads of jurisdiction correspond to the general rules applicable to decide jurisdiction (see 1. above) and take their place for claims against insurers.

A road traffic accident victim has the further option of bringing a claim against the liability insurer before the **courts of the place "where the claimant is domiciled"**, under art 13(2) in conjunction with art 11(1)(b) of the Brussels I Regulation (recast). The CJEU has confirmed that this forum at the claimant's domicile is available to persons benefitting from a direct claim against an insurer following a road traffic accident.²² In practice, in the case of an accident in a foreign country, parties almost always prefer as their forum the country of their domicile rather than the forum corresponding to the foreign place of accident, thereby benefitting substantially from the forum at their own domicile confirmed in *Odenbreit*.

If the accident happened in a country that is not that of the victim's domicile and the claimant then brings the claim in his country of domicile, the courts there will often have to apply foreign law. If for example, as was the case in *Odenbreit*, an accident occurs in the Netherlands, between a car registered and insured in the Netherlands and driven by a person domiciled there, and a car registered in Germany driven by a person domiciled there, and if a claim is brought by the German victim against the other party's Dutch insurer before the German courts (that is, the courts of the victim's domicile), then according to art 4(1) of the Rome II Regulation, this claim is to be governed by Dutch law.

If a road accident victim has (as in the *Odenbreit* case) the choice between bringing the claim before the courts of a Contracting State of the Hague Convention (such as the Netherlands)²³ and those of a *non*-Contracting State (such as Germany), the differences set out below (3.2.3. and 3.2.4.) in respect of the applicable connecting factors to be found in the Hague Convention and the Rome II Regulation might have an impact on the applicable law and the outcome of the case, so that there is a potential for *forum (and law) shopping* (that is, a potential that the victim takes a strategic decision to bring a claim in a country where the applicable PIL regime designates a law that is particularly favourable to his or her claim).

On the other hand, the claimant's domicile is not a forum available to social security insurers who have paid compensation to a victim of a traffic accident and that brings an action for recourse against the car's civil liability insurer. The CJEU held that, whereas the victim is generally in a weak position, which justifies the claimant's forum at his own domicile, a social security insurer is not.²⁴

The *Odenbreit* decision, confirming the option of a forum at the victim's domicile, also has important consequences for the insured driver, keeper or owner of a vehicle. The Brussels I Regulation (recast) states that "[i]f the law governing such direct actions [against a car's liability insurer] provides that the policyholder or the insured may be joined as a party to the action, the same court shall have jurisdiction over them", art 13(3) of the Brussels I

²² Case C-463/06 *FBTO Schadenverzekeringen NV v Jack Odenbreit* [2007] ECR I-11321.

²³ The following states are Contracting States of the Hague Convention on Road Traffic Accidents: Austria, Belarus, Belgium, Bosnia and Herzegovina, Croatia, Czech Republic, France, Latvia, Lithuania, Luxembourg, Montenegro, Morocco, Netherlands, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, Switzerland, The former Yugoslav Republic of Macedonia, Ukraine. For details concerning applicability between Contracting States as well as reservations see <https://www.hcch.net/en/instruments/conventions/status-table/?cid=81>.

²⁴ See C-347/08 *Vorarlberger Gebietskrankenkasse v WGV-Schwäbische Allgemeine Versicherungs AG* [2009] ECR I-8661.

Regulation (recast). The purpose of this provision is to prevent conflicting decisions. Consequently, **if the victim brings a claim before the courts of the country of his domicile, and if the insured is joined in this action**, then according to art 13(3) of the Brussels I Regulation (recast) in conjunction with the applicable national law, **the insured party will have to defend his or her interests before the (foreign) court of the claimant's domicile**. The forum at the place "where the claimant is domiciled" is available for a claim against the liability insurer even if, under the applicable law, the insured party is *required* to join proceedings that are brought against his or her insurer.²⁵

3.2. Applicable law

The following chapters provide a comparative overview of the instruments that determine the law applicable to cross-border traffic accidents in the EU: the **Rome II Regulation**, and the **Hague Traffic Accident Convention**.

After a brief introduction on the substantive law background (3.2.1.), it sets out the relationship between the two instruments before the courts in EU Member States (3.2.2.). It then presents the starting point for either instrument, the *lex loci delicti* rule, which in principle leads to the application of the *law of the country in which the accident occurred*, as well as the three major distinctions between each instrument (3.2.3.).

The practical consequences of having different rules governing the law applicable to traffic accidents in Europe under the Rome II Regulation, on the one hand, and the Hague Traffic Accident Convention, on the other, will then be illustrated using four case studies inspired by the case law of various European jurisdictions (3.2.4.).

3.2.1. Cross-border traffic accidents: Introduction

Road traffic accidents are the most common cause of personal injury and extra-contractual liability claims in Europe. Regarding liability for traffic accidents, **domestic substantive laws vary considerably from country to country**.²⁶

The key distinction to be made between the various domestic liability regimes is whether **fault-based or strict liability** is to be applied. Indeed, in the majority of European countries, courts will apply strict liability where a person has suffered personal injury in a motor accident, whereas in England or Ireland, for example, liability remains fault-based, meaning that the party which caused the harm must have been driving negligently.²⁷

²⁵ Which is the case eg in Italian law, see the German case of the Appellate Court (OLG) of Nuremberg, 10 April 2012, [2012] NJW-RR, 1178.

²⁶ For a comparative overview with numerous references, see T. Kadner Graziano and C. Oertel, Ein europäisches Haftungsrecht für Schäden im Straßenverkehr? – Eckpunkte de lege lata und Überlegungen de lege ferenda, (2008) ZVGIRWiss, 113; for a detailed analysis, see European Commission, *Rome II Study on compensation of cross-border victims in the EU. Compensation of victims of cross-border road traffic accidents in the EU: comparison of national practices, analysis of problems and evaluation of options for improving the position of cross-border victims. Final report prepared for the European Commission DG Internal Market and Services. Final version of the final report – Part II – Analysis*, [2008] 20, available at http://ec.europa.eu/civiljustice/news/docs/study_compensation_road_victims_en.pdf.

²⁷ See for England eg Court of Appeal, *Carter v. Sheath* 28.07.1989, [1990] R.T.R. 12; Court of Appeal, *Mansfield v. Weetabix* 26.03.1997 [1997] EWCA Civ 1352; T. Weir, *A Casebook on Tort*, 10th ed., London: Sweet & Maxwell, 2004, 170-172; for Ireland: B. McMahon and W. Binchy, *Law of Torts*, 4th ed., Haywards Heath: Bloomsbury Professional, 2013, eg no. 1.25, 15.01, 15.03-04, 15.18, 15.20-23, 15.31-32, 15.39-45, 7.17-20.

In Belgium, liability is also fault-based. However, certain victims of road traffic accidents are to benefit from insurance coverage, which is independent of the traditional tort liability system. Insurance coverage is thus partially disconnected from civil liability and, for certain victims, goes beyond (fault-based) tort liability.²⁸

In the large majority of jurisdictions employing strict liability regimes (such as, for example, France, Germany, Austria, Italy, Spain, Switzerland and, for certain victims, Dutch law), the **range of persons entitled to compensation** varies from one country to another. For example, in most jurisdictions, particularly vulnerable victims, such as pedestrians and cyclists are among those benefitting from a strict liability regime, in many (but not all) jurisdictions also passengers of other cars. The situation is much more complicated regarding victims that were passengers in the car that caused the accident and that were transported for free (that is without remuneration). Those victims benefit from strict liability regimes in some jurisdictions, but not in others. Large differences exist also regarding the question of whether the driver has a claim in strict liability against the keeper of the car that he was driving (admitted in some but not in other jurisdictions).²⁹

Other differences concern the **damage covered** under a claim (in particular whether the liability regime in question covers claims in respect to damage to property). A further difference is the **role of contributory negligence**, in particular that of victims regarded as being in a particularly weak position (such as pedestrians and cyclists: their contributory negligence is taken into consideration in some systems, but disregarded in others). Divergences also exist in relation to the **award of damages**, in particular with respect to loss of earnings or compensation of immaterial harm (in most jurisdictions, compensation is due for the entire actual loss suffered by the victim, whereas in Spain and Portugal the award of damages, eg for loss of earnings, is fixed by statutory flat rates and caps called *Baremos*). Finally, and extremely important in practice, **limitation periods** may vary depending on the country.³⁰

Consequently, the **question of which law is applicable** might well be **crucial for the outcome of a case**, both with respect to the conditions for liability, as well as the amount of compensation that is due. In Europe, the law applicable to traffic accidents is to be determined either by the **Rome II Regulation** or the **Hague Traffic Accident Convention**.

3.2.2. The relationship between the Rome II Regulation and the Hague Traffic Accident Convention

The rules laid down in the Rome II Regulation on the law applicable to non-contractual

²⁸ Comp.: Loi du 21 novembre 1989 relative à l'assurance obligatoire de la responsabilité civile en matière de véhicules automoteurs ("Act of 21 November 1989 on Compulsory Motor Vehicle Liability Insurance"), Art. 29^{bis} § 1, 2, 5; see eg B. De Coninck/B. Dubuisson, *L'indemnisation des victimes d'accidents de la circulation, Présentation générale – Rapport belge* ("Compensation for injury to pedestrians and cyclists"), <http://grerca.univ-rennes1.fr/fr/Travaux/Retoursur.../> [2012]); D. de Callatay et N. Estienne, *De la faute inexcusable à la faute intentionnelle* ("From gross negligence to willful misconduct"), in: P. Jadoul et B. Dubuisson (eds.), *L'indemnisation des usagers faibles de la route* ("Compensation for vulnerable road users"), Bruxelles: Larcier, 2002, 101-137.

²⁹ See for an overview, T. Kadner Graziano and C. Oertel, *Ein europäisches Haftungsrecht für Schäden im Straßenverkehr? – Eckpunkte de lege lata und Überlegungen de lege ferenda* [2008] *ZVglRWiss*, 113 at 120-122. For the text of some of these provisions with English translations, see T. Kadner Graziano, *Comparative Tort Law – Cases, Materials, and Exercises*, Chapter 4 (forthcoming).

³⁰ Two years limitation period: eg in Switzerland, Greece, Turkey, Italy. Three years limitation period: eg in Sweden. For more information and references, see T. Kadner Graziano and C. Oertel, [2008] *ZVglRWiss* 113 at 141; T. Kadner Graziano, *Comparative Tort Law*, Chapter 4 (forthcoming); European Commission, *Rome II Study on compensation of cross-border victims in the EU*, *ibid.*

obligations also apply in principle to road traffic accidents. However, in this area which holds great practical importance, unification of private international law rules by the Rome II Regulation has remained partial at best. In fact, according to art 28(1), the Rome II Regulation “shall not prejudice the application of international conventions to which one or more Member States are parties at the time when this Regulation is adopted and which lay down choice-of-law rules relating to non-contractual obligations”, such as the Hague Traffic Accident Convention. It is true that art 28(2) stipulates that the Rome II Regulation may “take precedence over conventions concluded exclusively between two or more” Member States; this provision does however not apply with regard to the Hague Traffic Accident Convention because the latter is not concluded exclusively between EU Member States. With a view to respecting the international commitments of Member States (see Recital (36) of the Rome II Regulation), art 28 (1) thus permits the coexistence of two different sets of private international law rules within Europe.³¹

The **thirteen EU Member States** that are also Contracting States of the Hague Traffic Accident Convention thus continue to **apply the Hague Convention**. This means that the French, Spanish, Belgian, Luxembourgish, Dutch, Austrian, Polish, Lithuanian, Latvian, Czech, Slovak, Slovenian and Croatian courts (as well as, outside of the EU, the courts in Switzerland and countries succeeding the former Yugoslavia) will determine the law applicable to road accidents through application of the Hague Traffic Accident Convention.³² In Contracting States of the Hague Traffic Accident Convention, the rules of the Rome II Regulation will only need to be taken into consideration where the matter is not (or is not yet) before a court, but where the courts in both Contracting States and *non*-Contracting States would have jurisdiction, particularly therefore where an out-of-court settlement is being negotiated.

By contrast, **fourteen other EU Member States** designate the applicable law in accordance with the **Rome II Regulation**: This is the case for courts in the United Kingdom, Ireland, Germany, Finland, Sweden, Estonia, Portugal, Italy, Greece, Hungary, Romania, Bulgaria, Malta and Cyprus. Given that the rules on applicable law found within the Rome II Regulation and Hague Traffic Accident Convention differ (on the differences, see below 3.2.3.), the applicable law and, as a result, **the question whether there is liability and, if so, the award of compensation in any particular case might depend on which private international law regime is applicable**. As a result, the possibility of forum and law shopping in such cases will persist.³³

3.2.3. Similarity and Differences between the Rome II Regulation and the Hague Traffic Accident Convention

As a **starting point**, according to both the Rome II Regulation and the Hague Traffic Accident Convention, liability following a road traffic accident is in principle governed by the **law of**

³¹ EU Members States are obliged, under art 29, to notify the Commission should they wish to continue applying the Hague Convention, see [http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52010XC1217\(02\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52010XC1217(02)&from=EN). It appears that despite being party to the aforementioned convention, Belgium and Croatia have not yet notified the Commission of this fact. On the other hand, and in view of Recital 36 of the Rome II Regulation, it would appear that this requirement is of little more utility than to facilitate the application of art 28, suggesting that Belgian and Croatian courts can continue to apply the rules found in the Hague Convention. On this subject, see P. Huber (ed.), *Rome II Regulation: Pocket Commentary*, Walter de Gruyter 2011, Vol. I 450-451; A. Juncker, in: *Münchener Kommentar zum Bürgerlichen Gesetzbuch*, C.H. Beck 2011, Vol. X, 1093.

³² See eg French Cour de Cassation, 30 April 2014, no 13-11932.

³³ For examples and details see 3.2.4. below.

the country where the accident occurred, under both art 4(1) of the Rome II Regulation and art 3 of the Hague Traffic Accident Convention.

3.2.3.1. The role of party autonomy in both instruments

A **first difference** between the two instruments exists with respect to the **role of party autonomy**. In the case of traffic accidents, the parties might have interest in choosing the applicable law (usually *ex post*), in particular where the private international law rules of the forum designate a foreign law.

The **Rome II Regulation allows for a choice of applicable law** under art 14, whereas party autonomy in torts was not yet on the agenda in 1971, so the **Hague Traffic Accident Convention makes no reference to such an option**. According to some scholars, parties cannot exclude the law which would be applicable under the Convention and choose another law in its place.³⁴ The opposing opinion is that a choice of applicable law is perfectly permissible.³⁵ It is indeed difficult to see why the parties' agreement on the applicable law should not be respected under the Hague Traffic Accident Convention, especially in view of the marked current trend towards party autonomy in both contract and tort law, as expressed in art 14 Rome II Regulation.

3.2.3.2. Conditions for exceptions from the *lex loci delicti* rule

A **second major difference** between the Rome II Regulation and the Hague Traffic Accident Convention concerns the conditions under which both instruments make **exceptions to the application of the law of the place where the accident occurred**.

When the person claimed to be liable and the injured party **both have their habitual residence in the same country** at the time the damage occurred, art **4(2) of the Rome II Regulation** provides for the application of the law of that country instead of the *lex loci delicti* (that is, the law in force at the place where the tort was committed, or where the accident happened).

On the other hand, a rather complex exception clause in **art 4 of the Hague Traffic Accident Convention** focuses on the state of registration of the vehicle(s) involved in the accident. According to art 4(b), for example, where several vehicles are involved, the law of the state of registration is only applicable if **all the vehicles are registered in the same state** which is also a state other than that where the accident occurred. Under art 4(c), where persons that were outside a vehicle are involved in an accident, the exception to the *lex loci delicti* rule only applies if all persons implicated have their habitual residence in the state of registration. The exception to the application of the *lex loci delicti* rule therefore depends on the state of registration of the vehicles involved, even if the person claimed to be liable and the injured person are habitually resident in the same country. Conversely, under the Rome II Regulation, the law applicable to the parties' extra-contractual obligations on the same set of facts would be that of the country of their common habitual residence.

3.2.3.3. Contractual relationship between the parties

A **third difference** is relevant in cases where the parties involved in the road traffic accident were in a **contractual relationship** with each other (eg a contract of transport or carriage).

³⁴ A. Rufener, in: H. Honsell and others (eds), *Basler Kommentar, Internationales Privatrecht*, Basel 2007, Article 134, no 29.

³⁵ Austrian Supreme Court of Justice (OGH), 26 January 1995, [1995] *ZfRV* 36, 212; French Cour de cassation, *Roho c Caron*, 19 April 1988, note Batiffol, [1989] *Rev.crit.DIP*, 68.

Under art **4(3) of the Rome II Regulation**, the **law applicable to the contract may also apply in extra-contractual liability**, by virtue of a so-called *rattachement accessoire*, whereas the **Hague Traffic Accident Convention** does **not provide for a similar synchronous treatment** of claims in contracts and torts.

3.2.4. The major differences between the two instruments in practice – four case studies

Four case studies inspired by case law of the European courts illustrate the practical consequences of having different rules on the applicable law for traffic accidents in Europe in the Rome II Regulation, on the one hand, and the Hague Traffic Accident Convention on the other.

3.2.4.1. Road traffic accident: one single car involved

In a first scenario which is inspired by the case law of European courts, an accident occurred in France involving a single hire car registered in Belgium. The car was carrying several people, all of whom were habitually resident in Spain. A claim for damages was brought by the passengers against the driver of the car.

The case was brought before the courts in France, a Contracting State to the Hague Traffic Accident Convention.³⁶ Given that only one vehicle was involved, and that this vehicle was registered in a state other than that where the accident occurred, the law of the state of registration, Belgian law, was applicable to the driver's liability to his passengers, pursuant to art 4(a) of the Hague Traffic Accident Convention.³⁷ Should such a case be brought before the courts in Belgium or Spain (both Contracting States to the Hague Convention), they would also apply the Convention (leading to Belgian law).

Conversely, in such a situation, art 4(2) of the Rome II Regulation would lead to the application of the law of the country of habitual residence of the person(s) claimed to be liable and the person(s) having suffered damage, that is, Spanish law.

3.2.4.2. Road traffic accident: two cars involved, claim brought by the passengers against the driver or keeper of the other car

In a second example, a driver with habitual residence in France attempted, contrary to the rules of the road, to overtake a lorry on a German road. Another car, going in the other direction and carrying two brothers who also had their habitual residence in France, was forced to make an emergency stop. The brothers' car skidded and crashed into the lorry, causing the death of one brother and serious injury to the other. Both cars were registered in France, whereas the lorry was registered in another state. The surviving brother and his father brought a claim against the driver of the other car and its keeper for pecuniary damages and damages for loss of a loved one (bereavement damages). The latter is awarded under French but not German law.³⁸

In such a case, since the accident occurred in Germany, the German courts have jurisdiction by virtue of art 7(2) of the Brussels I Regulation (recast). German courts would apply the Rome II Regulation. This would lead to the application of French law, pursuant to art 4(2) of

³⁶ French Cour de cassation (Criminal Division), *R. Casielles-Iglesias et J. Feyaerts*, 6 May 1981, note M.P. Bourel [1981] *Rev.crit.DIP*, 679.

³⁷ For a critical evaluation of this solution, and an opinion in favour of the application of Spanish law to the facts, see M.P. Bourel, [1981] *Rev.crit.DIP*, 681 at 685; W. Lorenz, *Das außervertragliche Haftungsrecht der Haager Konventionen*, [1993] *RebelsZ*, 175 at 180 ff.

³⁸ See the scenario of French Cour de cassation, *Kieger ./ Amigues*, 30 May 1967, [1967] *Rev.crit.DIP*, 728.

the Rome II Regulation, since the person claimed to be liable and the injured passenger both had their habitual residence in France.

The French courts would also have jurisdiction to hear this claim according to art 4(1) of the Brussels I Regulation (recast), since the defendant was domiciled in France. French courts would designate the law applicable according to the Hague Traffic Accident Convention, as opposed to the Rome II Regulation (art 28 of the Rome II Regulation and above, 3.2.2.). The Hague Convention stipulates that if all vehicles involved in an accident are registered in the same state, then under art 4(b) read in line with art 4(a) of the Convention, the law applicable to claims by a driver or passenger is the law of the state of registration. However, in this case, only the two cars were registered in France, unlike the lorry which was registered in another state. In this instance, given that the lorry was not registered in France, not all vehicles implicated were registered in the same state, so the requirements of art 4 Hague Traffic Accident Convention, allowing an exception to the *lex loci delicti* rule, were not met. Therefore the French courts, applying the Hague Traffic Accident Convention, would designate German law (ie the *lex loci delicti*) as the applicable law.

To conclude, in cases such as these, courts in EU Member States which are *not* Contracting States to the Hague Traffic Accident Convention and those which *are* would apply *different laws to the same traffic accident case*: In this case study, according to the Rome II Regulation, **German courts** would apply **French law** since both the person claimed to be liable and the injured person had their habitual residence in France, whereas in application of the Hague Traffic Accident Convention, **French courts** would designate **German law**, since the accident happened in Germany and the vehicles involved were not all registered in the same state. Given the divergences between the two jurisdictions in relation to the award of compensation in such cases, victims of such accidents and their relatives would be well advised to opt for proceedings before the German courts in order for French law to be applied. Such differences exist particularly in relation to non-pecuniary loss following the loss or severe injury of a loved one (that is: *tort moral*/bereavement damages), awarded in many European jurisdictions including French law, and unknown in others, such as German or eg Dutch law.³⁹ In jurisdictions that award such damages, the amounts vary considerably from one country to the other.⁴⁰

3.2.4.3. Road traffic accident: more than one car involved, claim of a passenger against the driver or keeper of the car he was in

Often accidents involve several vehicles but passengers bring an action against the driver, keeper (*Halter/détenteur*), or owner of the vehicle in which they were travelling. This situation can be illustrated by a third scenario:

A car registered in Austria carrying passengers, all with habitual residence in Austria, crashed into a stationary vehicle in Italy, the latter of which had Italian registration. The passengers claimed compensation for their injuries from the driver's insurance company.

³⁹ For comparative overviews, see eg K.H. Danzl, Der Ersatz ideeller Schäden in Europa und im AGBG am Beispiel des Angehörigenschmerzensgeldes, in *Festschrift 200 Jahre ABGB*, Wien 2011, 1633 ff.; T. Kadner Graziano, Angehörigen- oder Trauerschmerzensgeld – Die Würfel fallen, [2015] *RIW*, 549 ff.; Hoge Raad, Judgment of 22 February 2002 – On compensation for psychiatric injury and emotional distress suffered by close relatives, [2003] *ERPL*, 412, case notes H. Zinnen/A. Pretto/A. Janssen/G. Meilhac-Redon/B. Pasa; all making reference to the law of numerous European jurisdictions. See also: T. Kadner Graziano, *Comparative Tort Law – Cases, Materials, and Exercises*, Chapter 5b (with numerous materials in original version with English translations; forthcoming).

⁴⁰ See the references in the previous footnote, eg T. Kadner Graziano, Angehörigen- oder Trauerschmerzensgeld – Die Würfel fallen, [2015] *RIW*, 549 at 559-561.

According to established case law, even a parked car playing a purely passive role in the accident is deemed to be “involved in the accident” within the meaning of art 4 of the Hague Traffic Accident Convention, since it might transpire during proceedings that the car was wrongly parked, giving rise to liability of its keeper. It would be somewhat inappropriate if the issue of whether the car was wrongly parked were to have an impact on the law applicable in the circumstances, thereby conceivably provoking a change in applicable law upon the establishment of further facts. In order to avoid this effect, the stationary vehicle is thus also regarded as being “involved” in the accident.

Given that, in the above scenario, not all the involved vehicles were registered in a single state other than that where the accident occurred, the requirements of art 4(a) are not met and, pursuant to art 3, the Hague Traffic Accident Convention leads to the application of the law of the place where the accident occurred. Before **Austrian courts**, the case would thus be governed by the **law of** the place of the accident in **Italy**.⁴¹

Alternatively if the case were brought before the **Italian courts**, the Rome II Regulation would apply and under art 4(2) the law of the country of the common habitual residence of the injured person and the person claimed to be liable would be applicable, that is, **Austrian law**.

3.2.4.4. Road traffic accident: one car involved, victims outside the car

The fourth example is inspired by the first case in which the English High Court considered the application of the Rome II Regulation. A person with habitual residence in England was on holiday in Spain, where in a supermarket car park he was hit by a car and severely injured. The car was registered in England and driven by a person living in Spain. Spain is a Contracting State to the Hague Traffic Accident Convention, whereas the UK is not.

Spanish courts determine the law applicable to traffic accidents under the Hague Traffic Accident Convention. Under art 3, liability for traffic accidents is in principle determined according to the law of the place of the accident. Given that only one car was involved in the accident and the claim was brought by a victim who was outside the vehicle, a potential exception is provided to the *lex loci delicti* under art 4(a). Article 4(a) provides that “[w]here only one vehicle is involved in the accident and it is registered in a State [England] other than that where the accident occurred [Spain], the internal law of the State of registration [English law] is applicable ... towards a victim who is outside the vehicle at the place of the accident and whose habitual residence is in the State of registration”. In the example, the victim was in a car park, and outside the car that caused the accident, and also had his habitual residence in England, the state in which the car that caused his injury was registered. Thus the conditions allowing an exception to the *lex loci delicti* under art 4(a) of the Hague Traffic Accident Convention are met, so the **Spanish courts** would apply **English law** to the victim’s claim.

⁴¹ See eg the cases: Austrian Supreme Court of Justice (OGH), 21 May 1985, [2/1990] *IPRE*; 20 June 1989, [3/1972] *IPRE*: an accident in Hungary involving vehicles registered in Hungary and Austria respectively, claim for damages by the passenger against the driver of the vehicle and his liability insurance: application of the *lex loci delicti*; similarly, Belgian Hof van Cassatie, 15 March 1993, [1992/1993] *RW*, 1446 and French Cour de cassation, *GAN Incendie-Accidents, Daniel Dubois* ./ *Delle Pascale Marchot et Caisse primaire d’assurance maladie de l’Essonne*, 4 April 1991 [1991] *Clunet*, 981: a collision between a motorbike registered in France and a car registered in Germany occurred in Yugoslavia; the passenger on the motorbike claimed damages from the driver of the motorbike and his insurer; application of Yugoslav law, that is, the *lex loci delicti*. Similarly, French Cour de cassation, *Mutuelle Parisienne de garantie et autres* ./ *Delfino et autres*, 24 March 1987, (1987) *Rev.crit.DIP*, 577; Cour de cassation France, 6 December 1988 (1990) *Rev.crit.DIP*, 786; Cour de cassation France, *L’Union et le Phénix espagnol et autres* ./ *Mlle Beau*, 6 June 1990, (1991) *Rev.crit.DIP*, 354.

The English courts, on the other hand, would apply the Rome II Regulation in this scenario in order to determine the applicable law. According to art 4(1), the law of the place of the accident applies, except where “the person claimed to be liable and the person sustaining damage both have their habitual residence in the same country at the time when the damage occurs”, in which case “the law of that country shall apply”, by virtue of art 4(2). In the example, the victim had his habitual residence in England whereas the driver of the car that caused the accident lived in Spain. Thus the conditions allowing an exception to the *lex loci delicti* under art 4(2) of the Rome II Regulation are not met and **English courts** would thus decide the case according to **Spanish law**.

Here again, the applicable law issue is particularly interesting in view of the specific features of the respective liability laws. English law applies the principle that a victim may claim full compensation with respect to all damages, including for example loss of earnings. On the other hand, under Spanish law, an award of compensation for certain types of injury, or indeed any claim for loss of income or immaterial harm, is to be calculated using a scale (*Baremo*) which contains fixed awards of compensation. The award of damages is calculated on the basis of data collected annually in Spain, and might be considerably lower than the damage that a foreign victim living eg in the UK actually suffered.

3.2.5. Applicable law: concluding remarks

These examples demonstrate that for traffic accidents, frequent as they are in practice, the **dual system of regimes compromises the objective of unifying the rules on the law applicable to traffic accidents in Europe**, as well as **compromising the foreseeability of solutions across Europe and legal certainty**.

3.2.6. A way out of the dilemma

The question therefore arises as to whether the Rome II Regulation and Hague Traffic Accident Convention could be **better coordinated** so as to **achieve legal certainty and foreseeability** of the applicable law across Europe. An alternative, for example, might be to govern cases involving persons all having their habitual residence in the EU by the Rome II Regulation, whereas the Hague Traffic Accident Convention would continue to govern cases where at least one of the parties is resident in a non-Member State of the EU, eg Switzerland.

Under this solution, in the first scenario, which concerned an accident in France with a car rented in Belgium, the claims of the Spanish victims against the Spanish driver would be governed by Spanish law before courts in the EU, given that all parties had their habitual residence in EU Member States. In the second scenario, involving an accident in Germany with all persons habitually resident in France, the case would also be resolved differently: The law applicable to the action brought by the surviving brother and his father on the one hand and the driver of the other car on the other, would, whether brought in France or Germany, be decided according to the Rome II Regulation, and French law would apply given that all parties had their habitual residence in an EU Member State. Conversely, the law applicable to an action between parties with their habitual residence in, for example, France and Switzerland respectively, would be determined by the Hague Traffic Accident Convention before the courts in either country (both France and Switzerland are Contracting States to this Convention). The applicable law in the third and fourth scenarios would be determined according to the Rome II Regulation, whether the case is brought before the courts in Austria or Italy (third scenario), or the courts in Spain or England (fourth scenario), all these states being EU Member States.

To achieve this outcome, art 28 of the **Rome II Regulation** would need to be **complemented** eg by the following paragraph:

"Where the person claimed to be liable and the injured person have their habitual residence in EU Member States at the time the damage occurred, this Regulation will take precedence over other conventions to which the Member States are or become party"

Such a modification would necessarily imply the **renegotiation of the scope of application of the Hague Traffic Accident Convention** between the EU and the Hague Conference.

3.2.7. The law applicable to direct claims against civil liability insurers

The next question is which law governs the issue of whether the victim can bring a direct claim against the liability insurer of the person claimed to be liable.

Before the entry into force of the Rome II Regulation, in some jurisdictions it would be the law applicable to an insurance contract which was to determine whether there was a direct claim against the insurer. A formerly widespread solution was to determine this issue under the law governing liability for the accident (the applicable tort law). The most recent solution (adopted eg under art 141 of the Swiss Private International Law Act⁴² and under art 40 (4) of the Introductory Act to the German Civil Code⁴³) is to allow a victim to pursue direct action against the insurer if either the law applicable to liability or the law applicable to the insurance contract provides for this.

3.2.7.1. Law applicable under the Rome II Regulation

With a view to protecting the injured party, art 18 Rome II Regulation adopts the third solution set out above, providing for an alternative private international law rule in favour of the person who suffered damage. This solution is considered entirely compatible with the interests of the insurer. The reason is that the direct action has no influence on the existence or scope of the insurer's obligation, given that the duty to provide coverage is always determined by the law applicable to the insurance contract, whereas any obligation to compensate the victim is always governed by the law applicable to the victim's claims against the defendant, that is to say, the car's driver, keeper or, in some jurisdictions, its owner.

3.2.7.2. Law applicable under the Hague Traffic Accident Convention

The Hague Traffic Accident Convention provides a multi-layer or cascade test: According to art 9(1st sentence) of the Hague Traffic Accident Convention, "[p]ersons who have suffered injury or damage shall have a right of direct action against the insurer of the person liable if they have such a right under the law applicable according to arts 3, 4 or 5" of the Convention; that is, according to the case under examination, the law of the state where the accident occurred or the law of the registration state of the involved car(s). Alternatively, "[i]f the law of the State of registration is applicable under arts 4 or 5 and that law provides no right of direct action, such a right shall nevertheless exist if it is provided by the internal law of the State where the accident occurred", under art 9(2nd sentence), and ultimately, "[i]f neither

⁴² Bundesgesetz über das Internationale Privatrecht of 18 December 1987, [1988] BBl I 5, as amended of 1 July 2014.

⁴³ Einführungsgesetz zum Bürgerlichen Gesetzbuch of 21 May 1999, [1999] BGBl I, 1026, as amended of 17 December 2009.

of these laws provides any such right it shall exist if it is provided by the law governing the contract of insurance”, according to art 9(3rd sentence).

To conclude, in Europe this question has lost much of its practical importance since in all EU Member States, as well as, for example, in Switzerland, today’s road traffic accident victim has a *direct claim* against the insurer of the vehicle that caused the accident.

3.3. Conclusions

- In the aftermath of an international road traffic accident, regarding jurisdiction the injured party often has a choice between the courts of the state of the defendant’s domicile and the courts at the place where the accident occurred. For claims against the defendant’s liability insurer, the injured party has the further option of the courts of his or her own domicile.
- In Europe, the law applicable to road traffic accident liability is determined either by the Rome II Regulation or by the 1971 Hague Traffic Accident Convention. There are significant differences with regard to the applicable connecting factors under the Rome II Regulation and the Hague Convention respectively, though either instrument may be used to determine the applicable law, depending on the State where the claim was brought.
- Scenarios drawn from the practice of courts in Europe demonstrate that, **as long as in the different EU Member States different PIL instruments apply, the choice of forum might have a significant impact on the applicable law, and,** given the differences in domestic substantive laws on road traffic accident liability, **on the outcome of a given case.** Consequently, **so long as the Rome II Regulation and the Hague Traffic Convention coexist, careful analysis of the claimant’s options might considerably enhance his or her chances of success in litigation, hereby offering the opportunity for forum shopping.**

4. OVERVIEW OF THE CURRENT STATUS OF THE LEGAL FRAMEWORK (AT THE EUROPEAN AND GLOBAL LEVEL) GOVERNING PRODUCT LIABILITY⁴⁴

4.1. Introduction

In *substantive* liability law, the use of connected and autonomous vehicles might lead to a (partial) shift away from the basic rules on extra-contractual liability of the keeper or driver of a car towards liability of the manufacturers of cars or devices using the new technologies. The importance of rules on product liability may thus increase, once these new technologies are introduced. It is thus useful, or arguably even essential, to have a look not only at the rules of PIL for traffic accidents (above, Part 0.) but also at the application of PIL rules on product liability in the EU.⁴⁵

Product liability is the field of law that deals with the extra-contractual liability of manufacturers, distributors, suppliers, retailers, and other persons for damage caused by (defective) products they have made available to the public. The answer to the question of which person in a chain of distribution is ultimately responsible for the damage caused by a defective product depends on the applicable substantive law.

In product liability cases, the person claimed to be liable has often acted in a place that is different from the place in which the person claiming compensation has suffered injury: a product is designed and manufactured in one place and marketed and purchased in others. Once acquired, the product is carried to yet other places where it ultimately causes damage to the person who acquired it, to persons close to the purchaser, or to third parties (so-called “innocent bystanders”). Given the high mobility of many products, and notably cars, the place of manufacturing, purchase, and injury may be located in two or more countries. Hence the great potential for complex transnational tort scenarios in the field of product liability.

In the EU, the substantive law on product liability is to some extent harmonised by the Products Liability Directive. The harmonising effect of this Directive is however limited, in that according to art 9 of the Products Liability Directive, *damage to property* is covered only if the *product was intended for private use*, and *pure economic loss* is *not covered* at all. Cases that are beyond the scope of application of the Directive continue to be governed by national liability laws that differ from each other in many respects. Consequently, the outcome in a given case may, here again, depend on the applicable law.

4.2. Jurisdiction

In EU Member States, jurisdiction in product liability cases is governed by the **Brussels I Regulation (recast)**. According to art 4(1) of the Brussels I Regulation (recast), persons domiciled in a Member State can be sued in the courts of that Member State. A claim for

⁴⁴ Part 4. is based on a contribution initially prepared for the *European Encyclopedia of Private International Law* (eds.: J. Basedow/F. Ferrari/P. de Miguel Asensio/G. Rühl), Cheltenham: Edgar Elgar Publishing, Vol. 2 (forthcoming).

⁴⁵ For a closer and worldwide look at these rules, with examples and case scenarios, see T. Kadner Graziano, Products Liability, in: *Encyclopedia of Private International Law*, eds.: J. Basedow/F. Ferrari/P. de Miguel Asensio/G. Rühl, Cheltenham: Edgar Elgar Publishing, Vol. 2 (forthcoming).

product liability can also be brought, if the claimant so chooses, “in the courts for the place where the harmful event occurred or may occur” (art 7(2) of the Brussels I Regulation (recast)). According to well-established CJEU case law, this special jurisdiction is available both at the place where the person claimed to be liable *acted* and the place where the *damage occurred* (that is, where the protected interest was harmed).⁴⁶

4.2.1. Place of acting of the person claimed to be liable

In regards to the “place of acting” in product liability claims, the CJEU decided that “in the case where a manufacturer faces a claim of liability for a defective product, the place of the event giving rise to the damage is the place where the product in question was *manufactured*”.⁴⁷ The CJEU reasoned with regard to the rationale of this special jurisdiction that a forum at the place where the product was manufactured “facilitates, on the grounds of, *inter alia*, the possibility of gathering evidence in order to establish the defect in question, the efficacious conduct of proceedings and, therefore, the sound administration of justice”.

It should be noted that the CJEU did not locate the place of acting at the place where the product was *marketed*, although this would have been in line with the central role that the place of marketing plays (as a “place of acting”) for determining the applicable law under the Rome II Regulation. The *Kainz* decision thus emphasises the independent interpretation of identical legal terms (in the present case: the “place of acting”) for purposes of jurisdiction, on the one hand, and for purposes of determining the applicable law, on the other.

4.2.2. Place where the damage occurred

The leading product liability case concerning the location of the place of damage under the Brussels I Regulation (recast) is that of *Zuid-Chemie*⁴⁸: a Dutch company *Zuid-Chemie* used ingredients in its factory in the Netherlands to produce fertiliser, which it then sold and delivered to its customers. *Zuid-Chemie* had purchased the ingredients from another company which in turn had acquired them from a third company, *Philippo's*. *Philippo's* had ordered some raw materials in order to produce ingredients from a fourth company. All companies were established in The Netherlands.

Philippo's manufactured the ingredients in its factory in Belgium where the final purchaser, *Zuid-Chemie*, came to take delivery of them. It transpired that the raw materials *Philippo's* had purchased from the fourth company were defective, rendering the ingredients produced by *Philippo's* in Belgium, and ultimately the fertiliser produced by *Zuid-Chemie* in The Netherlands, unusable. *Zuid-Chemie* accordingly claimed damages for the resulting loss from *Philippo's* on an extra-contractual basis.

The parties did not dispute that the place of acting of *Philippo's* was located in Belgium, where this company had manufactured the defective ingredient and where it had been delivered to the claimant. The question was rather where to locate the place where the claimant's damage had occurred.

The CJEU held that “the place where the damage occurred [could not] be any other than *Zuid-Chemie's* factory in the Netherlands where the [ingredient], which is the defective

⁴⁶ ECJ C-21/76 *SCJEC Handelskwekerij GJ Bier BV v Mines de Potasse d'Alsace SA*, [1976] ECR 1735.

⁴⁷ CJEU C-45/13 *Andreas Kainz v Pantherwerke AG*, [2014] OJ C 85/10 (emphasis added).

⁴⁸ ECJ C-189/08 *Zuid-Chemie v Philipppo's Mineralenfabriek NV/SA*, [2009] ECR I-6917.

product, was processed into fertiliser, causing substantial damage to that fertiliser which was suffered by Zuid-Chemie and which went beyond the damage to the [ingredient] itself”.

To sum it up, the relevant places which determine jurisdiction under art 7(2) of the Brussels I Regulation (recast) in product liability claims are therefore the **place of manufacturing** by the producer of the defective product, on the one hand, and the **place where a (professional) customer used the defective product in its own manufacturing process, leading to the defectiveness of its own products**, on the other.

4.3. Applicable law

In the EU Member States, the law applicable to product liability cases that present a foreign element is determined either by the **Rome II Regulation** or by the **Hague Products Liability Convention**. Given the limited number of Contracting States to the Hague Products Liability Convention (see below 4.3.2.1.), the Rome II Regulation is by far the most important instrument in Europe when it comes to determining the law applicable to product liability.

Before the entry into force of the Rome II Regulation, there was a broad variety of solutions in Europe regarding the law applicable to product liability.⁴⁹ Given the mobility of many products, there has however always been a widespread consensus that applying the law of the place where the injury occurred, that is, the *lex loci delicti*, is often inadequate and may frequently lead to fortuitous results in product liability scenarios. To illustrate this point, a person living in country A might purchase a product in country B and take it to country C (on holiday or on a business trip), which could theoretically be any (far away) country in the world. While using it there, this person might suffer damage due to a defect of the product. To apply the law of country C, where the injury occurred, often does not represent a sensible solution for the manufacturer of the product (who does not know in advance to which country the user might take the product before the damage occurs), nor does it produce a reasonable outcome for the victim (who will, in general, expect the application of the law of a country with which they have a closer connection).

4.3.1. The applicable law according to the Rome II Regulation

Faced with the difficulty of finding a satisfactory solution for the applicable law in product liability cases, art 5 of the Rome II Regulation combines various criteria to achieve a finely-tuned determination of which law is applicable. The criteria are arranged in a hierarchy or cascading system of connecting factors, so that if the criteria necessary for application of the first rule are not met, then the second applies (and so on). These steps will now be analysed in sequence.

4.3.1.1. Party autonomy (art 14)

Under the Rome II Regulation, it first needs to be determined whether the parties have agreed on the applicable law: art 14(1) allows of the parties to choose the law applicable in tort *ex post* and, under certain conditions, also *ex ante*. According to the second sentence of art 14(1) of the Rome II Regulation “[t]he choice [of law] shall be expressed or demonstrated with reasonable certainty by the circumstances of the case”. Mere silence is thus insufficient, and the Rome II Regulation requires that the parties either make an express choice of

⁴⁹ See the overview in T. Kadner Graziano, *The Law Applicable to Product Liability - The present state of the law in Europe and current proposals for reform*, [2005] *ICLQ*, 475 at 478-479.

applicable law or make an implied choice which is however “demonstrated with reasonable certainty by the circumstances”.

4.3.1.2. Pre-existing relationship – *rattachement accessoire* (art 5(2))

If the parties have not chosen an applicable law, but are in a pre-existing relationship with each other, such as a contractual relationship that is closely connected with the tort or delict in question, then the law applicable to this relationship will also apply to the claim in torts (by virtue of a so-called *rattachement accessoire*). Art 5(2) of the Rome II Regulation thus restates a principle that is already expressed more generally in art 4(3).

4.3.1.3. Application of the law of the parties’ common habitual residence (art 5(1) in conjunction with art 4(2) of the Rome II Regulation)

The next step on the cascade of connecting factors is found in the first sentence of art 5(1), in conjunction with art 4(2) of the Rome II Regulation: if “the person claimed to be liable and the person sustaining damage both have their habitual residence in the same country at the time when the damage occurs”, then the law of this country applies.

4.3.1.4. Application of the law of the injured party’s habitual residence (art 5(1)(a))

The next step, which is often relevant in practice, is found in art 5(1)(a) of the Rome II Regulation: “the law of the country in which the person sustaining the damage had his or her habitual residence when the damage occurred” applies, providing that “the product was marketed in that country”.

The Rome II Regulation contains no definition of the notion of marketing. However, according to CJEU case law, a product is marketed when it is offered to the public for use or consumption.⁵⁰ The CJEU held in relation to the interpretation of the Products Liability Directive that “a product is put into circulation when it is taken out of the manufacturing process operated by the producer and enters a marketing process in the form in which it is offered to the public in order to be used or consumed”.

For art 5(1)(a) of the Rome II Regulation to be applicable, it is not necessary that the precise product that caused the damage was actually bought in the country of the injured person’s habitual residence, but rather it is sufficient that this line of products was marketed in that country.⁵¹ This is particularly relevant for bystanders injured by a product that they did not purchase.

Article 5(1)(a) applies both in situations where the persons whose liability is claimed have marketed the product in this country themselves, and where it was marketed there by an independent retailer or distributor. This follows, among others, from the fact that the Rome II Regulation requires the marketing of the product in the country in question to have been foreseeable, as opposed to requiring that the persons claimed to be liable must themselves have marketed it there, or that they had been in control of the marketing process there (see the 2nd sentence of art 5(1) of the Rome II Regulation).

⁵⁰ ECJ C-127/04 *Declan O’Byrne v Sanofi Pasteur and others*, [2006] ECR I-1313.

⁵¹ See the second sentence of art 5(1) of the Rome II Regulation: “the marketing of the product, or a product of the same type”.

Given that the Rome II Regulation applies both to victims domiciled in the EU and those domiciled in third countries, the law of the country of the injured party's habitual residence applies irrespective of whether this is an EU Member State or a third country.

Rationale: Article 5(1)(a) of the Rome II Regulation aims at protecting the person sustaining damage. Application of the law of the victim's habitual residence is the simplest and, in principle, the least costly solution for the person suffering damage. It is also fair for the defendant, in that persons making a profit from the distribution of their products in a given country ought reasonably to expect that the law of a country in which their products are distributed applies when such products cause damage there.⁵²

A particular strength of art 5(1)(a) of the Rome II Regulation is that it applies for both new and second-hand products. In addition, the rule applies, and achieves reasonable results, both in proceedings brought by the purchaser of a product and those brought by third parties that are not in a relationship with the buyer, but who nonetheless suffered damage from the product (so called "innocent bystanders").

4.3.1.5. Application of the law of the place of marketing and purchase (art 5(1)(b))

If products such as the one that caused the damage were not marketed in the country in which the injured person had his or her habitual residence, then pursuant to art 5(1)(b) of the Rome II Regulation, "the law of the country in which the product was [actually] acquired" will apply "if the product was marketed in that country".

Rationale: There are numerous arguments for applying the law of the country of marketing and acquisition. Manufacturers who have their products sold in a foreign country must take into account the potential for their products to cause damage there, and that an injured person would expect the law of this country to apply. Additionally, applying the law of the place of acquisition makes the same rules applicable to all suppliers that have their products sold there, thereby favouring equality between competitors in this market. Using the law of the place of marketing and acquisition also promotes legal certainty, and finally, applying this law is equally acceptable for both the manufacturer and the purchaser and it is in conformity with their expectations. Consequently, academic opinion in Europe has long argued for the application of the law of the place of acquisition of the product.⁵³

However, using the place of acquisition may not be appropriate where the damage was suffered by an innocent bystander who has not acquired the product. Instead, the next rule on the cascade of connecting factors, that is, the place of injury rule set out in art 5(1)(c) of the Rome II Regulation, should apply to damage suffered by bystanders (if the case does not already fall under art 5(1)(a)).

4.3.1.6. Application of the law of the place of injury (art 5(1)(c))

As provided by art 5(1)(c) of the Rome II Regulation, if the product was neither marketed in the injured person's country of habitual residence nor in the country in which it was actually bought, product liability will be governed by "the law of the country in which the damage

⁵² See European Commission, *Proposal for a Regulation of the European Parliament and the Council on the Law Applicable to Non-Contractual Obligations* (Rome II) COM(2003) 427 final, 16, and previously T. Kadner Graziano, *Gemeineuropäisches Internationales Privatrecht – am Beispiel der ausservertraglichen Haftung für Schäden*, Mohr Siebeck 2002, 278 ff.

⁵³ See eg H. Duintjer Tebbens, *International Product Liability*, Kluwer 1981, 381 ff.; A. Saravalle, *Responsabilità del produttore*, Milano: CEDAM 1991, 217 ff.; M. Wandt, *Internationale Produkthaftung*, Frankfurt: Fachmedien Recht und Wirtschaft in Deutscher Fachverlag GmbH 1995, nos. 1086 ff., 1100, 1231; T. Kadner Graziano, [2005] *ICLQ* 475; id, *Gemeineuropäisches Internationales Privatrecht – am Beispiel der ausservertraglichen Haftung für Schäden*, Tübingen: Mohr Siebeck 2002, 278 ff.

occurred, if the product was marketed in that country". Under the Rome II Regulation, the place of damage thus occupies a merely subsidiary position in the list of connecting factors determining the applicable product liability law.

Rationale: The reason for this is that, given the high mobility of many products, the risk of achieving fortuitous and arbitrary results is considerable when the law of the place of injury is used with respect to persons who have purchased the product in another country. The application of the law of the place of injury, if not accompanied by other factors, may often be neither in the interest of the defendant nor in the interest of the injured person (see the example above 4.1. *in fine*). On the other hand, the place of injury rule often works well where the damage was suffered by an innocent bystander.

4.3.1.7. Foreseeability clause

According to art 5(1) *in fine* of the Rome II Regulation, "the law applicable shall be the law of the country in which the person claimed to be liable is habitually resident if he or she could *not reasonably foresee* the marketing of the product, or a product of the same kind, in the country the law of which is applicable under (a), (b) or (c)".

Article 5(1) *in fine* provides the only "foreseeability clause" in the Rome II Regulation. In European tort case law produced before the entry into force of the Rome II Regulation, there is not one published case in which a court concludes that the injury was not reasonably foreseeable to the defendant in the country in which it occurred.⁵⁴ In fact, most products are now distributed on a European or even global scale, and can freely circulate across borders, as manufacturers and distributors are well aware. The foreseeability clause in art 5(1) of the Rome II Regulation *in fine* will thus rarely, if ever, be relevant in practice.

4.3.2. The applicable law according to the 1973 Hague Convention on the Law Applicable to Products Liability

4.3.2.1. Relationship between the Rome II Regulation and the Hague Products Liability Convention

Product liability is the subject-matter of a second Hague Convention in the field of torts, namely the Hague Products Liability Convention. The Convention is currently in force in 11 countries, including seven EU Member States (France, the Netherlands, Luxembourg, Finland, Spain, Slovenia, and Croatia; it is also in force in Norway, Macedonia, FYR, Serbia, and Montenegro).

As with the Hague Traffic Accident Convention, the Rome II Regulation does not affect application of the Hague Products Liability Convention, pursuant to its art 28(1). In the EU Member States in which the Convention is in force, the applicable law in product liability cases will thus be determined by the Hague Products Liability Convention, as opposed to the Rome II Regulation. As advocated in relation to the law applicable to traditional traffic accidents, this may be seen as an unsatisfactory situation which could very well be remedied (see above, Part 3.2.6.).

4.3.2.2. The applicable law according to the Hague Products Liability Convention

Just like the Hague Traffic Accident Convention, the Hague Products Liability Convention provides no rules on choice of law by the parties (party autonomy) nor on pre-existing

⁵⁴ Compare T. Kadner Graziano, *Gemeineuropäisches Internationales Privatrecht*, Mohr Siebeck 2002, 224.

relationships between parties (*rattachement accessoire*). Neither were on the agenda in the early 1970s (comp. above, 3.2.3.).

The Hague Products Liability Convention combines *four criteria*, of which two *generally need to be met* in order to find the applicable law. The different combinations of criteria apply in a hierarchical order:

First, the law of the country of habitual residence of the party which suffered the damage applies, provided that the person claimed to be liable is also established there or the claimant has purchased the product in this country (art 5 of the Hague Products Liability Convention). The first of these two alternatives corresponds to a widespread rule in the private international law of torts, that is, to apply the law of the country where both parties have their habitual residence or establishment. Incidentally the Rome II Regulation uses the same criterion, provided there is no choice of law by the parties. The second alternative corresponds largely to art 5(1)(a) of the Rome II Regulation. However, under the Rome II Regulation, it is sufficient that the product was marketed in the country of the injured person's habitual residence, whereas the Hague Products Liability Convention requires a purchase by that person in this country.

Second, the law of the country where the injury occurred, that is, where the legally protected interest was initially harmed, applies, provided that this is also "a) the place of the habitual residence of the person directly suffering damage, or b) the principal place of business of the person claimed to be liable, or c) the place where the product was acquired by the person directly suffering damage" (art 4 of the Hague Products Liability Convention). The place of injury thus appears higher in the hierarchy when compared with the Rome II Regulation. However, the law of the place of injury applies only when this place coincides with the place of the injured party's habitual residence, which might frequently be the case, or with the principal place of business of the person claimed to be liable, or with the place where the victim purchased the product (the Rome II Regulation focuses instead on the place of marketing and purchase, and has recourse to the place of injury only as a last resort in products liability cases, see 4.3.1.5. and 4.3.1.6. above).

Finally, where the conditions of none of the above rules are met, the law of the country of the principal place of business of the person claimed to be liable applies, but the victim may opt instead for the law of the country where the injury occurred (art 6 of the Hague Products Liability Convention).

4.4. Conclusions

If a claim for product liability is brought in the EU, the applicable law is determined either by the Rome II Regulation or by the 1973 Products Liability Convention. There are certain differences with regard to the applicable connecting factors under both instruments, though either instrument may be used to determine the applicable law, depending on the State where the claim was brought. Here again, **so long as the Rome II Regulation and the Hague Products Liability Convention coexist, careful analysis of the claimant's options might considerably enhance his or her chances of success in litigation**, hereby offering the opportunity for **forum shopping**. This in turn **reduces the foreseeability of the applicable law and legal certainty for product liability claims**.

5. A LEGAL ANALYSIS OF THE POTENTIAL IMPACT OF CONNECTED AND AUTONOMOUS VEHICLES ON THE INSTRUMENTS APPLICABLE TO CROSS-BORDER TRAFFIC ACCIDENTS IN THE EU

The following part analyses the functioning of each of the following instruments (presented in the previous parts) with respect to accidents caused by new connected and autonomous vehicle technologies:

- the Brussels I Regulation (recast),
- the Rome II Regulation,
- the 1971 Hague Traffic Accident Convention,
- the 1973 Hague Products Liability Convention.

The *first chapter* shall set out the most probable causes of road traffic accidents upon introduction of the new technologies (5.1.). The *second chapter* will provide an analysis of the text of each of the above instruments, in regard to their applicability and compatibility with the new technologies (5.2.). The *third chapter* will re-examine the case scenarios covered in Part 3 on the supposition that the accident was caused by a technical failure relating to new technology installed in the car (5.3.). Then, fourthly and finally, a further case scenario shall be provided and solved in which new technologies fail and lead to an accident (5.4.).

5.1. Potential new causes of road traffic accidents due to new technologies

An analysis of recent literature on connected and autonomous vehicles⁵⁵ shows that particular risks inherent to the new technologies which may potentially lead to accidents include:

- software or hardware failures,
- software choosing to take a particular action which is later deemed “incorrect” (such as preferring one particular potential victim over another),
- failures in infrastructure permitting the operation of the new systems, eg failures on the part of product or service providers in charge of data needed for communication between cars, or between cars and the environment etc.,
- the risk that a system is hacked by unknown third parties outside the car.

Another risk that may lead to intricate questions of Private International Law is that:

- data collected by the new system is made available to third parties (insurers, private businesses, etc.) in breach of rules on confidentiality or privacy.⁵⁶

⁵⁵ See eg S. S. Wu, Product Liability Issues in the US and associated risk management, in: Maurer and others, *Autonomes Fahren – Technische, rechtliche und gesellschaftliche Aspekte*, Springer 2015, 575 at 585 ff.; B. D. Kupferschmied, *Autonome Fahrzeuge – Die Haftung im Strassenverkehr der Zukunft*, [2015] *HAVE/REAS*, 356; T. Hammel, Besonderheiten der Kraftfahrzeugversicherung bei Personenkraftwagen mit Fahrassistenzsystemen, [2016] *VersR*, 281; H. Krämer, Haftungsrechtliche Fragen des automatisierten Fahrens, [2015] *Verkehrsjurist*, 1; V.M. Jänich/P.T. Schrader/V. Reck, Rechtsprobleme des autonomen Fahrens, [2015] *NZV*, 313; L.S. Lutz/T. Tang/M. Lienkamp, Die rechtliche Situation von teleoperierten und autonomen Fahrzeugen, [2013] *NZV*, 57.

⁵⁶ Comp. British Department for Transport, *The Pathway to Driverless Cars. A detailed review of regulations for*

Currently, it is estimated that approximately 90% of road traffic accidents are caused by human fault.⁵⁷ It is estimated that widespread use of connected and autonomous vehicles may considerably reduce the influence of human fault in causing road traffic accidents. Instead, road traffic accidents may more frequently be caused by failures of technology (software, hardware, technical infrastructure). At the substantive law level, this may lead to a shift from the classic rules on liability for traffic accidents to rules on product liability.⁵⁸ At the PIL level, a similar shift may consequently occur from PIL instruments on traffic accidents to PIL instruments on product liability.

5.2. A literal analysis of existing PIL instruments

The Brussels I Regulation (recast) and the Rome II Regulation do not contain any specific rules or connecting factors in relation to road traffic accidents. Rather, road traffic accidents are governed by the general rules on jurisdiction in arts 4 ff., 7(2) and 10 ff. of the Brussels I Regulation and tort liability in arts 4(1) to 4(3), 14 ff. of the Rome II Regulation (see above, Part 0.).

The 1971 Hague Traffic Accident Convention, on the other hand, provides specific rules to determine the law applicable to road traffic accidents. Traffic accidents are defined in art 1(2) of the 1971 Hague Convention. The provision states:

"For the purpose of this Convention, a traffic accident shall mean an accident which involves one or more vehicles, whether motorised or not, and is connected with traffic on the public highway, in grounds open to the public or in private grounds to which certain persons have a right of access."

This definition may perfectly well cover cases in which connected and autonomous vehicles are involved. The same is true of arts 4 ff. of the 1971 Hague Convention which provide the relevant connecting factors, that is, the "State where the accident occurred" in art 3 and, under certain well defined circumstances, "the State of registration" in art 4. In art 4(a) (1st cond.) and art 6 (2nd sentence), the 1971 Hague Convention uses the notion of "driver" stating (*emphasis added*):

automated vehicle technologies, [2015] 100 ff.; K. Rannenbergh, Erhebung und Nutzbarmachung zusätzlicher Daten – Möglichkeiten und Risiken, in: Maurer and others, *Autonomes Fahren – Technische, rechtliche und gesellschaftliche Aspekte*, Springer 2015, 515 ff.

⁵⁷ Exact numbers vary depending on author. 93.5% according to T. Winkle, Sicherheitspotenzial automatisierter Fahrzeuge: Erkenntnisse aus der Unfallforschung, in: Maurer and others, *Autonomes Fahren – Technische, rechtliche und gesellschaftliche Aspekte*, Springer 2015 351 at 369. Around 90% according to F. Jourdan and H. Matschi, *Automatisiertes Fahren*, [2015] *NZV*, 26; around 86% according to Lutz, *Autonome Fahrzeuge als rechtliche Herausforderung*, [2015] *NJW*, 119. 90% according to European Parliament Briefing, *Automated vehicles in the EU*, [2016] available at http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/573902/EPRS_BRI%282016%29573902_EN.pdf.

⁵⁸ Comp. British Department for Transport, *The Pathway to Driverless Cars. A detailed review of regulations for automated vehicle technologies*, [2015] 98, diagnosing that "the cause of collisions will shift away from human error caused by drivers [...] and move towards vehicle manufacturers [...]." In German legal literature there is also a consensus about this shift: See for example H. Krämer, [2015] *Der Verkehrsjurist* 3 ("rückt der Hersteller des Produktes bei der Haftung immer mehr in den Fokus" - translation: "The liability system is increasingly shifting its focus towards the product manufacturer"); P.T. Schrader, [2015] *NJW*, 3537 ("Daher steigt mit zunehmender Fahrzeugautomatisierung das Risiko des Herstellers, nach den Grundsätzen der Produkthaftung in Anspruch genommen zu werden." - translation: "As a consequence, with advances in vehicle automation, vehicle manufacturers are to receive a great deal more product liability claims"); L.S. Lutz, [2015] *NJW*, 118 ("Insofern ist [...] eine massive Haftungsverschiebung vom Halter und dessen Versicherung hin zum Hersteller zu erwarten." - "For this reason, [...] a huge shift in liability from the keeper and his insurer to the vehicle producer is to be expected").

Article 4

Subject to Article 5, the following exceptions are made to the provisions of Article 3 –

a) where only one vehicle is involved in the accident and it is registered in a State other than that where the accident occurred, the internal law of the State of registration is applicable to determine liability

*– **towards the driver**, owner or any other person having control of or an interest in the vehicle irrespective of their habitual residence, [...].*

Article 6

*In the case of vehicles which have no registration or which are registered in several States the internal law of the State in which they are habitually stationed shall replace the law of the State of registration. The same shall be true if neither the owner nor the person in possession or control **nor the driver** of the vehicle has his habitual residence in the State of registration at the time of the accident.*

It may be worth examining whether this category of car user will continue to play a substantial role once connected and autonomous vehicles have been introduced. New technologies might lead to entirely driverless cars, and accordingly the notion of driver and passenger may be diminished or ultimately even eliminated and be replaced by the notion of “car users”.⁵⁹

For the purpose of this study, it will however be assumed that the notion of “driver” and “passenger” will continue to be used in substantive traffic accident liability law, and thus also in the relevant Private International Law provisions. Should the notion entirely disappear from civil liability laws in the EU, removing such reference from the 1971 Hague Convention could also be considered. For the time being, however, this appears to be a remote option. Indeed, preserving the notion of driver in this instrument does not have any adverse effect, even if the concept of the *driver* as a claimant or defendant in an international traffic accident case, does gradually disappear. A pure literal analysis of both instruments does therefore not reveal any immediate need for specific legislative action.

It has been mentioned (above, 5.1.) that there is a risk that data collected by the new system may be passed on to third parties (insurers, private businesses, etc.) in breach of rules on confidentiality or privacy. When the Rome II Regulation was prepared, the issue of the law applicable to “*non-contractual obligations arising out of violations of privacy and rights relating to personality, including defamation*” was excluded from the scope of application of the Rome II Regulation, see art 1 (2) (g) of the Rome II Regulation. The reason for this was that no consensus could be reached on the appropriate solution to this issue. Instead, the law applicable to violations of privacy and personality rights remains to be determined by the rules of domestic PIL. These rules differ widely from one country to the next.⁶⁰ The focus of this study is on traffic accidents, so this particular issue shall not be further analysed here. However, especially against the backdrop of the recently adopted⁶¹ General Data Protection Regulation, it should be underlined that further research on this topic is necessary.

⁵⁹ See eg British Department for Transport, *The Pathway to Driverless Cars. A detailed review of regulations for automated vehicle technologies* [2015], 21ff.; in the same direction H. Krämer, [2015] *der Verkehrsjurist*, 1 at 2.

⁶⁰ Overview in T. Kadner Graziano, *La responsabilité délictuelle en droit international privé européen*, Bâle/Genève/Munich: Helbing Lichtenhahn – Bruxelles: Bruylant – Paris: L.G.D.J. 2004, 75 ff.

⁶¹ Final adoption by the European Parliament at 27 April 2016, publication in the Official Journal on 4 May 2016. Entry into force: 24 May 2016, application from 25 May 2018 onwards.

5.3. Solutions to the case scenarios in Part 3 had the accident been caused by a failure of the new technology rather than driver error

In the case scenarios set out above (3.2.4.1. to 3.2.4.4.) the **outcome at the Private International Law level** regarding the law applicable to civil liability claims in road traffic accidents would be the **same had the accidents not been caused by human failure, but by the failure of new technical devices** such as the technologies utilised by connected and autonomous vehicles. This can be illustrated by replacing human failure as the cause of the accident in the above scenarios with technical failure caused by the new technologies:

5.3.1. Road traffic accident: one single car involved

In the **first scenario** presented above, an accident occurred in France involving a single hire car registered in Belgium. The car was carrying several people, all of whom were habitually resident in Spain. A claim for damages was brought by passengers against the *driver* of the car (3.2.4.1.).

In a Contracting State to the Hague Traffic Accident Convention, given that only one vehicle was involved and this vehicle was registered in a state other than that where the accident occurred, the law of the *state of registration*, Belgian law, would be applicable to the driver's liability to his passengers, pursuant to art 4(a) of the Hague Traffic Accident Convention. Conversely, on the same set of facts, art 4(2) of the Rome II Regulation would lead to the application of the law of the country of *habitual residence* of the person(s) claimed to be liable and the person(s) who suffered damage, that is, Spanish law.

Under both PIL systems, the determination of the applicable law does not depend upon the cause of the accident. However, had the accident been caused by a failure of new technologies inside the car (as opposed to a fault by the driver), the question *at the substantive law level* would be whether the *driver* of the car (who wasn't its keeper) was *the right person to sue*, that is, whether he was the right defendant.⁶²

5.3.2. Road traffic accident: two cars involved, claim brought by the passengers against the driver or keeper of the other car

In the **second example** presented above, a driver with habitual residence in France attempted to overtake an articulated lorry on a German road. Another car, going in the other direction and carrying two brothers also with habitual residence in France, was forced to make an emergency stop and crashed into the lorry, causing the death of one brother and serious injury to the other. Both cars were registered in France, whereas the lorry was registered in another state. The surviving brother and his father brought a claim against the driver of the other car and its keeper (3.2.4.2.).

Here again, in order to determine the applicable law it would not matter whether the accident was caused by human failure or a technical failure of new technologies inside the car that caused the accident. Even if the latter were the case, the German courts would apply French law, pursuant to art 4(2) of the Rome II Regulation, since the person claimed to be liable and the injured passenger both had their habitual residence in France.

⁶² In order to determine who is the correct defendant and other related PIL issues, see the scenario below, 5.4.3.

On the other hand, the French courts would designate the law according to the Hague Traffic Accident Convention. The Hague Convention stipulates that if all vehicles involved in an accident are registered in the same state, then under art 4(b), read in line with art 4(a) of the Convention, the law applicable to driver and passenger claims alike is the law of the state of registration. Given that only the two cars were registered in France, unlike the lorry which was registered in another state, the requirements of art 4 of the Hague Traffic Accident Convention, allowing an exception to the *lex loci delicti* rule, were not met and the French courts, in applying the Hague Traffic Accident Convention, would apply the *lex loci delicti* (that is, German law) pursuant to art 3 of the Hague Convention.

5.3.3. Road traffic accident: more than one car involved, claim of passenger against driver or keeper of the car he was in

The same logic would apply to the **third** of the above **scenarios** in which a car registered in Austria carrying passengers, all with habitual residence in Austria, crashed in Italy into a stationary vehicle registered in Italy (3.2.4.3.). Even if the cause of the crash were not fault of the driver, but failure of the new technology, a claim for compensation brought by the passengers against the keeper's insurance company would be governed before Austrian courts by the 1971 Hague Convention, which would lead, under art 3, to application of the law of the place where the accident occurred (that is, Italian law). Alternatively if the case were brought before the Italian courts, the Rome II Regulation would apply and, by virtue of art 4(2), the law of the country of the common habitual residence of the injured person and the person claimed to be liable would be applicable, that is, Austrian law.

5.3.4. Road traffic accident: one car involved, victims outside the car

Last but not least, in the **fourth scenario**, a person with habitual residence in England was on holiday in Spain, where in a supermarket car park he was hit by a car and severely injured. The car was registered in England and driven by a person living in Spain (see above, 3.2.4.4.). Spain is a Contracting State to the Hague Traffic Accident Convention, whereas the UK is not.

Had the accident been caused by a technical failure of the new technologies instead of human fault, Spanish courts would still determine the applicable law under the Hague Traffic Accident Convention, and in particular art 4(a), which provides that "[w]here only one vehicle is involved in the accident and it is registered in a State [England] other than that where the accident occurred [Spain], the internal law of the State of registration [English law] is applicable ... towards a victim who is outside the vehicle at the place of the accident and whose habitual residence is in the State of registration". In the example, the victim was in a car park and outside the car that caused the accident, and had his habitual residence in England, the state in which the car that caused his injury was registered. Thus the conditions under art 4(a) of the Hague Traffic Accident Convention for an exception to be made to the application of the *lex loci delicti* are met, so the Spanish courts would apply English law to the victim's claim.

On the other hand, English courts would apply the Rome II Regulation in order to determine the applicable law. According to art 4(1), the law of the place of the accident applies, except where "the person claimed to be liable and the person sustaining damage both have their habitual residence in the same country at the time when the damage occurs", in which case "the law of that country shall apply", art 4(2). In the example, the victim had his habitual residence in England whereas the driver of the car that caused the accident lived in Spain.

Thus the conditions for an exception under art 4(2) of the Rome II Regulation are not met and English courts would decide the case according to Spanish law.

5.3.5. Concluding remarks

The **connecting factors** used to establish **jurisdiction** and the **law applicable** to claims in civil liability under the Brussels I Regulation (recast), the Rome II Regulation, and the 1971 Hague Traffic Accident Convention are hence **independent of the cause of the accident**. Even if an accident was caused by

- software or hardware failures,
- software choosing to take a particular action later deemed “incorrect” (such as preferring one particular potential victim over another), or
- failures in infrastructure permitting the operation of the new systems,

the same connecting factors as those found in the 1971 Hague Traffic Accident Convention, the Rome II Regulation and the Brussels I Regulation (recast) are to apply respectively and **lead to the same outcome as if the accident was caused by human fault** (for actions against the manufacturer of the car or defective software, however, see below, 5.4.3. c) and d).

However, **under the numerous European liability systems that do not provide for strict liability of the driver, claims against drivers may lose much in importance once the new technologies are introduced.**

5.4. An analysis of the Brussels I Regulation (recast), the Rome II Regulation, and the 1971 Hague Convention: a Case Study on damage caused following the use of new technologies

5.4.1. Introduction

The following case scenario deals with an accident that was caused by the failure of new technologies. On the basis of this analysis, a series of conclusions shall be drawn with respect to potential further action regarding European and international instruments in the field of Private International Law.

5.4.2. Scenario: Software failure, several parties injured

A vehicle produced by a French manufacturer is marketed, bought, and registered all over Europe, including Austria. It is equipped with new connected and autonomous vehicle technology provided by a company based in Sweden. On a road in Germany, due to a failure of the relevant software (or, alternatively, hardware) the car registered in Austria crashes into a car registered in the Netherlands. The driver of the Austrian car did not commit any fault. The following persons suffer personal injury in the accident:

- the *driver* and *passengers* of the car registered in the Netherlands, all domiciled there;
- the “*driver*” and *passengers* of the defective driverless car, all domiciled in Austria;
- *pedestrians* domiciled in Germany and Poland.

Scenario 1 may seem complex. However, the situation of a crash between two cars registered in different countries (in the example: Austria and the Netherlands) on the road of a third country (in the example: Germany) is frequent in practice, independent of the cause of the accident. It is also common for pedestrians who are involved and injured in car accidents to

not necessarily be habitually resident in the country in which the accident occurred (in the example: the victim domiciled in Poland). Real life scenarios may even be far more complex (eg the car may have been marketed in another country than that in which it was registered, the passengers of the cars may have their habitual residence in different countries, etc.) There is no reason to doubt that, following the introduction of new technologies, such complex cross-border scenarios would not arise.

The substantive law rules on liability for road traffic accidents are currently under review in light of the new technologies. The following considerations are based on the **assumptions** that

- the **liability of the "driver" of the car**, which in many systems is fault-based, will become less important the more the car is to be driven by the new technologies;
- **strict liability of the keeper of a vehicle will continue to be the main focus** of most national liability regimes for traffic accidents (and conceivably, once the new technologies are introduced, it may need to be introduced in jurisdictions where it does not yet exist);
- **product liability may take on a much bigger role** as claims may partly shift away from the driver or keeper, and onto the manufacturer of the vehicle, or indeed the developer/provider of its defective software.

It follows under these assumptions that victims of traffic accidents caused by new technologies might want to bring an **action against**

- a) the **keeper (Halter/détenteur)** of the defective (driverless) car that caused the accident,
- b) **the driverless car's liability insurer** (by way of a direct claim against the insurer),
- c) the **manufacturer** of the defective driverless car that caused the accident,
- d) the **developer/provider** of the defective software.

The scenario (above 5.4.32.) shall now be solved in response to each potential claim. *Firstly*, jurisdiction is to be determined under the existing PIL framework in response to each of the victims (5.4.3.). Thereafter, the applicable law shall be considered in relation to each claim (5.4.5.), reflecting on the set of facts above. This analysis will permit conclusions to be drawn in respect to any further action and to make recommendations for reform (5.4.7.).

5.4.3. Jurisdiction⁶³

a) In most European jurisdictions,⁶⁴ the liability regimes currently applicable to road traffic accidents focus on the **keeper of the vehicle** that caused, or was involved in, the accident. An **action against the keeper of the defective driverless car** is to be brought **by any victim** either before:

- the courts of the Member State where the **keeper is domiciled** (in this scenario, the **Austrian courts**), pursuant to art 4(1) of the Brussels I Regulation (recast), or
- the courts for the place in the Member State where the **accident occurred** (in this scenario, the **German courts**), pursuant to art 7(2) of the Brussels I Regulation (recast).

b) An action against the **car's liability insurer (direct claim)** can be brought *by any victim* either before:

⁶³ Compare 3.3., and 4.2. on international jurisdiction.

⁶⁴ For references, see above, 3.2.13.1.

- the courts of the Member State in which **the insurer is domiciled** (that is, the **Austrian courts**), pursuant to art 11(a) of the Brussels I Regulation (recast), or
- the courts for the place in a Member State where the **harmful event occurred** (that is, the **German courts**), pursuant to art 12 of the Brussels I Regulation (recast), or
- the courts for the place in a Member State where the **victim/claimant is domiciled** (for victims in the above scenario who are domiciled in the Netherlands or Poland: the **Dutch or Polish courts**), pursuant to art 13(2), 11(1)(b) of the Brussels I Regulation (recast),

Where a direct action is brought against the insurer, pursuant to art 13(3) of the Brussels I Regulation (recast) “[i]f the law governing such direct actions provides that the policyholder or the insured may be joined as a party to the action, the same court shall have jurisdiction over them”. By virtue of this condition, **any of the above victims** may also be entitled to bring a **claim against the keeper of the defective driverless vehicle** in connection with the insurer of this vehicle before the courts of **his own (that is, the victim’s) domicile** (in this scenario, before the **Dutch, German, or Polish courts**).

c) If the action is based on a *defect within the car, or of the software/hardware used in the car*, and brought against the **manufacturer of the car that caused the accident**, the victim may bring his or her claim before either:

- the courts of the Member State where the **defendant is domiciled** (in the above scenario, the **French courts**), pursuant to art 4(1) of the Brussels I Regulation (recast)
- or the courts of the Member State in which the **damaging event occurred** (in the above scenario, the **German courts**), pursuant to art 7(2) of the Brussels I Regulation (recast).⁶⁵

Given that the jurisdictions in the EU do not generally provide for direct action against the manufacturers’ insurers,⁶⁶ the holding in the *Odenbreit* case and the rules in art 13(2), 11(1)(b) of the Brussels I Regulation (recast)⁶⁷ do not necessarily apply to claims against the manufacturer of a defective product (vehicle) that caused a traffic accident, or indeed to their liability insurers. **Thus, regarding a claim against manufacturers, the victims will often not benefit from a further forum at their own domicile(s).**

d) Should the action be based on a defect of the software/hardware used in the car and brought **against the developer/provider of the defective software** (domiciled in Sweden), the victims could bring their claims before either:

- the courts of the EU Member States where the **defendant is domiciled** (in the above scenario, the **Swedish courts**), pursuant to art 4(1) of the Brussels I Regulation (recast)
- or the courts of the Member States in which the damaging event occurred (in the above scenario, the **German courts**), pursuant to art 7(2) of the Brussels I Regulation (recast).

⁶⁵ Note: Should the defective product have been *manufactured* in a country other than the one where the defendant was domiciled (in the above scenario: France) or the one where the damaging event occurred (in the above scenario: Germany), the victim would have the further option of bringing a claim there, see CJEU’s holding in the *Pantherwerke* case, above footnote 47.

⁶⁶ An in-depth assessment of the possibility for victims to bring direct claims against manufacturers is not within the scope of this study. This, and details of possible manufacturer insurances, might become a field of research in case the anticipated shift in liability towards manufacturers (see 5.1. with further reference) occurs.

⁶⁷ Accordingly, in addition to the courts at the place where the harmful event occurred (Art. 12 Brussels I Regulation) a road traffic accident victim has the further option of bringing a claim against the liability insurer before the courts of the place “where the claimant is domiciled”, under art 13(2) in conjunction with art 11(1)(b) of the Brussels I Regulation (recast).

Here again, given that under the applicable law there might not be a general possibility of direct action against the manufacturers' insurers, the **victims do not always benefit from a further forum at their own domicile(s)**. Consequently, for an **action against the (Swedish) software producer**, it **cannot be assumed that Austrian, Dutch, and Polish courts would have jurisdiction** (for victims domiciled in these countries).

5.4.4. Conclusions and potential recommendations on jurisdiction

- The rules of the Brussels I Regulation applicable to cross-border traffic accidents do not refer to any particular causes of the accident (such as human failure or a defect of any technology used in a vehicle). **A pure literal analysis of the Brussels I Regulation (recast) does not reveal any immediate need for specific legislative action.**
- The situation regarding traffic accident victims has been considerably strengthened over the last few decades, both at the substantive law level and at the procedural level (introduction of strict liability regimes in many national jurisdictions; obligation to contract liability insurance for damage caused by the use of a motor vehicle; direct action of victims against the car's liability insurer), as well as under the rules on jurisdiction in Private International Law (forum at the victim's domicile for a direct action against the car's liability insurer in the context of a cross-border accident).
- Currently, victims of traffic accidents greatly benefit from a forum at their own domicile for any direct claim made against the liability insurer of the car that caused, or was involved in, the accident. This forum has gained considerable practical importance since the CJEU's judgment in the *Odenbreit* case. *From a Private International Law point of view*, the (in most systems: strict) liability of the keeper of a motor vehicle for damage caused in the course of the use of the vehicle, and the direct action against the liability insurer, should thus remain at the centre of *substantive liability law* once the new technologies are introduced.
- In some scenarios, the focus might however shift away from liability on the part of the driver or keeper of the car, and onto the car manufacturer or technology producer. **Should claims more frequently be brought against these parties**, then **victims** acting against these defendants (that is: car manufacturers or technology producers) **will not necessarily have:**
 - a claim against a defendant that is certain to have contracted liability insurance,
 - a direct claim against the defendant's liability insurer (should the defendant have contacted liability insurance),
 - a forum at the victims' domicile where they can directly sue such insurers, and possibly also manufacturers together with their insurers. Instead of having the option to bring a claim against these parties at their own domicile, victims of traffic accidents principally would have to bring a claim against the manufacturer of a defective device, or of a defective car, that caused a traffic accident, before the courts of the country *where the manufacturer is domiciled* or at the country and place *where the accident has happened*.

Introduction of any of the following measures might be considered:

- a duty for car manufacturers using new technologies to contract liability insurance covering liability towards traffic accident victims,
- the general possibility of a direct action against the manufacturer's liability insurer when a defect of new technologies used in cars caused a traffic accident,
- the general establishment of a forum at the domicile of the victim for claims against manufacturers of new technologies, following a car accident.

5.4.5. Applicable law

As exposed above, for damage claims following **traffic accidents**, two alternative PIL systems apply to determine the applicable law, depending on the country where the claim is brought:

- the **1971 Hague Traffic Accident Convention**, for any claim brought before the courts of a Contracting State (in the above scenario: Austrian, Dutch, or French courts),
- the **Rome II Regulation**, for any claim brought before the courts in EU Member States that are not Contracting States of the Hague Convention (in the above scenario: German, Polish, or Swedish courts).

For **product liability** claims, again, two alternative systems of PIL apply depending on the country where a claim is brought

- the **1973 Hague Products Liability Convention**, for any claim brought before the courts of a Contracting State (in the above scenario: French courts),
- the **Rome II Regulation**, for any claim brought before the courts of a *non*-Contracting State of the 1973 Hague Convention (in the above scenario: German or Swedish courts).

In the following chapter, the question of which law applies to a claim by the *potential claimants* against the potential defendants will be examined in relation to the above scenario. The potential **claimants**, once again, are:

- the **driver and passengers of the "victims" car** registered in the Netherlands, all domiciled there,
- the **"driver" and passengers** (that is, the "users") **of the defective driverless car**, registered in Austria, all domiciled in Austria,
- the **pedestrians** domiciled in Germany and Poland.

The potential defendants are:

- a) the **keeper** (*Halter/détenteur*) of the driverless car that caused the accident,
- b) the **driverless car's liability insurer** (by way of a direct claim against the insurer),
- c) the **manufacturer** of the driverless car that caused the accident,
- d) the **developer/provider of defective software** contained within the driverless car.

a) Action brought by the *driver and passengers* of the car registered in the Netherlands against the *keeper* of the *defective driverless car* that caused the accident (or the keeper's vehicle liability insurer)

As we have seen above, in regards to an action by the **victims domiciled in the Netherlands** (driver and passengers of the car registered in the Netherlands) against the **keeper of the defective driverless car, domiciled in Austria**, such claim could be brought before the courts in Austria (where the defendants are domiciled) or, on the victim's

choice, the courts in Germany (where the accident occurred). An action against the **keeper's vehicle liability insurer** could also be brought before the courts in the Netherlands (where the victims are domiciled) (compare above, 5.4.3 a).

Before the Austrian or Dutch courts (both are Contracting States of the **1971 Hague Convention**), the applicable law would be determined according to the 1971 Hague Traffic Accident Convention. Pursuant to art 3, "the internal law of the State where the accident occurred", German law, applies. No exception is made under art 4 since the cars involved in the accident were registered in different States (The Netherlands and Austria). Before **Austrian or Dutch courts**, the case would thus be solved according to **German law**.

German courts (Germany is not a Contracting State to the 1971 Hague Convention) would apply the **Rome II Regulation**. The starting point is art 4(1) of the Rome II Regulation; the application of the law of the country in which the damage occurred (Germany). None of the exceptions under art 4(2) or 4(3) apply since the claimant and defendant have their habitual residence in different countries (The Netherlands and Austria), and there exists no manifestly closer connection to another country than that of the place of the accident. Before German courts, the case would thus also be solved according to **German law**.

Note 1: The same rules would apply, and the same result reached, where there is an action in Austria or Germany brought by pedestrians domiciled in Germany or Poland.

Note 2: the same law would (obviously) apply if the action were brought directly against the car's liability insurer.

b) Action by the "driver" and passengers of the *defective driverless car* which caused the accident against the *keeper* of this same car or the keeper's vehicle liability insurer

An action by the **victims domiciled in Austria** ("driver" and passengers of the car with the defective device, living in Austria) against the **keeper of the defective driverless car, domiciled in Austria**, or against his liability insurer, could be brought before the courts in Austria or, on the victim's choice, the courts in Germany (where the accident had occurred) (see above 5.4.3. b).

Before the Austrian courts (a Contracting State of the 1971 Hague Convention), the applicable law would be determined according to the **1971 Hague Traffic Accident Convention**. Pursuant to art 3, "the internal law of the State where the accident occurred", German law, applies. No exception is made under art 4 since the cars involved in the accident were registered in different States (The Netherlands and Austria). Before **Austrian courts**, the case would thus be solved according to **German law**.

German courts (Germany is *not* a Contracting States to the 1971 Hague Convention) would apply the **Rome II Regulation**. The starting point is art 4(1) of the Rome II Regulation; the application of the law of the country in which the damage occurred (Germany). Here, an exception is provided under art 4(2) since the claimant and defendant have their habitual residence in the same country (Austria). Before German courts, the case would thus also be solved according to **Austrian law**.

c) Action brought by the *driver and passengers* of the *car registered in the Netherlands* (all domiciled there) against the *French* manufacturer of the driverless car that caused the accident

As we have seen above, an action against the **French manufacturer** of the driverless car that caused the accident could be brought before the **French courts** (the country where the *defendant is domiciled*) or, at the victims' choice, the **German courts** (where the accident happened) (compare above, 5.4.3. c).

Before the French courts (a Contracting State of the **1973 Hague Convention**), the applicable law would be determined according to the **1973 Hague Products Liability Convention**. This Convention applies a multi-layer approach:

- The 1st step is to be found in art 5: the law of the country of habitual residence of the party having suffered the damage applies (Dutch law), provided that the person claimed to be liable is also established there (France), or the claimant has purchased the product in this country (Austria): these conditions are *not fulfilled*.
- The 2nd step is to be found in art 4: the law of the country where the injury occurred applies (German law), provided that this is also (a) the place of the habitual residence of the person directly suffering damage (Netherlands), or (b) the principal place of business of the person claimed to be liable (France), or (c) the place where the product was acquired by the person directly suffering damage (Austria): these conditions are *not fulfilled*.
- The 3rd step is to be found in art 6: where the conditions of none of the above rules are met, the law of the country of the principal place of business of the person claimed to be liable applies (French law), but the victim may opt instead for the law of the country where the injury occurred (German law).

Therefore, under the 1973 Hague Products Liability Convention, **French law** is applied, but the victims **may instead opt for the application of German law**.

German courts (Germany is *not* a Contracting State to the 1973 Hague Convention) would apply the **Rome II Regulation**. The Rome II Regulation provides a different multi-layer approach:

- The 1st step is to be found in art 14: party autonomy. In the scenario, *no choice* of applicable law was made by the parties.
- The 2nd step is to be found in art 5(2): pre-existing relationship between the parties (*rattachement accessoire*). In the scenario, the parties were *not in a contractual relationship* when the accident occurred.
- The 3rd step is to be found in art. 5(1), in conjunction with art 4(2): law of the collective habitual residence of the parties. In the scenario, the parties do *not have their habitual residence in the same state* (The Netherlands and France).
- The 4th step is to be found in art 5(1)(a): the law of habitual residence of the victim. Therefore, in the scenario, Dutch law applies provided that "the product was marketed (but not necessarily purchased) in that country". These conditions are fulfilled.

Before German courts, the case would thus be solved according to **Dutch law** (that is, the law of the country where the victims had their habitual residence and in which this type of cars manufactured by the defendant was marketed).

In this scenario, courts in a Contracting State of the 1971 Hague Convention would thus apply either French law (the law of the State where the defendant was domiciled) or (upon the request of the claimants) German law (the law of State where the accident had happened). Courts of a *non*-Contracting State would, on the other hand, pursuant to the Rome II Regulation, apply the law of the State where the victims were domiciled (Dutch law).

Note: This analysis would be very similar for an action brought against a Swedish developer/provider of defective software.

d) Action by the “driver” and passengers of the defective driverless car registered in Austria (all domiciled there), against the *French* manufacturer of the driverless car that caused the accident

Here again, an action against the **French manufacturer** of the driverless car that caused the accident could be brought before the **French courts** (the country where the *defendant is domiciled*) or, at the victims’ choice, the **German courts** (where the accident happened) (compare above 5.4.3. d).

Before the French courts, the applicable law would be determined under the 1973 Hague Products Liability Convention.

- The first 1st step is, again, to be found in art 5: the law of the country of habitual residence of the party which suffered the damage applies (Austrian law), provided that the person claimed to be liable is also established there (France) or that the claimant purchased the product in this country (Austria). The conditions of the second hypothesis are fulfilled.

Therefore, under the 1973 Hague Products Liability Convention, **Austrian law** is applied.

German courts would apply the **Rome II Regulation**, with its multi-layer approach, as set out above:

- The parties did not choose the applicable law (first step, comp. above). They were not in a pre-existing relationship when the accident occurred (second step above), and they did not have their habitual residence in the same State (third step above).
- The fourth step is to be found in art 5(1)(a): “the law of the country in which the person sustaining the damage had his or her habitual residence when the damage occurred” (Austria) applies, provided that “the product was marketed in that country” (Austria). These conditions are fulfilled.

Before German courts, and under the Rome II Regulation, the case would thus also be solved according to **Austrian law**.

5.4.6. Conclusions on applicable law

This analysis allows the following conclusions to be drawn:

- A **pure literal analysis** of the Rome II Regulation, the 1971 Hague Traffic Accident Convention, and the 1973 Hague Products Liability Convention **does not reveal any immediate need for specific legislative action**.
- The **traditional PIL instruments** for traffic accidents (that is, the Rome II Regulation and the 1971 Hague Traffic Accident Convention) **will cover cases of accidents caused by defective new technologies** in connected or autonomous vehicles.
- In **standard cases**, the PIL rules on traffic accidents, contained within the Rome II Regulation and 1971 Hague Traffic Accident Convention, lead to the application of the **law of the place of the accident**.
- The 1971 Hague Convention requires that all cars involved in an accident were registered in the same State in order for an exception to the law of the place of the accident to be made. In scenarios like the ones above, as in many other cases in legal practice, under the **1971 Hague Convention**, the **law of the place of accident therefore applies even if both the claimants and the persons claimed to be**

liable were all resident in the same country. In such circumstances, the **Rome II Regulation**, on the other hand, **would lead to the application of the law of the habitual residence of the parties involved.** This may be seen as a **considerable advantage of the Rome II Regulation when compared with the 1971 Hague Traffic Accident Convention.** This advantage is, **however, not specific to situations involving the new technologies.**

- The above case scenarios illustrate the **complexity of applying two different systems of Private International Law** when determining the law applicable to traffic accidents in the EU. Given that in most cases of cross border traffic accidents, the victim/claimant has the choice between the courts of different countries (see all scenarios exposed above), **before a case comes to court**, the applicable PIL system, and thus the **law that will ultimately apply**, is often **not foreseeable for the parties.** This has been considered problematic since the entry into force of the Rome II Regulation. **This problem may only intensify as new risks emerge, such as traffic accidents caused by defects in new technologies.**
- For **certain claimants**, a **claim based on product liability** might be a **more interesting option** than a claim based on the liability rules governing traffic accidents:
 - This may be the case for **victims who do not benefit from a strict liability regime under the applicable law** (in English and Irish law, for example, liability for traffic accidents is currently still fault-based).
 - This may also be the case for **victims who are not among the persons benefitting from strict liability** for traffic accidents, which in some jurisdictions is the case for drivers and passengers of moving vehicles, and in others for passengers of the car that caused the accident.
 - There might be **caps on the award of damages** due under the law which is applicable to a given road traffic accident (which is the case when the *Baremos* of Spanish or Portuguese law apply).
 - If a new technological device leads to an accident involving a single driverless car and leading to injuries of its driver/keeper, a **product liability claim might even be the only option that is available to the victim.** For example: a vehicle is equipped with new connected and autonomous vehicle technology; due to a defect, the driving system steers the car against a wall leading to severe injuries for the driver who is also the keeper of the car.
- If an action is brought against the manufacturer of the driverless car or the manufacturer of its (defective) new technologies, in most EU Member States the Rome II Regulation applies, whereas in some other EU Member States the applicable law is determined in line with the 1973 Hague Products Liability Convention.
- Both the Rome II Regulation and the 1973 Hague Products Liability Convention establish specific connecting factors in relation to product liability and provide tools which respond to the challenges resulting from the use of new technologies. Here again, **following a pure literal analysis of both instruments, no immediate specific legislative action is needed.** However, it is to be noted that the connecting factors under both instruments differ from each other (see above 4. and 5.).
- Despite the use of different connecting factors, **in some scenarios** both instruments lead to the **same result** (above, scenario d). **In other scenarios**, the systems may lead to **different results** in regards to which law is applicable to a product liability

claim (above, scenario c). When compared to art 5 of the Rome II Regulation, the **system of the 1973 Hague Convention** may seem more (and from today's point of view possibly **overly**) **complex**. The **Rome II Regulation** has the further **advantage** of leading more frequently to the application of the **law of the state of the victim's habitual residence** (which may be illustrated by scenario c., above). The application of **two different systems** to determine applicable law in the EU, in product liability as in traffic accidents, may considerably **reduce the foreseeability of the applicable law and legal certainty**. Given that product liability cases may become more frequent once new technologies for connected or autonomous vehicles are introduced, **frictions** between both instruments **may become more frequent** in the future.

5.4.7. Recommendations on applicable law

Based on these findings, the following recommendations may be made on applicable law:

- **Having two coexisting systems of PIL** (the Rome II Regulation and the 1971 and 1973 Hague Conventions) **reduces legal certainty with respect to the applicable law**. The solution could be to **redefine the respective scopes of application of both instruments** (see the proposal above, 3.2.6.). This would avoid uncertainties regarding the applicable law and make the law applicable to cross-border traffic accidents much more foreseeable in many cases. This issue is **not specific** to situations involving the new technologies, but it **may become even more apparent once the new technologies are introduced** and **the 1973 Hague Products Liability Conventions** consequently **gains in practical importance**.
- For a victim of a traffic accident in which autonomous technologies are involved, it may be **difficult, costly, and time consuming to identify the exact cause of the accident**, to **provide proof** of that cause, and consequently to **decide against whom to bring a liability claim** (the keeper of a car or its liability insurer on the one hand, or a car or component manufacturer on the other). Some European jurisdictions provide **very short limitation periods for extra-contractual liability claims**. These might work (well) in a purely national context. However, given the particular challenges a victim of a cross-border accident might face when new technologies play a role, **short prescription periods may end up being particularly harsh on victims of cross-border traffic accidents**. This particular problem could be addressed by either
 - extending limitation periods in the different jurisdictions at the *substantive law level*, or
 - **using a cumulative connecting mechanism at the Private International Law level** according to which a claim is only to be time-barred if it is time-barred both under the *lex causae* (that is, the law governing the claim) and under the law of the country in which the victim has his or her habitual residence. Such a rule could, for example, be drafted as follows: "*Limitation periods: The claim for extra-contractual liability is time-barred only if the limitation period of the applicable law and the limitation period of the law of the country of the victim's habitual residence at the time of the accident have expired.*"

6. Final conclusions and recommendations

6.1. Basic assumptions

The following final conclusions and recommendations are based on the assumption that

- the **liability of the “driver” of the car**, which in many systems is fault-based, **will possibly become less important** the more the car is to be driven by the new technologies,
- **strict liability of the keeper of a vehicle will continue to be the main focus** of most national liability regimes for traffic accidents (and conceivably, once the new technologies are introduced, it may need to be introduced in jurisdictions where it does not yet exist),
- **product liability may take on a much bigger role** as claims against the manufacturer of the vehicle, or indeed the developer/provider of its defective software, may gain in importance once these new technologies will be used.

It is further assumed that

- the **notion of “driver”** will continue to be used in substantive traffic accident liability law, and thus also in the relevant Private International Law provisions. Should the notion entirely disappear from civil liability laws in the EU, removing such reference from the 1971 Hague Convention could be considered. Even though it might be interesting to imagine a future notion of “car user” instead of “driver”,⁶⁸ for the time being this seems to be a remote option. Preserving the notion of driver in this instrument does not have any adverse effect, even if the concept of the *driver* being a claimant or defendant in an international traffic accident case, should gradually disappear.

6.2. Jurisdiction: Conclusions

- 1) In the aftermath of an international road traffic accident, regarding jurisdiction the **injured party often has a choice between the courts of the state of the defendant’s domicile**, pursuant to art 4(1) of the Brussels I Regulation (recast), **and the courts at the place where the accident occurred**, according to art 7(2) of the Brussels I Regulation (recast). For **claims against the defendant’s car liability insurer**, the injured party has the same options (arts. 11(a) and 12)) plus the **further option** to bring a claim before the **courts of his or her own domicile**, pursuant to art 13(2), 11(1)(b) of the Brussels I Regulation (recast).
- 2) In case that a direct action against the insurer is brought, pursuant to art 13(3) of the Brussels I Regulation (recast) “[i]f the law governing such direct actions provides that the policyholder or the insured may be joined as a party to the action, the same court shall have jurisdiction over them”. By virtue of this condition, the victim may also be entitled to **bring a claim against the insured** in connection with the insurer of this vehicle **before the courts of their own (that is, the victim’s) domicile**.

⁶⁸ As mentioned at 5.2. above with further reference.

- 3) If the action is based on a defect of the car, or of the software/hardware used in the car, and a **claim brought against the manufacturer** of the car that caused the accident, the victim may bring his or her claim before either the **courts of the Member State where the defendant is domiciled**, pursuant to art 4(1) of the Brussels I Regulation (recast) or the courts of the Member State **where the accident occurred**, pursuant to art 7(2) of the Brussels I Regulation (recast).
- 4) It is not yet established to which extent the laws of the EU Member States provide for direct action against the insurers of manufacturers. Therefore, the holding in the *Odenbreit* case and the rules in art 13(2), 11(1)(b) of the Brussels I Regulation (recast) cannot be applied in a general way to claims against manufacturer of defective products that caused a traffic accident or their liability insurers. Regarding a **claim against manufacturers**, the **victims thus do not necessarily benefit from a further forum at their own domicile(s)**.
- 5) The rules of the Brussels I Regulation (recast) which are applicable to determine jurisdiction in cross-border traffic accidents do not refer to any particular causes of the accident (such as human failure or a defect of any technology used in a vehicle). A **pure literal analysis** of the Brussels I Regulation (recast) does **not reveal any immediate need for specific legislative action**.
- 6) However, the **situation of traffic accident victims** has considerably been **strengthened over the last decades**, both at the substantive law level and the level of civil procedure (introduction of strict liability regimes in many national jurisdictions; obligation to have contracted liability insurance for damage caused by the use of a motor vehicle; direct action of victims against the cars liability insurer) as well as at the level of jurisdiction in Private International Law (**forum at the victim's domicile for a direct action against the car's liability insurer** in case of cross-border accidents).
- 7) Currently, victims of traffic accidents greatly benefit from a forum at their own domicile for any direct claim made against the liability insurer of the car that caused, or was involved in, the accident. This forum has gained considerable practical importance since the CJEU's judgment in the *Odenbreit* case. *From a point of view of Private International Law*, the (in most systems: **strict**) **liability of the keeper** of a motor vehicle for damage caused in the course of the use of the vehicle, and the **direct action against the car's liability insurer**, should thus **remain at the centre of substantive liability law**, once the new technologies are introduced.
- 8) In some scenarios, the **focus** might however **shift** away from liability on the part of the driver or keeper of the car, and **onto the car manufacturer or technology producer**. For actions brought against these parties following a traffic accident, **victims will not have:**
 - a defendant that is certain to have contracted **liability insurance**,
 - a **direct claim** against the defendant's liability insurer (should the defendant have contacted liability insurance),
 - a **forum at the victims' domicile** where they can directly sue such insurers, and possibly also manufacturers together with their insurers. Instead of having the option to bring a claim against these parties at their own domicile, victims of traffic accidents would have to bring a claim against the manufacturer of a defective device, or of a defective car, that caused a traffic accident, before

the courts of the country where the manufacturer is domiciled or at the country and place where the accident has happened.

6.3. Jurisdiction: recommendations

Regarding jurisdiction in cross border traffic accidents in the EU, it might be considered to introduce the following:

- (at the substantive law level) a **duty for car manufacturers** using new technologies, and possibly for software producers developing them, to contract **liability insurance covering liability towards traffic accident victims**, similar to the insurance required for using a motor vehicle under the Motor Insurance Directive,
- (at the substantive law level) the possibility of a **direct action against the manufacturer's liability insurer** covering the case that a defect of new technologies used in cars causes a traffic accident,
- the establishment of a **forum at the domicile of the victim for claims against manufacturers** of cars using new technologies, **following a car accident**.

6.4. Applicable law: conclusions

Rules on Traffic Accidents and general rules applying to traffic accidents

- 1) In Europe, the law applicable to road traffic accident liability is determined under one of two **alternative PIL systems, depending on the country where the claim is brought**: either under the **1971 Hague Traffic Accident Convention** (for any claim brought before the courts of a EU Member State that is a Contracting State to the Hague Convention), or the **Rome II Regulation** (for any claim brought before the courts in a EU Member State that is *not* a Contracting States of the Hague Convention).
- 2) There are **significant differences** with regard to the applicable connecting factors under the Rome II Regulation and the Hague Convention respectively, though either instrument may be used to determine the applicable law, depending on the State where the claim was brought.
- 3) A **pure literal analysis** of the Rome II Regulation and of the 1971 Hague Traffic Accident Convention **does not reveal any immediate need for specific legislative action**. The **traditional PIL instruments** for traffic accidents (that is, the Rome II Regulation and the 1971 Hague Traffic Accident Convention) **will cover cases of accidents which were caused by defective new technologies** for connected or autonomous vehicles.
- 4) However, scenarios drawn from the practice of courts in Europe demonstrate that, as long as in the different EU Member States different PIL instruments apply, the **choice of forum and thus of the applicable PIL system, might have a significant impact on the applicable law, and**, given the differences in domestic substantive laws on road traffic accident liability, **on the outcome of a**

given case. Consequently, so long as the Rome II Regulation and the Hague Traffic Convention coexist, careful analysis of the claimant's options might considerably enhance his or her chances of success in litigation, hereby **offering the opportunity for forum shopping.**

- 5) The above case scenarios further illustrate the **considerable complexity of applying two different systems of Private International Law** for determining the applicable law to traffic accidents in the EU. Given that in most cases of cross border traffic accidents, the victim/claimant has the choice between the courts of different countries (see all scenarios exposed above), **before a case comes to court**, the applicable PIL system, and thus the **law that will ultimately apply**, is often **not foreseeable for the parties**. This has been considered problematic since the entry into force of the Rome II Regulation. **This may seem even more problematic when new risks are to be dealt with, such as defects of new technologies leading to traffic accidents.**
- 6) In **standard cases**, the PIL rules on traffic accidents, contained within the Rome II Regulation and 1971 Hague Traffic Accident Convention, lead to the application of the **law of the place of the accident.**
- 7) The 1971 Hague Convention requires that all cars involved in an accident were registered in the same state in order for an exception from the application of the law of the place of the accident to be made. In scenarios like the ones above, as in many other cases in legal practice, under the **1971 Hague Convention**, the **law of the place of accident** thus **applies although both the claimants and the persons claimed to be liable were all resident in the same country.** In this case, the **Rome II Regulation**, on the other hand, **would lead to the application of the law of the habitual residence of the parties involved.** This may be seen as a **considerable advantage of the Rome II Regulation when compared with the 1971 Hague Traffic Accident Convention.** This advantage is, **however, not specific to situations involving the new technologies.**

Rules on Product Liability

- 8) For certain claimants, a claim based on product liability might be a more interesting option than a claim based on the liability rules governing traffic accidents:
 - This may be the case for **victims who do not benefit from a strict liability regime under the potentially applicable liability law for traffic accidents** (in English and Irish law, for example, liability for traffic accidents is currently still fault-based).
 - This may also be the case for **victims who are not among the persons benefitting from strict liability** for traffic accidents, which in some jurisdictions is the case for drivers and passengers of moving vehicles, and in some also for passengers of the car that caused the accident.
 - There might be caps on the award of damages that is due under the law which is applicable to a given road traffic accident (which is the case when the *Baremos* of Spanish or Portuguese law apply).
 - If a new technological device leads to accidents involving a single driverless cars and leading to injuries of its driver/keeper, a **product liability claim might even be the only option that is available to the victim.** For

example: A vehicle is equipped with new technologies for connected and autonomous vehicles; due to a defect, the driving system steers the car against a wall leading to severe injuries for the driver who is also the keeper of the car.

- 9) For **product liability claims** brought against the manufacturer of the driverless car or the manufacturer of its (defective) new technologies, again, **two alternative systems of PIL apply** depending on the country where a claim is brought: the **1973 Hague Products Liability Convention** (for any claim brought before the courts of a EU Member State that is a Contracting State of the Hague Convention), or the **Rome II Regulation** (for any claim brought before the courts of a EU Member State that is *not* a Contracting State of the Hague Convention).
- 10) Both the Rome II Regulation and the 1973 Hague Products Liability Convention establish specific connecting factors in relation to product liability and provide tools which respond to the challenges resulting from the use of new technologies. Here again, **following a pure literal analysis of both instruments, no immediate specific legislative action is needed.**
- 11) Despite the use of different connecting factors, in **some scenarios** both instruments may lead to the **same result** (above, scenario d). In **other scenarios**, the systems lead to **different results** in regards to which law is applicable to a products liability claim (see the above scenarios). When compared to art 5 of the Rome II Regulation, the system of the **1973 Hague Convention** may seem more (and from today's point of view possibly **overly**) **complex**. The **Rome II Regulation** has the further **advantage of leading more frequently to the application of the law of the state of the victim's habitual residence** (which may be illustrated by scenario c., above).
- 12) As with the 1971 Hague Traffic Accident Conventions, **applying two different systems** for determining the applicable law in the EU may considerably **reduce the foreseeability of the applicable law and legal certainty**. Given that products liability cases may become more frequent once new technologies for connected or autonomous vehicles are introduced, **frictions** between both instruments **may become more frequent** in the future.

6.5. Applicable law: recommendations

Based on these findings, the following recommendations may be made on applicable law:

- Having two coexisting systems of PIL (the Rome II Regulation and the 1971 and 1973 Hague Conventions) reduces legal certainty with respect to the applicable law. The solution could be to **redefine the respective scopes of application of both instruments** with respect to each other (see the proposal above, 3.2.6.). This could **avoid uncertainties** regarding the applicable law and make the law applicable to cross-border traffic accident much **more foreseeable**. This issue is **not specific to situations involving the new technologies**, but it **may become even more apparent** once the new technologies are introduced (and once the 1973 Hague Products Liability Conventions may gain in practical importance).
- For a victim of a traffic accident in which autonomous technologies were involved, it may be **difficult, costly, and time consuming to identify the exact cause of the accident**, to **provide proof** of that cause, and consequently to **decide against whom to bring a liability claim** (the keeper of a car or its liability insurer on the one hand, or a car or component manufacturer on the other). Some European jurisdictions provide **very short limitation periods for extra-contractual liability claims**. These might work (well) in a purely national context. However, given the particular challenges a victim of a cross-border accident might face when new technologies play a role, **short prescription periods may end up being particularly harsh on victims** of cross-border traffic accidents. This particular problem could be addressed by either
 - extending limitation periods in the different jurisdictions at the *substantive law level*, or
 - **using a cumulative connecting mechanism at the Private International Law level** and adding to the Rome II Regulation a provision according to which a claim is only to be time-barred if it is time-barred both under the *lex causae* (that is, the law governing the claim) and under the law of the country in which the victim has his or her habitual residence. Such a rule could, for example, have the following wording: **"Limitation periods. The claim for extra-contractual liability is time-barred only if the limitation period of the applicable law and the limitation period of the law of the country of the victim's habitual residence at the time of the accident have expired."**

The suggested changes would make the PIL rules determining the law applicable to traffic accidents that are due to the use of new technologies for autonomous or connected vehicles (and the law applicable to traffic accidents in general) in many scenarios considerably more foreseeable and would thus enhance legal certainty regarding traffic accidents in the EU.

ANNEX: AN OVERVIEW OF RECENT LITERATURE AND RESEARCH ON THE TOPIC

This part contains an overview of recent literature on the new technologies regarding connected and autonomous vehicles. The bibliography reveals that, over the last few years, much has been written on the new technologies and on issues of substantive law (extra-contractual or tortious liability) in general (1.), in particular in German legal literature.

There is also a considerable amount of recent legal literature on issues of Private International Law (jurisdiction and applicable law) regarding cross-border traffic accidents (in general) and cross-border product liability (in general) (2.). A number of articles have been published on the need to modify international conventions on substantive law issues in relation to international road traffic accidents, and in particular on the need to modify the Vienna Convention on Road Traffic (2. *in fine*).

On the other hand, no articles or other publications could be found regarding the possible impact of the new technologies on PIL instruments applicable to cross-border accidents in the EU, the topic of this study. It appears, therefore, that this study is the first paper to analyse the PIL issues surrounding these new technologies.

1. On the new technologies in general (substantive law, new technologies, policy issues)

- Bensoussan, Alain, Droit des robots: science-fiction ou anticipation? [28/2015] *Recueil Dalloz* 1640.
- Buchberger, Andreas, Rechtliche Herausforderungen bei der Markteinführung des automatisierten Fahrens [05/2014] *ITRB* 116.
- Büning, Caren and Siems, Onnen, Kein Endszenario für Kfz-Versicherer - Vollautomatisierte Fahrzeuge werden Unfälle im Straßenverkehr auch in Zukunft nicht vermeiden [19/2013] *VW* 66.
- British Department for Transport, The pathway to driverless cars: summary report and action plan, (2015), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/401562/pathway-driverless-cars-summary.pdf.
- British Department for Transport, The pathway to driverless cars: a code of practice for testing, (2015), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/446316/pathway-driverless-cars.pdf.
- British Department for Transport, The pathway to driverless cars: a detailed review of regulations for automated vehicle technologies, (2015), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/401565/pathway-driverless-cars-main.pdf.
- Colonna, Kyle, Autonomous cars and tort liability [4/2012] *Case W. Res. J.L. Tech. & Internet* 81.
- Dirección General de Tráfico, Instrucción 15/V-113: Autorización de pruebas o ensayos de investigación realizados con vehículos de conducción automatizada en vías abiertas al tráfico en general, 2015.

- Dokic, Jadranka and others, European Technology Platform on Smart Systems Integration, European roadmap smart systems for automated driving (2015), available at: http://www.smart-systems-integration.org/public/documents/publications/EPoSS%20Roadmap_Smart%20Systems%20for%20Automated%20Driving_V2_April%202015.pdf
- Dubois, Patric, Einflüsse des autonomen Fahrzeugs auf die KfZ-Versicherung (I) [14/2015] *Zeitschrift für Versicherungswesen* 460.
- Dubois, Patric, Einflüsse des autonomen Fahrzeugs auf die KfZ-Versicherung (II) [15-16/2015] *Zeitschrift für Versicherungswesen* 512.
- Dubois, Patric, Einflüsse des autonomen Fahrzeugs auf die KfZ-Versicherung (III) [17/2015] *Zeitschrift für Versicherungswesen* 556.
- El País, Un coche autónomo recorre por primera vez las carreteras de España, 23/11/2015, available at: http://politica.elpais.com/politica/2015/11/23/actualidad/1448280076_264398.html
- European Parliament Briefing, Automated vehicles in the EU, (2016), available at: http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/573902/EPRS_BRI%282016%29573902_EN.pdf.
- Fanti, Sébastien and Mizel, Cédric, L'homologation de nouveaux systèmes techniques routiers et la problématique des voitures intelligentes [7/2015] *Circulation Routière* 10.
- Finnish Transport Safety Agency TRAFI, Automated vehicle trials in Finland, (2015), available at: http://www.trafi.fi/filebank/a/1432558916/9d340636ef186b9156af4384d09e3d0a/17598-Koenumerotodistuksen_hakeminen_eng.pdf.
- Fleck, Jörg and Thomas, Aline, Automatisierung im Straßenverkehr - Wohin fahren wir? [37/2015] *NJOZ* 1393.
- Franke, Ulrich, Rechtsprobleme beim automatisierten Fahren – ein Überblick [2/2016] *DAR* 61.
- Funkhouser, Kevin, Paving the Road Ahead: Autonomous Vehicles, Products Liability, and the Need for a New Approach [1/2013] *Utah L. Rev.*, 437.
- Gasser, Tom Michael, Die Veränderung der Fahraufgabe durch Fahrerassistenzsysteme und kontinuierlich wirkende Fahrzeugautomatisierung [1/2015] *DAR* 6.
- Glancy, Dorothy J., Autonomous cars in the legal ecosystem [16/2015] *Minn. J.L. Sci. & Tech.* 619.
- Gurney, Jeffrey K., Sue my car not me: products liability and accidents involving autonomous vehicles [13/2013] *U. Ill. JL Tech. & Pol'y*, 247.
- Hammel, Tobias, Besonderheiten der Kraftfahrtversicherung bei Personenkraftwagen mit Fahrerassistenzsystemen [05/2016] *VersR* 281.
- Hevelke, Alexander and Nida-Rümelin, Julian, Responsibility for crashes of autonomous vehicles: an ethical analysis [21/2015] *Sci Eng Ethics* 619.
- Hilgendorf, Eric and others, *Rechtliche Aspekte automatisierter Fahrzeuge; Beiträge zur 2. Würzburger Tagung zum Technikrecht im Oktober 2014*, Nomos 2015.
- Horner, Susanne and Kaulartz, Markus, Verschiebung des Sorgfaltsmaßstabs bei Herstellung und Nutzung autonomer Systeme [01/2016] *CR* 7.
- Jänich, Volker M. and others, Rechtsprobleme des autonomen Fahrens [28/2015] *NZV* 313.
- Jeanneret, Yvan, Quelles responsabilités pénales en cas de dysfonctionnements techniques [7/2015] *Circulation Routière* 27.

- Josseaume, Rémy, La voiture autonome: un défi au Code de la route [274/2015] *Gaz. Pal.* 7.
- Jourdan, Frank and Matschi, Helmut, Automatisiertes Fahren - Wie weit kann die Technik den Fahrer ersetzen? Entwickler oder Gesetzgeber, wer gibt die Richtung vor? [23/2015] *NZV* 26.
- Klindt, Thomas and Schucht, Carsten, Scheitert pilotiertes Fahren an den Grenzen des Rechts? – Eine rechtliche Analyse zum Reformbedarf und zur Reformfähigkeit des Straßenverkehrsrechts [4/2013] *PHI* 122.
- Kolhagen, Julia, Autopiloten auf Rädern - Hightech prägt Mobilität und Sicherheit auf der Straße [11/2013] *VW* 70.
- Krämer, Hannes, Haftungsrechtliche Fragen des automatisierten Fahrens [4/2015] *Verkehrsjurist* 1.
- Kütük-Markendorf, Merih Erdem and Essers, David, Zivilrechtliche Haftung des Herstellers beim autonomen Fahren - Haftungsfragen bei einem durch ein autonomes System verursachten Verkehrsunfall [1/2016] *MMR* 22.
- Kupferschmied, Basil D. Autonome Fahrzeuge: Die Haftung im Strassenverkehr der Zukunft [4/2015] *HAVE* 356.
- Leroux, Christophe and others, Suggestion for a green paper on legal issues in robotics: Contribution to Deliverable D3.2.1 on ELS issues in robotics, euRobotics: The European Robotics Coordination Action (2012), available at: https://eu-robotics.net/cms/upload/PDF/euRobotics_Deliverable_D.3.2.1_Annex_Suggestion_GreenPaper_ELS_IssuesInRobotics.pdf.
- Lohmann, Melinda Florina, *Automatisierte Fahrzeuge im Lichte des Schweizer Zulassungs- und Haftungsrechts*, Dissertation Universität St. Gallen, Nomos 2016.
- Lohmann, Melinda Florina/Rusch, Arnold, Fahrassistenzsysteme und selbstfahrende Fahrzeuge im Lichte von Haftpflicht und Versicherung [4/2015] *HAVE* 349.
- Loiseau, Grégoire and Bourgeois, Matthieu, Du robot en droit à un droit des robots [48/2014] *La Semaine Juridique* 1231.
- Lutz, Lennart S., Autonome Fahrzeuge als rechtliche Herausforderung [3/2015] *NJW* 119.
- Lutz, Lennart S., and others, Die rechtliche Situation von teleoperierten und autonomen Fahrzeugen [25/2013] *NZV* 57.
- Lutz, Lennart S., Automatisierte Fahrzeuge: Änderungsbestrebungen im Zulassungs- und Verhaltensrecht [1/2016] *PHI* 2.
- Marchant, Gary E. and Lindor, Rachel A., The coming collision between autonomous vehicles and the liability system [52/2012] *Santa Clara L. Rev.* 1321.
- Maurer, Markus and others, *Autonomes Fahren: technische, rechtliche und gesellschaftliche Aspekte*, SpringerOpen 2015, available at <http://link.springer.com/book/10.1007%2F978-3-662-45854-9>.
- Mendoza-Caminade, Alexandra, Le droit confronté à l'intelligence artificielle des robots : vers l'émergence de nouveaux concepts juridiques? [8/2016] *Recueil Dalloz* 445.
- Métille, Sylvain and Guyot, Nicolas, Le moment est venu de reconnaître un statut juridique aux robots [3/2015] *Plaidoyer* 26.
- Ministère de l'Économie et des Finances, Nouvelle France industrielle: présentation des feuilles de route des 34 plans de la nouvelle France industrielle: véhicules autonomes, (2014), available at : <http://www.economie.gouv.fr/files/files/PDF/nouvelle-france-industrielle-sept-2014.pdf>.
- Minx, Eckard and Dietrich, Rainer, *Autonomes Fahren: Wo wir heute stehen und was noch zu tun ist*, Daimler und Benz Stiftung 2015.

- Müller, Christoph and Gretillat, Jonathan, Le recours de l'assurance RC du détenteur contre le constructeur en cas de dysfonctionnement d'un système d'aide à la conduite de véhicule [7/2015] *Circulation Routière* 37.
- Münch, Benedikt, *Legal questions with autonomous cars: lessons from UAVs and semi-autonomous systems*, AV Akademikerverlag 2014.
- Röttger, Janina, Schafft das autonome Fahren die KfZ-Versicherung ab? [20/2015] *ZfV* 668.
- Schellekens, Maurice, Self-driving cars and the chilling effect of liability law, [31/2015] *CLSR* 506.
- Schlanstein, Peter, Moderne Autos werden immer klüger [5/2015] *VD* 131.
- Schrader, Paul T., Haftungsrechtlicher Begriff des Fahrzeugführers bei zunehmender Automatisierung von Kraftfahrzeugen [49/2015] *NJW* 3537.
- Schubert, Mathias N., Autonome Fahrzeuge – Vorüberlegungen zu einer Reform des Haftungsrechts, [2/2015] *PHI* 46.
- Schulz, Thomas, *Verantwortlichkeit bei autonom agierenden Systemen: Fortentwicklung des Rechts und Gestaltung der Technik*, Nomos 2015.
- Spindler, Gerald, Roboter, Automation, künstliche Intelligenz, selbst-steuernde Kfz – Braucht das Recht neue Haftungskategorien? Eine kritische Analyse möglicher Haftungsgrundlagen für autonome Steuerungen [12/2015] *CR* 766.
- Swedish Transport Agency, Autonomous driving: pilot study, [2014] available at: https://www.unece.org/fileadmin/DAM/trans/doc/2014/wp1/Autonomous_driving_pilot_eng.pdf.
- Taylor, Mark and Maynard, Paul, Self-driving cars [21/2015] *CTP* 133.
- The Irish Times, Ireland's not ready for driverless cars yet, 24/10/2015, available at: <http://www.irishtimes.com/life-and-style/motors/ireland-s-not-ready-for-driverless-cars-yet-1.2403285>.
- Thierer, Adam and Hagemann, Ryan, Removing Roadblocks to Intelligent Vehicles and Driverless Cars [5/2015] *Wake Forest J.L. & Pol'y* 339.
- Timmer, Jelte and others, *Tem de robotauto: de zelfsturende auto voor publieke doelen*, Rathenau Instituut 2014.
- Verband bayerischer Wirtschaft, Zukunft automatisiertes Fahren: Rechtliche Hürden beseitigen, (2015), available at: <http://vbw-agenda.de/downloads/pdf-neu/02/1/automatisiertes-fahren-dez-2015.pdf>.
- Yeomans, Gillian, Autonomous vehicles: handing over control: opportunities and risks for insurance, Lloyd's (2014), available at: <https://www.lloyds.com/~media/lloyds/reports/emerging%20risk%20reports/autonomous%20vehicles%20final.pdf>.

2. On cross-border legal aspects of international traffic accidents

On issues of Private International Law regarding traffic accidents (in general)

- Essén, Eric W., Hague Conference on Private International Law: Convention on the Law Applicable to Traffic Accidents: Explanatory Report, [1970] available at: www.hcch.net/upload/expl19e.pdf.
- European Commission, Rome II Study on compensation of cross-border victims in the EU. Compensation of victims of cross-border road traffic accidents in the EU: comparison of national practices, analysis of problems and evaluation of options for improving the position of cross-border victims. Final report prepared for the European Commission DG Internal Market and Services. Final version of the final report – Part II – Analysis, [2008] available at: http://ec.europa.eu/civiljustice/news/docs/study_compensation_road_victims_en.pdf.
- European Commission, Consultation paper on the compensation of victims of cross-border road traffic accidents in the European Union, [2009] available at: http://ec.europa.eu/internal_market/consultations/docs/2009/cross-border-accidents/rome2study_en.pdf.
- Fucik, Robert, Checkliste zum Haager Straßenverkehrsübereinkommen [2/2011] ÖZVR 47.
- Kadner Graziano, Thomas, Traffic accidents, in Jürgen Basedow and others (eds), *Encyclopedia of Private International Law*, Edgar Elgar Publishing 2016, vol.2 (forthcoming).
- Kadner Graziano, Thomas, Internationale Straßenverkehrsunfälle im Lichte von Brüssel I, Rom II und des Haager Straßenverkehrsübereinkommens [2/2011] ZVR 40.
- Kadner Graziano, Thomas, Das auf außervertragliche Schuldverhältnisse anwendbare Recht nach Inkrafttreten der Rom II-Verordnung [73/2009] *RabelsZ* 1.
- Kadner Graziano, Thomas, Le nouveau droit international privé communautaire en matière de responsabilité extracontractuelle [97/2008] *Rev. crit. DIP* 445.
- Kadner Graziano, Thomas, The Rome II Regulation and the Hague Conventions on Tort Law - Interaction, Conflicts and Future Perspectives [26/2008] *NIPR* 425.
- Kadner Graziano, Thomas and Oertel, Christoph, Ein europäisches Haftungsrecht für Schäden im Strassenverkehr? – Eckpunkte de lege lata und Überlegungen de lege ferenda [107/2008] *ZVglRWiss* 113.
- Kadner Graziano, Thomas, General Principles of Private International Law of Tort in Europe, in Jürgen Basedow and others, *Japanese and European Private International Law in Comparative Perspective*, Tübingen 2008, 243 ff.
- Kadner Graziano, Thomas, Die kumulative Anknüpfung der Verjährung „in favorem actionis“ – Ein Vorschlag zum Opferschutz in grenzüberschreitenden Fällen, [2007] *RIW* 336.
- Kadner Graziano, Thomas, 15 Leading Cases on Damage and their Solution under the Principles of European Tort Law, in Bénédicte Winiger/Helmut Koziol/Bernhard Koch/Reinhard Zimmermann (eds.), *Digest of European Tort Law, Volume 1: Essential Cases on Natural Causation*, Springer 2007, nos. 1/28-11/28.
- Kadner Graziano, Thomas, Länderberichte zum Haftungs- und Versicherungsrecht Frankreichs, Belgiens, Luxemburgs, der Niederlande, Italiens, Spaniens, Portugals und Griechenlands (together with Bettina Tugendreich), in Jürgen Basedow and others (eds.), *Paneuropäische Tarifstruktur in der Kfz-Haftpflichtversicherung. All-European Tariff Structure in Motor Liability Insurance*, Nomos 2005.

- Lemke-Geis, Beate and Müller, Martin, Internationale Unfallregulierung in der Europäischen Union [7/2009] SVR 241.
- Lorenz, Werner, Das außervertragliche Haftungsrecht der Haager Konventionen [57/1993] *RabelsZ* 175.
- Nagy, Csongor István, The Rome II Regulation and Traffic Accidents: Uniform Conflict Rules With Some Room For Forum Shopping - How So? [6/2010] *J Priv Int L* 93.
- Papettas, Jenny, Direct Actions against Insurers of Intra-Community Cross-Border Traffic Accidents: Rome II and the Motor Insurance Directives [8/2012] *J Priv Int L* 297.
- Papettas, Jenny, Choice of Law for Cross Border Road Traffic Accidents, European Parliament 2012, P.E. 462.492
- Reisinger, Nora, *Internationale Verkehrsunfälle: Gerichtszuständigkeit und anwendbares Recht*, LexisNexis 2011.
- Thiede, Thomas, Strassenverkehrsfall mit Auslandsberührung: Internationale Zuständigkeit und anwendbares Recht [751/2013] ZAK 407.
- Thiede, Thomas and Kellner, Markus, Forum shopping zwischen dem Haager Übereinkommen über das auf Verkehrsunfälle anzuwendende Recht und der Rom II-Verordnung [34/2007] *VersR* 1624.
- Thiede, Thomas and Ludwichowska, Katarzyna, Der Geschädigte eines Verkehrsunfalls kann vor dem Gericht des Orts seines Wohnsitzes eine Direktklage gegen Versicherer aus einem Mitgliedstaat der EU erheben (Anmerkung) [14/2008] *VersR* 631.
- von Hein, Jan, Article 4 and traffic accidents, in William Binchy and John Ahern (eds), *The Rome II Regulation on the law applicable to non-contractual obligations: a new tort litigation regime*, Martinus Nijhoff 2009, 153.

On issues of Private International Law regarding products liability (in general)

- Hartley, Trevor, Choice of law for non-contractual liability: selected problems under the Rome II Regulation [57/2008] *ICLQ* 899.
- Illmer, Martin The new European private international law of product liability: steering through troubled waters [73/2009] *RabelsZ* 269.
- Kadner Graziano, Thomas, Products liability, in Jürgen Basedow and others (eds), *Encyclopedia of Private International Law*, Edgar Elgar Publishing 2016, vol.2 (forthcoming).
- Kadner Graziano, Thomas and Erhardt, Matthias, Cross-border damage caused by genetically modified organisms: jurisdiction and applicable law, in Bernhard Koch (ed), *Damage Caused by Genetically Modified Organisms*, De Gruyter 2010, 784.
- Kadner Graziano, Thomas, Freedom to choose the applicable law in tort – Articles 14 and 4(3) of the Rome II Regulation, in William Binchy/John Ahern, *The Rome II Regulation on the Law Applicable to Non-Contractual Obligations: A New Tort Litigation Regime*, Martinus Nijhoff 2009, 113.
- Kadner Graziano, Thomas, Le nouveau droit international privé communautaire en matière de responsabilité extracontractuelle [97/2008] *Rev. crit. DIP* 445.
- Kadner Graziano, Thomas, The law applicable to product liability: the present state of the law in Europe and current proposals for reform [54/2005] *ICLQ* 475.
- Kadner Graziano, Thomas, *La responsabilité délictuelle en droit international privé européen*, Helbing & Lichtenhahn 2004, 61 ff.

- Kadner Graziano, Thomas, Das auf die Produkthaftung anwendbare Recht – europäischer Rechtszustand und aktuelle Vorschläge von Europäischer Kommission und Europaparlament, [2004] *VersR* 1205.
- Kadner Graziano, Thomas, *Europäisches Internationales Deliktsrecht*, Mohr Siebeck 2003, 63 ff.
- Kadner Graziano, Thomas, *Gemeineuropäisches Internationales Privatrecht – Harmonisierung des IPR durch Wissenschaft und Lehre (am Beispiel der ausservertraglichen Haftung für Schäden)*, Mohr Siebeck 2002, 258.
- Kozyris, P. John, Values and methods in choice of law for products liability: a comparative comment on statutory solutions [38/1990] *Am.J.Comp.L.* 475.
- Reese, Willis L.M., The Hague Convention on the Law Applicable to Products Liability [8/1974] *Int'l Law* 606.
- Reese, Willis L.M., Further Comments on The Hague Convention on the Law Applicable to Products Liability [8/1978] *Ga.J.Int'l. & Comp.L.* 311.
- Symeonides, Symeon, Choice of law for products liability: the 1990s and beyond [78/2004] *Tul.L.Rev.* 1247.
- Symeonides, Symeon, Party choice in product-liability conflicts [12/2004] *Willamette J. Int'l L. & Disp. Resol.* 263.
- Weintraub, Russel *Commentary on the conflict of laws*, Foundation Press/ThomsonReuters 2010, §§ 6.31.

Cross-border traffic accidents: issues of *substantive law* regarding the Vienna Convention on Road Traffic of 8th November 1968

- Audit, Bernard, Accident de la route survenu à l'étranger : articulation de la Convention de la Haye et de la loi française sur les accidents de la circulation [1990] *Recueil Dalloz* 265.
- Bourel, Pierre, De la loi applicable à un accident de la circulation survenu en Espagne entre un véhicule immatriculé en France et un autre immatriculé en Espagne [80/1991] *Rev. Crit. DIP* 354.
- Dupont-Legrand, Bénédicte and others (eds), *Le droit du transport dans tous ses états: réalités, enjeux et perspectives européennes*, Larcier 2012.
- Iolande, Vingiano, Accident de la circulation: abandon du recours à la notion d'une causalité spécifique pour définir l'implication? [62/2015] *Petites Affiches* 11.
- Légier, Gérard, La Convention de la Haye sur la loi applicable aux accidents de la circulation et la loi du 5 juillet [2/1993] *Recueil Dalloz* 13.
- Lutz, Lennart S., Automatisiertes Fahren: Änderung des Wiener Übereinkommens tritt im März 2016 in Kraft [1/2016] *DAR* 55.
- von Bodungen, Benjamin and Hoffmann, Martin, Das Wiener Übereinkommen über den Straßenverkehr und die Fahrzeugautomatisierung (I) [2/2016] *SVR* 41.
- von Bodungen, Benjamin and Hoffmann, Martin, Das Wiener Übereinkommen über den Straßenverkehr und die Fahrzeugautomatisierung (II) [3/2016] *SVR* 93.

On issues of Private International Law regarding new technologies for connected and autonomous vehicles

No articles or other publications dealing with Private International Law issues could be found in relation to the specific topic of the study.

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT CITIZENS' RIGHTS AND CONSTITUTIONAL AFFAIRS **C**

Role

Policy departments are research units that provide specialised advice to committees, inter-parliamentary delegations and other parliamentary bodies.

Policy Areas

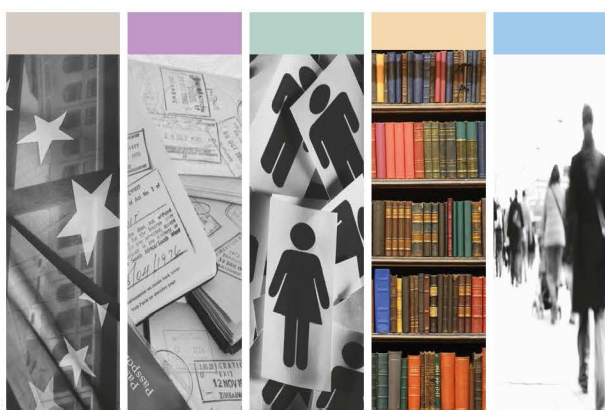
- Constitutional Affairs
- Justice, Freedom and Security
- Gender Equality
- Legal and Parliamentary Affairs
- Petitions

Documents

Visit the European Parliament website:

<http://www.europarl.europa.eu/supporting-analyses>

PHOTO CREDIT: iStockInternational Inc.



ISBN 978-92-823-9510-3 (paper)

ISBN 978-92-823-9509-7 (pdf)

doi:10.2861/69481 (paper)

doi:10.2861/305586 (pdf)