Communications and Competition Law

Key Issues in the Telecoms, Media and Technology Sectors

Edited by

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International Bar Association

The Global Voice of the Legal Profession

The International Bar Association (IBA), established in 1947, is the world's leading organisation of international legal practitioners, bar associations and law societies. The IBA influences the development of international law reform and shapes the future of the legal profession throughout the world.

It has a membership of over 55,000 individual lawyers and 206 bar associations and law societies spanning all continents. It has considerable expertise in providing assistance to the global legal community as well as being a source of distinguished legal commentators for international news outlets.

Grouped into two divisions – the Legal Practice Division and the Public and Professional Interest Division – the IBA covers all practice areas and professional interests, providing members with access to leading experts and up-to-date information.

Through the various committees of the divisions, the IBA enables an interchange of information and views among its members as to laws, practices and professional responsibilities relating to the practice of business law around the globe.

The IBA Communications Law Committee is a leading global forum for legal practitioners with specialist expertise or interest in the communications sector. The Committee offers members access to a worldwide network of leading practitioners, in-house counsel and regulators active in telecommunications, content and media markets. The Committee encourages the sharing of sectoral expertise through an

annual newsletter, periodic technical journal and the annual Committee Conference, hosted jointly with the IBA Antitrust Committee.

The scope of the Committee's work covers network, service and content-related developments across all delivery platforms. This provides members with access to practical global perspectives on the array of technological, commercial and policy issues which confront communications lawyers, their companies and clients.

The Antitrust Committee provides an international forum for the exchange of the most current thinking in the field of antitrust law. In addition, there is a strong commitment to bring together international practitioners to facilitate closer working relationships. The committee is increasingly relied upon by government officials and members of the private sector for its expertise and practical input into antitrust developments.

The Antitrust Committee forms working groups to study major international competition policy issues and to submit comments to regulators on proposed new and reformed legislation. The Committee meets at the IBA Annual Conference and also has a specialist antitrust conference each year, together with regular seminars and events organized by the Committee's local country chairs.

About the Brazilian Institute of Studies on Competition, Consumer Affairs and International Trade – IBRAC

IBRAC
Since 1992
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Consumer Affairs and International Trade

The Brazilian Institute of Studies on Competition, Consumer Affairs and International Trade – **IBRAC** is a nonprofit private entity established in 1992 to foster the development of research, studies and debates involving competition, consumer law issues and international trade.

In order to achieve that end, IBRAC has played an active role in the promotion of events, notably the much-heralded International Seminar on Competition Defense, which is held every year with the attendance of illustrious panelists from Brazil, the United States of America, the European Community and Latin America.

In addition, IBRAC also maintains technical cooperation agreements with the Brazilian antitrust authorities (*Conselho Administrativo de Defesa Econômica* – CADE) and a number of other non-governmental institutions, all of which has translated into constant meetings and workshops to discuss specific topics of relevant subjects.

Also in keeping with its objective of creating a forum on competition defense issues in Brazil, IBRAC maintains a permanent university extension course in São Paulo, whose classes are given by leading professionals and authorities in the Brazilian competition segment.

In the international area, IBRAC has participated as a Non Governmental Advisor at ICN Conferences since the first one in Naples. IBRAC also co-chairs events with IBA, as the pre-ICN event in 2012 and the 24th Annual Communications and Competition Law Conference, in 2013, both in Rio de Janeiro. IBRAC has also organized a biannual event with ABA Section of Antitrust Law (Antitrust in the Americas), and the next edition will take place in Rio de Janeiro, on June 2015.

Consumer law and International trade are also important issues for IBRAC, areas in which IBRAC has been a quite active player in academic and practical discussions.

Since it was founded in 1992, IBRAC has successfully managed to stand as a landmark in the antitrust and competition scenarios. For further information on IBRAC, please visit our Web site at www.ibrac.org.br, or write to our e-mail address ibrac@ibrac.org.br.

Very truly yours,
Cristianne Zarzur, IBRAC President (2014–2015)
Tito Andrade, IBRAC President (2012–2013)
São Paulo September 2014

List of Editors

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He has been a member of the international regulatory counsel in a number of telecommunications reform projects funded by World Bank and EU Commission (including Albania, Azerbaijan, Bulgaria, Kazakhstan and Poland), advised the Italian Treasury in the privatization of Telecom Italia S.p.A. in 1997, and cooperated in the drafting of the Italian part of the European Commission Green Book on multimedia applications in Europe.

He regularly advises national and international carriers in relation to the regulatory aspects of the introduction of convergent telecommunications services and all issues regarding the offering of telecommunication and information technology services. Having been admitted to the Italian High Courts, Fabrizio has also been Legal Assistant to the Italian House of Parliament (1988–1991) and Contract Lecturer in Telecommunications Law (2000–2002) at La Sapienza University, Rome.

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His expertise includes large scale and complex IT, telecoms (fixed, wireless and superfast broadband) infrastructure, BPO and business transformation projects; system integration arrangements; ICT managed service contracts; software licensing and distribution; X-aaS contracts; e-commerce (including omni-channel platform arrangements); data protection; information security; all aspects of IP including protection,

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Rehman is a former technology consultant and is also qualified as a professional electronic and communications engineer. He is a member of the British Computer Society, Society for Computers and Law, Institute of Engineering and Technology, the advisory board of "Communication Law Journal" (published by Bloomsbury Professional – international circulation); International Bar Association's IT, Communications (serving officer) and IP & Media committees.

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Rijn, The Netherlands, 2012); (4) Brazilian Cartel Enforcement: From Revolution to the Challenges of Consolidation (*Antitrust* magazine, Section of Antitrust Law, ABA, Summer 2011, Vol. 25, No. 3); (5) Country Profile: Brazil. In: chapter "Cable Sector: Competition and Regulation in an International Comparative Perspective". RAB, Suzanne; SPRAGUE, Alison. *Media Ownership and Control: Law, Economics and Policy in an Indian and International Context* (Oxford: Hart Publishing, 2014).

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Foreword by Michael J. Reynolds

It gives me enormous pleasure as current President of the IBA to introduce this extremely valuable and informative book based on topics and papers presented following our Communications and Anti trust Conferences in Rio de Janeiro (2013) and Prague (2014).

This annual conference has just celebrated its 25th year. Every year it brings together top experts in communications regulatory and anti trust law and is put on jointly by the communications and Anti trust committees in the IBA. In the audience there are always in-house counsels from some of the top companies in the communications sector.

It is an excellent idea to have collected papers on the two most recent conferences in this book. Taken together the papers give an in-depth and up to date insight into some of the main regulatory and anti trust issues that affect this sector and deal with the major recent cases on both sides of the Atlantic. Taking the annual conference to Brazil was a recognition of this very important market and the papers record the important regulatory and anti trust developments in the communications sector in this BRICS jurisdiction.

I congratulate the officers of the Communications Committee and Anti trust committee on the continuing success of this conference, the first of which I co-chaired in Brussels in 1990. I have no doubt that the annual conference will go from strength to strength in the years to come and this important publication forms part of that achievement.

Michael J. Reynolds
IBA President
Brussels May 2014

Foreword by Daniel A. Crane

It is a generally held belief that sectoral regulation and competition law are the two alternative modes for addressing problems of access, discrimination, and market power in communications and related technology industries. In fact, experience shows that this is far too simplistic a conception of the problem. The legal and regulatory toolkit contains many more tools than command-and-control prescriptions on prices and terms of service, on the one hand, or general antitrust prohibitions on the other. Available tools include adjustments in patent, copyright, or trademark policy to favor open competition or investment, reinforcement of private contractual solutions such as FRAND commitments, and direct governmental investments to subsidize the growth of particular firms or sectors. Sophisticated jurisdictions utilize a combination of these tools to advance innovation and consumer choice in the communications field, also keeping in mind that sometimes the best regulatory intervention is no regulatory intervention at all.

Given the amount of theoretical academic ink that has been spilled on these topics, it is refreshing to see a volume of this kind that channels the experience and real-world knowledge of distinguished practitioners from around the globe. In this fine comparative book, we have the opportunity to examine regulatory vignettes from Asia, Brazil, Europe, and the United States. We see problems of competition in the telecommunications and technology spaces addressed across a range of interfaces, from merger policy, to Internet architecture, to IP interventions, to more traditional regulation. The information is up to date and filtered through the best minds working on the relevant problems.

As with any volume that captures episodic, circumstance-specific vignettes, the sum of this book's wisdom should be appreciated in the context of the wider theoretical frameworks proposed by the economics and political science literature. We see hints in these pages of market failures and rehabilitations, interest group capture and public choice theory, and of the perennial conflicts between static and dynamic efficiency. It

is to be hoped that this volume will make a lasting contribution to understanding good and bad legal and regulatory policy in the communications sector.

Daniel A. Crane
Associate Dean for Faculty and Research &
Frederick Paul Furth Sr. Professor of Law,
University of Michigan.
Counsel; Paul, Weiss, Rifkind,
Wharton & Garrison LLP

Foreword by Gesner Oliveira

The idea of publishing this book came up during the 24th Annual Communications and Competition Law Conference, hosted jointly by the IBA and the IBRAC in Rio de Janeiro.

Among several topics highly relevant to the ones active in the fields of Communications and Competition Law, we are particularly pleased to have delivered contributions in respect to two of them: (1) *Convergence, Takeovers and Mergers in the Communications and Technology Industry* in Part I of this book, where we hope you appreciate the joint contribution prepared by an economist and an engineer on the *Changes in the Global Telecommunication Market and Its Implications in Brazil* and (2) *Regulatory Policy Round Table* in the final Part VI of the book, subject approached by us in the 24th Annual Communications and Competition Law Conference.

In respect to the regulatory policy matter, co-editors of this book had the great idea of gathering contributions from the most important Brazilian authorities responsible for formulating and implementing regulatory and antitrust policies for the communications sector. The diversity of regulators somehow involved in this policy-making creates the threat of inefficient overlapping competencies while at the same time makes possible that valuable synergies are achieved.

The final Chapter 31 of the book – *Regulatory Policy Round Table: A Dialogue between Telecommunications and Antitrust Authorities* – mediates such debate between the main regulators: two high profile government bodies subordinated to Brazil's President, the Secretariat of Telecommunications of the Ministry of Communications (STE/MiniCom) and the Secretariat for Economic Monitoring of the Ministry of Finance (SEAE/MF); and two independent agencies, the National Agency of Telecommunications (ANATEL) and the CADE's General Superintendence (SG/CADE).

The chapter also reminds of an issue particularly relevant to economists, the importance of a solid economics *bureau* within the structure of the antitrust bodies and its ability to conduct complex analyses on any sector of the economy. In the Brazilian case, this body is the Department of Economic Studies (DEE) of the Administrative Council for Economic Defense (CADE).

Having experience in the private and public sectors and in business and academia, we are sure that this book will be a valuable and lasting contribution to practitioners, policymakers and researchers.

Gesner Oliveira
Managing Partner at GO Associados
Professor of Economics,
Getulio Vargas Foundation Business Administration
School of São Paulo (FGV/EAESP)

Preface

"*Why is it that Communications is subject to special competition rules?*" This almost naïve question, now that almost twenty years have passed from the dawn of liberalization in communications, has often been posed to regulatory lawyers during their practice, being the postulants operators, colleagues or officers indeed of Competition or Regulatory Agencies. Sometimes the question would be asked almost with a philosophical nuance, probably with some hidden interest in touching deeper cords: "*how much does Communications stand out alone as a practice, within the general mare magnum of competition law?*"

The answer, if existent, naturally is not clear-cut, and would entail a series of related topics, issues and clarifications. This book provides an attempt to shed some light on the current international debate, and provides an excellent insight into worldwide experiences in the field, from different angles and on the different aspects related to the crucial mix between sector specific regulation and "special" competition rulings applied to communications.

In this respect, it follows the healthy debates triggered by two gatherings of regulatory lawyers of Communications and Competition IBA Committees, held in Rio de Janeiro in 2013 and Prague 2014, and we are very grateful to all contributors for their commitments and contributions.

Fact is that as in all general big-bangs, liberalization and the following digital revolution have moved elements even further apart, and the legal universe of communications is now drifting away and expanding. Nowadays no-one believes anymore that someday, at the end of its strange parabola, "special" competition regulation will dissolve and converge into the general framework, as originally believed. But this is now evidently a non-issue: the particular experience and application of competitive rules provides a lengthy experience to practitioners, enriches the field, and provides for further speculations. Convergence entails the bundling of networks and services, and sector specific regulation is progressively concentrating on other side-related topics, where the competitive battleground now appears very complex, and once formed simply an ancillary side-related content in communications. Matters such as intellectual property of content, or consumer protection, privacy and data security once fell in side categories. Yet connectivity and network offering (the theoretical ground on which

the application of the essential facility doctrine still resides) represents more and more a commodity, and competitive analysis in the area has moved further on to different items, such as necessity to identify FRAND conditions on compulsory licensing of standards, or the strategic role of open sources or the antitrust clearings in case of mergers between operators acting on potential sensitive data aggregation and profiling.

Defined relevant markets appear more and more as silent icebergs drifting away detached from technological evolution and speed of change. It is foreseeable that the communications sector will focus in the near future more and more on the protection and regulation of content, both copyrighted and user-generated, with giants like Google already looking forward to concentrate on all the business-line, from network to content, as in the Google Fiber project. Also, mobile e-commerce, Internet advertising, search engine optimization and geolocalization services appear destined to converge and interact, modifying again the competitive implications and presumably the definition of markets. In this sense the potential growth of mobile online advertising should not be underestimated, as the geolocalization capabilities of modern handsets will expand the possibility for consumer profiling and related tailored promotional contents.

In fact, recent concerns about the protection of personal privacy and the activities of national law enforcement and security services have arisen in the commercial sphere in connection with both transmission services and the emergence of cloud computing and other technologies that offer substantial benefits to users. In their most efficient manifestations, these services and technologies are trans-border in nature, and present familiar private international commercial law problems.

In this respect, this book focuses also on the specific Brazilian experience. In Brazil the NSA scandal has triggered, as known, an initiative at the General Assembly, followed then by the issuing of the Net Mundial statement, the first Internet Charter ever drawn. Yet even before Snowden, heightened public awareness of the rights of access to electronically transmitted and stored communications by law enforcement and security services had added an additional dimension affecting both commercial decisions and regulatory relationships. This additional dimension has been manifest in the deliberations over DG Justice's proposed European General Data Protection Regulation to replace the 1995 Data Directive, currently debated in Europe. The proposal's ambitious scope, certain specific provisions such as the right to be forgotten, the anxiety in some quarters (especially in the United States) that it unnecessarily threatens economic efficiency and, as a practical matter, its extraterritorial effect, assured that controversy would attend it.

From the very beginning of consideration of the proposal, the traditional transatlantic complications over privacy protection presented some difficulties. At a foundational level, the rather different perspectives on privacy arise – is it a basic human right, integral to human dignity, or not? Likewise, different approaches to privacy protection – comprehensive in Europe, sector by sector in the United States – lead to a European view deeply skeptical of the possibility of mutual recognition arrangements.

The fact that regulatory and competition review and reform may make treasure also from the outcome of international conferences, debates and fora organized and held by practitioners acting worldwide, ensures that the international community may

truly exploit the vast array of experiences which delve on a continuous basis from practical grounds.

We indeed hope this book will provide you a helpful framework for your everyday practice and comparative analysis.

Fabrizio Cugia di Sant'Orsola,
Rehman Noormohamed &
Denis Alves Guimarães
Rome, London and São Paulo
September 12, 2014

CHAPTER 8

The Internet of Things in the Light of Digitalization and Increased Media Convergence

Anna Blume Huttenlauch & Thoralf Knuth[*]

1. INTRODUCTION

At the beginning of this year, Google made quite some noise when it announced it was paying USD 3.2 billion to acquire the home appliance company Nest. The transaction was cleared by the US antitrust authorities on 4 February 2014 but concerns were raised as to how Google will make use of the 'smart appliances manufacturer' and the data on personal user behaviour that comes with it, namely whether this data will enable Google to reinforce and strengthen its market position in advertising and other neighbouring markets. The acquisition also demonstrated that the 'internet of things' is not merely a mirage in the mist of technological fantasy but that considerable investments are being made in order to make it happen – not only by Google, but even by entire cities. The city of Songdo IBD in South Korea will be built as a wired city with all inhabitants connected to a city-wide grid by 2015, a project which has so far already cost more than USD 10 billion.[1] The city will feature an almost fully integrated connection between devices, roads and buildings via sensors and microchips.[2]

Besides the strong interest in creating a fully connected world Google's acquisition exemplifies quite drastically – but certainly not uniquely – that media companies

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1. J. Greenwood, *The internet of things*, http://www.songdo.com/songdo-international-business-district/news/in-thenews.aspx/d = 209/title = The_Internet_of_Things (accessed 14 May 2014).
2. *Master Plan*, http://www.songdo.com/songdo-international-business-district/the-city/master-plan.aspx (accessed 14 May 2014).

are increasingly expanding their business activities beyond their traditional field of business. In some cases, this means that companies only slightly shift their focus beyond their traditional media and expand their business to other types of media. For example, the traditional German newspaper publishing house Axel Springer has consistently shifted its focus from its traditional print business to digital media and has even embraced more remote business models that are not directly related to media in the classical sense; in 2013 it acquired Runtastic, which makes sports and fitness smartphone apps.[3]

In other cases it means that companies look for business opportunities beyond the media field altogether. Earlier this year, for example, the media empire Liberty Global, that owns Virgin Media and the cable television company Discovery Communications, reportedly showed an interest in taking a stake in Formula One.[4]

2. DIGITALIZATION AND CONVERGENCE AS INDUSTRY TRENDS

By expanding into other business areas or even new industry sectors these companies are reacting to the steady increase in competition confronting media companies globally. To a large extent, this increase in competition is being steered by technological innovation.

Newspapers have probably experienced this increased competition most drastically. In Germany, for example, a number of newspapers have gone bankrupt in recent years.[5] In the last twenty-two years, the overall number of newspapers in Germany has decreased by 21% and circulation has dropped by almost 30% since 1995.[6] The number of magazines has declined by more than 11% since 2005.[7] In the USA, we can observe an even more drastic development, which is tracked meticulously by the website http://newspaperdeathwatch.com. Recent investment into the declining print business by tycoons like Amazon founder and CEO Jeff Bezos, who acquired the Washington Post in 2013 despite its decreasing operating revenue and circulation, and Warren Buffet, who has recently invested in a number of small and mid-sized newspapers, can be seen as little more than a noble attempt to delay this trend. Similarly, advertising spending in newspapers has declined by approximately 60%

3. *Axel Springer acquires majority stake in Runtastic,* http://www.axelspringer.de/en/presse/Axel-Springer-AG-acquires-a-majority-stake-in-Runtastic_19467043.html (accessed on 6 Jun. 2014); *Axel Springer makes considerable progress in the digital transformation of the company,* http://www.axelspringer.de/en/presse/Axel-Springer-makes-considerable-progress-in-the-digital-transformation-of-the-company_19503336.html (accessed on 6 Jun. 2014).
4. *John Malone set to take on Rupert Murdoch for F1 stake*, http://www.telegraph.co.uk/finance/newsbysector/mediatechnologyandtelecoms/media/10615809/John-Malone-set-to-take-on-Rupert-Murdoch-for-F1-stake.html (accessed 25 May 2014); apparently this was later abandoned again.
5. Among the newspapers that have recently gone bankrupt are the Financial Times Deutschland, the Frankfurter Rundschau, the Nürnberger Abendzeitung, and the Münchner Abendzeitung.
6. *Die deutschen Zeitungen in Zahlen und Daten 2013* ['*German newspapers in figures and dates*'], statistics published by the German association of newspaper publishers.
7. Statistics published by the German association of newspaper publishers (BDVZ) and by the Information Community for the Assessment of the Circulation of Media (IVW).

since 2000 in Germany.[8] These advertising budgets have been largely shifted to other media such as online and TV.

The consequence of increasing competition is a growing convergence between the various forms of media, triggered and accelerated by technological innovation. Whereas the term 'convergence' has mostly been used to refer to the on-going transformation of the audiovisual media landscape (namely the progressive merger of traditional broadcast services and the Internet[9]) the phenomenon concerns the way in which all media services are consumed and delivered. In almost all areas the lines are blurring between the familiar twentieth-century media services such as print newspapers, linear TV broadcasting and radio, and the on-demand services delivered to computers that increasingly replace the traditional mediums.[10] Technological innovation constantly brings us new forms of media services which raise the competitive pressure on traditional services and leads to the creation of new forms of content and advertising formats, something which has been exemplified by the development of smartphones and other handheld devices. Moreover, with every smartphone enabling converged production as well as consumption, in the future there might be a shift from 'lean-back' consumption to active participation.[11]

Another way of reacting to the increasing competitive pressure – particularly of content providers who have so far offered their services for free – is the development of pay-models.

3. APPROACH OF ANTITRUST AUTHORITIES, NAMELY THE EUROPEAN COMMISSION AND THE GERMAN FEDERAL CARTEL OFFICE

The expansion into new fields of business activity and the acquisition of companies who can pave the way into these areas of course stands and falls with the willingness of antitrust authorities to clear such strategic moves. Therefore, the question arises if, and if so, how, antitrust authorities take into account the increasing digitalization of media and the growing convergence between the various forms of media in their analyses of the media markets and the competitive landscape.

Overall, it is fair to say that so far most antitrust agencies have tended to follow the traditional categorization which means that they have considered separate markets for newspapers, magazines, online, TV, out-of-home, radio, etc. The developments of

8. Calculations based on statistics published by the German advertising industry association.
9. See, for example, Green Paper European Commission on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values, COM(2013) 231 final (24 Apr. 2013).
10. New viewing possibilities include, extending from TV sets with added Internet connectivity, through set-top boxes delivering video content 'over-the-top' (OTT) to audiovisual media services provided via PCs, laptops or tablets and other mobile devices. Consumers use tablets or smartphones while simultaneously watching TV, for instance to find out more about what they are watching or to interact with friends or with the TV programme itself, see Green Paper European Commission on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values, COM(2013) 231 final (24 Apr. 2013), p. 3.
11. Green Paper European Commission on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values, COM(2013) 231 final (24 Apr. 2013), p. 3.

increased digitalization and convergence of these categories have not yet been reflected in an adapted definition of the relevant media markets.

3.1. Content versus Advertising Markets

Most competition authorities in Europe distinguish between the content markets and the advertising markets within the various media segments.[12] These two sides of the respective markets are closely interrelated, from an economic point of view, because of indirect network effects. A larger network on one side of the market brings about an intrinsically more valuable product and therefore raises the attractiveness for the other side of the market. While the specific dynamics of two-sided markets have been researched extensively from an economic perspective,[13] they have so far played a fairly limited role in the analysis of competition authorities.[14]

3.2. Online versus Offline

The European Commission and national authorities such as the German Federal Cartel Office (*FCO*), have been adamant that online and offline are distinct markets, both in terms of content and advertising.[15] With respect to 'offline media', there are further distinctions not only according to the general type of media (e.g., *newspapers v.*

12. In the case of online media, the content market has been free of charge in the past for many services and therefore only the advertising markets were considered in such cases, e.g., free online newspapers, search engines, etc. After the introduction of pay walls and other paying mechanisms this may change in the future.
13. J. Anderson & J.J Gabszewicz, *The media and advertising: a tale of two-sided markets*, in Ginsburg and Throsby (eds.), *Handbook of Cultural Economics* vol. 1, p. 567-614 (2006); T. Eisenmann, W. Parker & M. Van Alstyne, *Strategies for Two-Sided Markets*, 84 (10) Harvard Business Review, 92-101 (2006); L. Filistrucchi, D. Gerardin, E. van Damme & S. Affeldt, *Market Definition in Two-Sided Markets: Theory and Practice*, Tilburg Law School Legal Studies Research Paper Series No. 09/2013; D. Ratliff & L. Rubinfeld, *Online Advertising: Defining Relevant Markets*, 6(3) Journal of Competition Law and Economics 653, 686 (2010); M. Rysman, *The Economics of Two-Sided Markets*, 23(3) Journal of Economic Perspectives, 125-143 (2009).
14. A remarkable exception is the *Yellow Pages* decision of the Dutch Competition Authority of 28 Aug. 2008 by which it cleared the acquisition of Truvo Nederland by European Directories, see www.acm.nl/en/publications/ publication/3979/European-Directories---Truvo-Nederland (acc essed on 25 May 2014). The German Federal Cartel Office has acknowledged the interdepend ence of two-sided media markets as the 'circulation spiral' in numerous merger cases ('Auflag en-Anzeigen-Spirale'), see e.g., FCO decision of 29 Aug. 2008, *Intermedia /Health&Beauty* [2008] B6-52/08; FCO decision of 19 Jan. 2006, *Axel Springer /ProSiebenSat1* [2006] B6-103/05; see also OECD Roundtable on Two-Sided Markets, Note by the Delegation of Germany, http://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Diskussions_Hintergrundpapi ere/OECD_2009.06.02-Two-Sided-Markets.pdf?__blob=publicationFile&v=4 (accessed on 2 Jun. 2014). The European Commission recognized the existence of network effects in its Microsoft decision (Commission decision of 24 Mar. 2004, *Microsoft* [2008] COMP/C-3/37.792) and in the Mastercard decisions (Commission decision of 14 Dec. 2007, *Mastercard* [2007] COMP/34.579, 36.518 and 38.580).
15. See for example Commission decision of 11 Mar. 2008, *Google / Doubleclick* [2008] COMP/ M.4731 paras 44, 45; Commission decision of 18 Dec. 2010, *Microsoft / Yahoo! Search Business* [2010] COMP/M.5727 para. 62 and FCO Decisions of 25 Apr. 2014, *Funke Mediengruppe / Axel Springer* [2014] B6-98/13; FCO Decision of 21 Apr. 2009, *Neue Pressegesellschaft mbH & Co. KG*

magazines v. TV v. out of home), but even according to specific formats or specific target groups addressed by these media segments (e.g., *quality/subscription newspapers v. tabloid, TV magazines v. sports magazines and other types of magazines tailored to specific readers*).[16] With respect to online advertising, the European Commission has also discussed various ways of sub-segmentation, for example, into *search v. non-search*, display, classifieds, etc. but it has not yet reached a final decision on this.[17]

3.3. User Reality and Criticism

Today, the distinctions made by competition authorities in the past do not necessarily still reflect the way in which users choose the specific media they consume and they certainly no longer reflect the way in which advertising is placed in the various types of media. This becomes most obvious with respect to the distinction between offline and online content which the FCO, for example, has argued in the past on the basis that electronic media require (stationary) Internet access whereas print copies of a newspaper or magazine can be read anywhere.[18] With the drastic increase in the use of mobile devices it is questionable whether this line of argument still holds true and can persuasively justify a delineation of separate markets. Today, 22% of citizens of the European Union use mobile devices to use the Internet[19] and the prognosis is that by 2016 the largest portion of Internet access will take place via Wi-Fi and mobile devices.[20]

With respect to advertising, the market reality today is that most companies have outsourced their advertising and buy advertising space through one of the large media agency networks.[21] The parameters that determine the buying behaviour of these agencies are mostly: (i) how much 'reach' are the various platforms capable of

/ *Zeitungsverlag Schwäbisch Hall GmbH / Herr Claus Detjen* [2009] B6-150/08; FCO Decision of 19 Jan. 2006, *Axel Springer /ProSiebenSat1* [2006], B6-103/05.

16. See for example FCO Decision of 25 Apr. 2014, *Funke Mediengruppe / Axel Springer* [2014] B6-98/13; FCO Decision of 21 Apr. 2009, *Neue Pressegesellschaft mbH & Co. KG / Zeitungsverlag Schwäbisch Hall GmbH / Herr Claus Detjen* [2009], B6-150/08; FCO Decision of 29 Aug. 2008, *Intermedia /Health&Beauty* [2008], B6-52/08; FCO Decision of 19 Jan. 2006, *Axel Springer /ProSiebenSat1* [2006] B6-103/05.
17. See for example Commission decisions of 11 Mar. 2008, *Google / Doubleclick* [2008] COMP/M.4731; Commission decision of 18 Dec. 2010, *Microsoft / Yahoo! Search Business* [2010] COMP/M.5727.
18. See for example FCO Decision of 25 Apr. 2014, *Funke Mediengruppe / Axel Springer* [2014], B6-98/13; FCO Decision of 21 Apr. 2009, *Neue Pressegesellschaft mbH & Co. KG / Zeitungsverlag Schwäbisch Hall GmbH / Herr Claus Detjen* [2009], B6-150/08, paras 188, 189; OLG Düsseldorf decision of 22 Dec. 2010, VI-Kart 4/09 *Anzeigengemeinschaft* ['*advertising cooperation*'].
19. Figure relates to 2012, see Green Paper European Commission on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values, COM(2013) 231 final (24 Apr. 2013), p. 4. with reference to Eurostat 2012 Individuals – Mobile Internet access (isoc_ci_im_i).
20. Green Paper European Commission on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values, COM(2013) 231 final (24 Apr. 2013), p. 4 with reference to www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html (accessed on 5 Jun. 2014).
21. In Germany there are currently four large media agencies (Group M, Dentsu Aegis, Omnicom und Publicis-Vivaki), which together have a market share of approximately 90%. According to press reports the intended merger between Omnicom and Publicis will not be implemented.

generating; and (ii) which target group can be reached by placing the ad into a certain medium. The type of media, i.e., whether the ad is placed in a print or online medium is only of secondary importance.

3.4. How Do Competition Authorities Take the Increasing Competition into Account?

There are currently no indications that competition authorities will generally change their way of looking at media markets. In 2012, for example, the president of the FCO, Andreas Mundt, confirmed that the mere fact that advertising budgets are shifted from one type of media to another does not justify a definition of an overall advertising market that would encompass all forms of media.[22]

However, there are a few examples of FCO decisions where the FCO has at least discussed and acknowledged the increasing convergence between different media. Eventually, all of the following cases ended up with blocking decisions:

- In 2006, the FCO blocked the acquisition of ProSiebenSat 1, one of Germany's two large TV companies, by German publishing house Axel Springer, which publishes (amongst other newspapers and magazines) the BILD Zeitung, Germany's largest tabloid newspaper.[23] This decision was later also confirmed by the Federal Supreme Court (*Bundesgerichtshof*).[24] There were no overlaps between the business activities of the parties, but the FCO discussed at length what kind of 'cross-media effects' would be caused by the acquisition of a TV station by a print company. It suggested the acquisition would be detrimental to competition and in particular would enhance the existing duopoly in the TV market. In that discussion, the FCO noted that the BILD Zeitung – although not part of the same market as the TV companies – constituted the sole substitute for TV from the perspective of companies looking to place their ads in a medium that reaches the largest possible audience. The FCO argued that there was no other print-medium besides the BILD Zeitung with a daily reach of 12 million citizens over 14 years (in 2005) that could constitute an alternative for advertising aimed at a mass audience. Eliminating this fringe competition, the FCO feared, would take away the disciplinary effect on pricing decisions by the TV companies and thereby enhance the existing duopoly.
- In 2009, the FCO blocked a merger between two regional newspapers in neighbouring regions based on the argument that it would eliminate potential competition.[25] In its blocking decision – which was later overturned by the courts for unrelated reasons – the FCO discussed whether the distinction

22. Interview with Andreas Mundt, Horizont 25 Oct. 2012 (43/2012, p. 18).
23. FCO Decision of 19 Jan. 2006, *Axel Springer /ProSiebenSat1* [2006], B6-103/05.
24. Bundesgerichtshof decision of 8 Jun. 2010 – *KVR 4/09 – Springer/Pro Sieben II*, see http://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&nr=53625&pos=0&anz=1 (accessed on 5 Jun. 2014); see also OLG Düsseldorf, WuW/E DE-R 2593.
25. FCO Decision of 21 Apr. 2009, *Neue Pressegesellschaft mbH & Co. KG / Zeitungsverlag Schwäbisch Hall GmbH / Herr Claus Detjen* [2009], B6-150/08.

between online and offline advertising should be reconsidered in relation to the specific area of classified ads. The FCO acknowledged that the competitive pressure exerted by the Internet is particularly strong in relation to classified offline ads. However, the FCO eventually left the question open since it was not decisive in the given case and it has not revisited the issue since.

- In 2011, the FCO blocked a joint venture between the two large German TV companies RTL and ProSiebenSat1 who wanted to create an online video platform. Again, the FCO argued that this would further strengthen the duopoly on the market for TV advertising.[26] Even though the online video platform itself would not have been active in TV advertising, the FCO argued that its activity in the field of in-stream video advertising, i.e., advertising videos displayed before, during or after a video chosen by a user, would enhance the duopoly on the market for TV advertising because in-stream video ads are to be considered the 'closest substitute' to TV advertising and may, in the future, even be considered part of the same market.

All three examples demonstrate that the FCO could not ignore tendencies of convergence between different types of media. However, instead of taking them into account when defining the relevant market and considering the converging 'markets' as part of one overarching market, the FCO stayed with its traditional approach.

An agency that has – at least sporadically – acknowledged the convergence between print and online is the Canadian Competition Bureau. In 2010, the Canadian Competition Bureau cleared the *YellowPages / Canpages* merger between the largest printed business directories in the country without challenge indicating that it presumably considered online business directories as a competitive discipline on the print directory advertising rates.[27] However, in a later decision in 2014, the Canadian Competition Bureau, in line with its historical approach, has considered that print and online media form part of separate markets.[28] In its recent position statements, the Canadian Competition Bureau notes that the degree of substitutability between print and online is evolving and that future transactions should be considered on a case-by-case basis.[29]

3.5. Challenges Ahead

With increasingly converging media markets, it will become almost inevitable for antitrust authorities to rethink their approach of considering all of these markets

26. FCO Decision of 17 Mar. 2011, *ProSiebenSat1 Media AG / RTL interactive GmbH* [2011], B6-97/10.
27. *Yellow Pages / Canpages* (2010), see report on www.crai.com/uploadedFiles/Publications/Competition_Insights_0710.pdf. (accessed on 5 Jun. 2014).
28. *CanWest Global / Hollinger* (2000), see report on www.cbc.ca/news/business/competition-bureau-approves-canwest-hollinger-deal-1.212044 (accessed on 5 Jun. 2014); *Bell / Globe and Mail* (2001), see report on http://www.cbc.ca/news/business/bce-gets-green-light-bell-globemedia-born-1.278218 (accessed on 5 Jun. 2014).
29. *Transcontinental / Quebecor* (2014), see http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03741.html (accessed on 5 Jun. 2014).

separately. The question whether it will be sufficient to acknowledge the 'competitive pressure' from neighbouring media markets in order to come to a comprehensive competitive assessment of any given media market will become more pressing as these neighbouring markets grow closer together. Some traditional market definitions therefore will have to be reconsidered. This is not meant to suggest that broader markets will necessarily yield better results in merger control cases. It has been suggested that – from the supply point of view – the media world today is one of competition for the attention of consumers.[30] On that basis the broadest possible market definition from the consumer's point of view would be the market for information, which is obviously too wide a view to tackle competition concerns. It will, however, become necessary for competition authorities to pay increasing attention to the technological developments in the various media markets. More specifically, especially in two-sided media markets, competition authorities cannot disregard competition on one side of the market when analysing the other side. If one side of the market is facing competition from a new product (e.g., online newspaper content), competition authorities must take into account that this may increase competition on the other side of the market as well (e.g., online advertising). Likewise, due to the specific dynamics of two-sided markets, not all competition necessarily benefits consumers (and in some cases, competition may even be detrimental), since a larger network on one side of the market may give rise to an intrinsically more valuable product for the other market-side.[31] All of these issues will bring interesting challenges that competition authorities will have to face more and more.

4. BEYOND ANTITRUST: THE SPAMMING FRIDGE

Beyond antitrust issues the speed of the development of technologies and business ideas raises questions throughout many other areas of law. Since technology is IT-driven, most of the legal discussion is related to data protection, both with a view to protecting privacy and to protection against cyber security threats. Other areas of law, including liability and even basic contract law, will also have to be reviewed from a new perspective.

The 'internet of things' – which describes a rather broad concept, not a specific technology – will give rise to a number of challenging legal questions, many of which we are not even able to apprehend at this stage. Basically, the 'internet of things' describes the fact that nearly every object or thing will be connected to some network, allowing it to communicate with other things and without the need for human interaction. Well-known examples are the refrigerator that automatically orders milk if necessary, or the autonomous car that does not need an active driver, interacts with traffic lights to avoid congestion, or communicates with the manufacturer for maintenance purposes.

30. Green Paper European Commission on Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values, COM(2013) 231 final (24 Apr. 2013), p. 6.
31. D. Camesasca, M. Meulenbelt, T. Chellingsworth, I. Dames & J. Vandenbussche, *The Dutch Yellow Pages Merger Case – 2-1 Will Go!*, ECLR 4, 13 (2009).

The legal issues that arise from these technological developments are just as broad. In early 2014, Proofpoint Inc., a security-as-a-service provider, announced that it had identified a network of email spammers consisting not only of computers but 'at least one refrigerator'.[32] The user will often not even be aware that this household gadget is capable of sending an email, let alone prevent it. Probably the user will not be able to update the refrigerator software or make sure there are no security issues.

One of the envisaged benefits for the autonomous car – besides safety considerations and congestion prevention – is the possibility of collecting information about a driver so that their insurer can raise or lower the insurance premium based on an individual risk profile created through an automated assessment of the driver's style.[33] The wide impact of the internet of things is demonstrated by the number of ideas and proposals referring to it and the challenges it will bring about. For example, there have been discussions about a legal framework for robotics, the main driver of what is called 'industry 4.0', which is an aspect of the internet of things because manufacturing robots already are connected with, e.g., supply management systems for components. An electronic person or e-person, a kind of legal person, has been proposed. That would allow for the 'thing' to have financial assets and be liable for damages.[34] But even more simple questions will have to be answered, such as who is responsible for a speeding ticket?

5. LEGISLATION AND CONSULTATIONS

Legislation does not always keep up with the pace of technological development. Take the autonomous vehicle, for example, in the United States, three States in 2012 passed laws that define safety and performance standards for autonomous vehicles, thereby practically allowing autonomous cars to be driven (or better, to drive) in public traffic.[35] In Europe, on the other hand, most countries are bound by the Vienna Convention on Road Traffic which requires that every vehicle has a driver who at all times is able to control the vehicle.[36]

So what legal developments have taken place with respect to the internet of things, which now seems to be the focus of the business strategies of companies like Google?

32. *Proofpoint uncovers Internet of Things (IoT) Cyberattack*, http://www.marketwatch.com/story/proofpoint-uncovers-internet-of-things-iot-cyberattack-2014-01-16?reflink=MW_news_stmp (accessed 14 May 2014).
33. Commonly referred to as pay-as-you-drive or usage-based insurance; for example offered in the United States since 2008 as a behaviour-based insurance programme under the brand MyRate by Progressive Casualty Insurance Company; for an example from Germany: see below.
34. Beck in: E. Hilgendorf & J.P Guenther, *Robotik und Gesetzgebung* ['*Robotics and Legislation*'], conference transcript, 2012, p. 225.
35. The States of Nevada, Florida and California have such a law – a human driver with a valid driving license has to be in the vehicle to be able to intervene if necessary.
36. Convention on Road Traffic concluded at Vienna (8 Nov. 1968), No. 15705; United Nations Treaty Series, vol. 1042, p. 17; Art. 8, paras 1 and 5 and Art. 13, para. 1.

While 'boosting' the internet of things is a priority[37] in the European Commission's Digital Agenda, the European Union has mainly focused on strategic considerations such as objectives to strive for and obstacles to overcome. The European Commission issued a Communication in June 2009 entitled 'Internet of Things – An action plan for Europe' where the internet of things is called an 'umbrella for a new paradigm'.[38] The Commission identified several topics where governance would be needed, e.g., Internet security, accountability and choice of law or applicability of various legal frameworks. Privacy and protection of personal data, information security, standardization and waste management are considered the areas with the largest legal obstacles. Earlier, the Commission had collected information and opinions from potential stakeholders. For example, in 2006 it conducted a public consultation on the development and use of smart chips (i.e., RFID technology)[39] which resulted in a Communication about 'steps to a policy framework' in 2007, where RFID technology was called the 'tip of an iceberg' of a broader evolution towards the internet of things.[40] The Commission found that security and privacy, governance, radio spectrum and standards need to be addressed.

The European Data Protection Supervisor (EDPS) welcomed the Commission's Communication, believing it tackled the main issues. The EDPS found privacy and data protection to be crucial and recommended considering the adoption of Community legislation.[41]

In 2010 the Commission set up an expert group on the internet of things to advise on how best to address the technical, legal and organizational challenges at European level.[42] The expert group was active until November 2012 and worked in six sub-groups: architecture, ethics, governance, identification, privacy and security, and standards.[43] They published six fact sheets on the results of their work. The fact sheet on governance states that the sub-group was unable to agree on any definition of what

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37. Commission Communication, IP/12/360, *Digital Agenda: Commission consults on rules for wirelessly connected devices – the 'Internet of Things'* (12 Apr. 2012); Commission Communication, IP/10/581, *Digital Agenda: Commission outlines action plan to boost Europe's prosperity and well-being* (19 May 2010); Commission Communication, MEMO/10/199, *Digital Agenda for Europe: what would it do for me?* (19 May 2010); and Commission Communication, *Digital Agenda for Europe: key initiatives*, MEMO/10/200 (19 May 2010).
38. Commission Communication, IP/09/951, *European Commission calls for an open, independent and accountable governance of the internet* (18 Jun. 2009).
39. Commission Communication, IP/06/909, *Commission opens online public consultation on radio frequency identification* (RFID) (3 Jul. 2006); Commission Communication, IP/06/289, *Commission launches public consultation on radio frequency ID tags* (9 Mar. 2006); Commission Communication, MEMO/06/378, *Radio Frequency Identification Devices* (RFID), *Frequently Asked Questions on the Commission's Public Consultation* (16 Oct. 2006).
40. Commission Communication IP/07/332, *Commission proposes a European policy strategy for smart radio tags* (15 Mar. 2007).
41. Opinion of the European Data Protection Supervisor of 23 Apr. 2008 – 2008/C 101/01.
42. Commission Decision of 10 Aug. 2010 setting up the Expert Group on the Internet of Things [2010], 2010/C 217/08.
43. *Register of Commission experts groups and other similar entities*, http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=2514 (accessed 5 Jun. 2014).

governance on internet of things should and could be and that the group recommends broadening the discussion.[44]

The sub-group responsible for privacy, data protection and information security identified many risks arising from the different forms of communication (i.e., thing to thing, thing to person) which will happen automatically, from the different functionalities of the applications and from the vast amounts of data that will be generated by various sources such as sensors or object identifiers. The sub-group recommended observing general data protection principles and objectives such as the right of deletion or to be forgotten, data portability and privacy in any kind of governance on the internet of things.[45] In order to effectively achieve these goals they eventually recommended a binding-law approach after having considered other approaches, such as self-regulation or co-regulation, to be less promising for a harmonized and high standard of privacy, data protection and information security. It should be noted that the European Court of Justice has recently strengthened the right of deletion and the right to be forgotten by finding that existing EU data protection law requires search engine providers to delete search results that mention individuals.[46]

In 2012 the Commission held another public consultation, this time on the governance of the internet of things.[47] This consultation was criticized for not being linked to the discussion on data protection and the proposal for a General Data Protection Regulation[48] or the existing Data Protection Directive.[49] A fundamental data protection principle stipulates that any processing of personal data is not permissible unless certain requirements are met, e.g., the data subject has given his or her consent.[50] The German Bar Association criticized the consultation, arguing it suggests that the internet of things has to be supported and developed without paying attention to already existing legal frameworks and the current efforts to adapt data protection legislation to technological development.[51]

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44. *Final Report of the EU IOT Task Force on IOT Governance,* http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id = 1748 (accessed 5 Jun. 2014).
45. *IoT Privacy, Data Protection, Information Security,* http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id = 1753 (accessed 5 Jun. 2014).
46. European Court of Justice, Judgement of 13 May 2014, Case 131/12, *Google Spain SL and Google Inc. v. Agencia Española de Protección de Datos (AEPD) and Mario Costeja González,* [2014].
47. Commission Communication, IP/12/360, *Digital Agenda: Commission consults on rules for wirelessly connected devices – the 'Internet of Things'* (12 Apr. 2012); the results and conclusions are available online at http://ec.europa.eu/digital-agenda/en/news/conclusions-internet-things-public-consultation.
48. Commission proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), COM(2012) 11 final (25 Jan. 2012).
49. Directive 95/46/EC of 24 Oct. 1995 of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data [1995].
50. Article 7 of Directive 95/46/EC; Art. 6 of the Proposal for a General Data Protection Regulation; sec. 4 para. 1 of the German Federal Data Protection Act (BDSG).
51. Opinion of the IT law committee of the German Bar Association on the Commission public consultation on the governance of the internet of things, Opinion 2012-2065 (July 2012).

6. LET YOUR CAR TELL YOUR INSURER ABOUT YOUR WHEREABOUTS

The internet of things raises many questions which can and shall not be answered by this article. Even basic civil law questions will have to be looked at from a new perspective. If, for example, the fridge at home automatically keeps track of its content and orders all by itself at your favourite grocery store in order to refill, who concludes what kind of contract with whom? Will consumer-protection legislation apply to the orders? If the technology is to commercially succeed it will have to be as consumer-friendly as online-shopping is today. So, either the grocery store or the operator of the refrigerator's order mechanism will have to ensure that consumer rights are observed.[52] For example, they will have to inform the consumer about the relevant details of the ordering process. If the consumers' right of cancellation is applicable, a pick-up service alongside the delivery service could help ensure the consumers' rights are observed. However, since the current legislation is aimed primarily at a consumer using a computer and the Internet, rather than a device acting on the consumer's behalf without the latter's input, the details of the legal relationship will have to be defined in either case law or amendments to the legislation.

6.1. A Real-Life Example

The idea of an insurance company collecting data about their insurance holders' driving, calculating a score from this data and reflecting that score in insurance premiums, provides several examples of the issues arising from the rapid development of the internet of things.

What started as an automated way of gathering simple mileage information, the combination of information that can be gathered nowadays allows for very specific details on where, when and how the insurance holder drives. A German insurer introduced a tariff which provides, *inter alia*, for a possible partly refund of the insurance premium, based on a score.[53] That score is calculated on a weighed assessment of the manner of driving (abrupt acceleration or deceleration), speed (i.e., speeding) and driving at night or in the city (both generally considered to be a higher risk). Further to emergency services or locating a stolen car, the insurance holder may, based on their score, be refunded a small part of the insurance premium. The data is collected using a telematics box installed in the insured car which records where and when the car was moving and how fast it was going.

This box sends data every twenty seconds (and also if an accident occurs) to a service provider where the score is calculated and data is combined with maps. The insurance holder can view all of the collected information, i.e., track his own driving.

52. For the European Union, mainly the rights in the Directive on Consumer Rights (Directive 2011/83 of 25 Oct. 2011, on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council, [2011]) would be relevant for the order process.
53. Since the insurer is subject to German data protection law it had to publish many information on the tariff, the score and data processing.

The calculated score and the mileage per month is transferred from the provider to the insurance company. If an accident occurs, data is transferred to the emergency services. In order to protect personal data the driving information is only available to the service provider and only the insurance company has access to personal information such as name or address. Other than the insurance holder opting for the tariff and having the telematics box installed, the data collection and exchange as well as the calculation of the score happens entirely autonomously.

Since the collected information clearly qualifies as personal data a legal justification is necessary to collect and process this information. At first glance, this is easy. The insurance holder declared his consent with the collection and processing. But one typical issue for the internet of things is that the information is not collected from the insurance holder but from the car. So what if the car is not driven by the insured but by a family member, friend, colleague or neighbour? This cannot be solved by just turning off the box because this would allow for simple tampering with the score. Currently, there is no tested solution for this question. Data from drivers other than the insured will most likely not be collected lawfully. Consequently, the insurance contract would at least have to require that the insured car may be driven only by the insurance holder himself and even then any collected data could most likely not be lawfully processed – the score would have to exclude this data. Requiring the consent from each driver, e.g., via the on-board entertainment system, could be a solution, but not a very practical or comfortable one. Furthermore, if consent was not given then either no personal data must be collected (which is the same as turning off the box) or the car must not produce any personal data at all, i.e., must not be moved. Alternative solutions, such as a sticker in the car window informing potential drivers about the system, are comparable to a data subject's consent being considered granted through the display of general terms and conditions or by asking them to opt-out rather than for their consent. Courts tend to find that to be no consent at all and the proposal of a General Data Protection Regulation further strengthens the importance of an explicit consent.

Another aspect relates to employees' data. If a company chose such a tariff for their fleet the consent would have to be given by every employee who drives a company car. Further, it is not clear whether such a consent would be given voluntarily,[54] one requirement of a valid consent. In the proposed General Data Protection Regulation the relationship between employer and employee is the example given for an involuntary and thus invalid consent.[55] Further, if the employer were to see either the scores or even detailed information about their employees, all the issues surrounding the protection of employee data would have to be observed, e.g., the involvement of a works council. Even if the company were to choose a tariff with a 'fleet score' calculated without any reference to an individual employee, but based on an overall score over the whole fleet, the insurer would still need the individual employee's consent.

54. The employee is subordinated and therefore it is assumed that the employee has no real choice.
55. Recital 34 of the proposal – see *supra* note 48.

6.2. What Positions Have Been Taken by Authorities and Courts?

The example from Germany mentioned above has been, according to the insurer's website, discussed with a State data protection authority who is said to have confirmed general compliance with data protection requirements. Since the authority's assessment is not public, it is hard to say to what extent the concept and tariff have been reviewed. Other State data protection authorities recommend not to opt for the tariff and compare the collection of data to a voluntary data retention.[56] The European Court of Justice recently found such data retention, when applied to all means of electronic communication, with its widespread use and its importance in people's everyday lives, entails an interference with fundamental rights for privacy.[57]

A gadget which is particularly in the focus of public interest, Google Glass, has been heavily criticized by a German data protection officer. Amongst many other features, Google Glass may be used to autonomously take and upload pictures of what the user sees literally with a blink of an eye. Thilo Weichert, head of the data protection supervisory authority of the German Federal State of Schleswig-Holstein in a TV interview called Google Glass a 'weapon' to inflict damage upon personal rights.[58]

7. OUTLOOK

All these examples show that the increasingly rapid development of technological innovation, especially the phenomenon of increasing digitalization and the internet of things, gives rise to a number of challenging questions in many areas of the law. Antitrust authorities will have to deal with these challenges from the perspective of defining the relevant markets in a way that appropriately take into account the technological reality and the specific dynamics of two-sided markets. From a data protection perspective the biggest challenge will be to strike the right balance between necessary privacy protection and the rapid development of technology and innovation which brings many benefits at the cost of intruding into the personal sphere of human beings.

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56. Virtuelles Datenschutzbüro, *Datenschützer warnt: Finger weg von Versicherungstarif mit Protokollierung des Fahrverhaltens*, http://www.datenschutz.de/news/detail/?nid = 6305 or Heise Online, *Telefónica vernetzt das Auto mit der Versicherung*, http://www.heise.de/newsticker/meldung/Telefonica-vernetzt-das-Auto-mit-der-Versicherung-1842870.html (both accessed 22 May 2014).
57. European Court of Justice, joined cases C-293/12 and C-594/12, *Digital Rights Ireland Ltd (C-293/12) v. Minister for Communications, Marine and Natural Resources and Others and Kärntner Landesregierung (C-594/12) and Others* [2014], judgment of 8 Apr. 2014, para. 56.
58. Interview in the German TV magazine *Kontraste*, *Mit der Hightech-Brille zum Straftaeter? – Google Glass in der Kritik* (24 Apr. 2014) http://www.ardmediathek.de/das-erste/kontraste/mit-der-hightech-brille-zum-straftaeter-google-glass-in?documentId = 20974630, or Heise Online, *Thilo Weichert: 'Google Glass ist eine Waffe'*, http://www.heise.de/newsticker/meldung/Thilo-Weichert-Google-Glass-ist-eine-Waffe-2176677.html (both in German, both accessed 8 Jun. 2014).

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