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Via Email
European Commission
Directorate General for Competition

Munich, 30 September 2018

Delivered by email: COMP-DIGITAL-CONTRIBUTIONS@ec.europa.eu

Dear Mesdames and Messieurs,

Comments of the Fraunhofer-Gesellschaft (Fraunhofer) in response to the call for contributions "Shaping competition policy in the era of digitisation"

1. We express our thanks for the opportunity to provide our input to the Commission's ongoing reflection process about how competition policy can best serve European consumers in a fast-changing world.

2. The Fraunhofer-Gesellschaft is Germany's and Europe's largest industrial research organisation. Fraunhofer's research is focused entirely on people's needs: health, security, communication, energy and the environment. Fraunhofer undertakes applied research of direct utility to private and public enterprise and of wide benefit to society. With a workforce of more than 25,000 and an annual research budget of €2.3 billion, Fraunhofer operates 72 institutes and research units throughout Germany. Fraunhofer also has an international presence, with cooperation occurring through 42 science excellence research centres and representative offices for present and future scientific progress and economic development. Working with all industries across all sectors – from multinationals to SMEs to start-ups, Fraunhofer is both a research partner and an external research provider. In this role, Fraunhofer is a developer and holder of all types of intellectual property, including standard essential patents. From these activities, Fraunhofer has participated in many licensing programs developed to implement world-class, global technology solutions to ultimately serve societal benefit and advancement.

3. We hope that the comments below are of assistance to your consultation process. Fraunhofer welcomes the opportunity to further contribute to this important discussion in the context of the conference of 17 January 2019 and in the months to come. Of particular interest to us at this time is the topic which will be discussed during the first panel, "Competition, Data, Privacy and AI".

A. Background

4. Progress towards digitalisation and high growth in the area of data analytics capacity have both contributed to market evolution, whereby there is a stronger focus on data-based services and data-enhancing products.[1]

5. Companies implementing a business model based on the offer of services in exchange for data are today among the wealthiest entities in the world. Personal data has become the new currency.

6. On 23 May 2018, the European General Data and Privacy Regulations (GDPR) came into effect. The purpose of the GDPR is to ensure that individuals have the right to control how enormous amounts of their personal information available online is collected and processed. The GDPR also places a range of obligations on organisations to be more accountable for data protection and requires that any consent regarding access to personal data is provided voluntarily. GDPR is an important acknowledgement by the European legislator of the necessity to limit the power arising from the processing of personal data.

7. Data is key in the digital economy also from a competition law perspective. Commissioner Vestager recently stressed the importance of carefully reviewing "transactions which lead to the acquisition of important sets of data, including potentially commercially sensitive ones, to ensure they do not restrict competition".[2] Also the Bundeskartellamt, in the context of its investigation against a major provider of social network services, claimed that data may be a crucial factor for the economic dominance of a company under Article 102 of the Treaty on the Functioning of the European Union (TFEU). Thus, a special responsibility may arise from ownership of data under EU competition law.[3]

8. The current developments, whether in scientific research or in technology, are based on solid foundations, past achievements and success. More specifically, the technical ground on which the new data-economy is based is represented by the standardised technologies developed over many years, particularly in the fields of mobile communication and wireless infrastructure.[4]

9. Notwithstanding the above, many companies building their business models around data-related services consider IP only as a cost, and they have strongly campaigned in favour

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1 See, for example, *The Economist*: 'Data are to this century what oil was to the last one: a driver of growth and change. Flows of data have created new infrastructure, new businesses, new monopolies, new politics and—crucially—new economics'. The Economist, 'Fuel of the future, Data is giving rise to a new economy', Briefing section, 06 May 2017; available at: https://www.economist.com/news/briefing/21721634-how-it-shaping-up-data-giving-rise-new-economy.

2 See European Commission Press Release, "Mergers: Commission clears Apple's acquisition of Shazam", available at http://europa.eu/rapid/press-release_IP-18-5662_en.htm

3 Lack of compliance with privacy law can give rise also to liability under competition law. In an ongoing competition law case, the Bundeskartellamt argues that Facebook abused its dominant position in the German market for social networks by making the use of its social network conditional on compliance with allegedly restrictive privacy terms. For a summary of Bundeskartellamt´s preliminary assessment in the Facebook case, see https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html.

4 The European Commission has traditionally acknowledged that standards "normally increase competition and lower output and sales costs, benefiting economies as a whole. Standards may maintain and enhance quality, provide information and ensure interoperability and compatibility (thus increasing value for consumers)". See European Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, 2011/C 11/01, paragraph 263.

of policies aimed at devaluing technology upon which the Internet-related infrastructure is based.[5]

10. Investment in R&D is a prerequisite to advance technological frontiers and allow end consumers to eventually benefit from high-quality data-based services. The continuing importance of R&D can be illustrated through observing the evolution, over the last 35 years, of the wireless telecommunication standards applied to mobile phones - from 1G technology to 4G. During this period of time, consumers have gradually moved from basic voice call, to text messages, to incorporating rudimentary cameras, until finally enjoying a wide range of technology and apps related to every aspect of daily life, from mobile payments to "Voice over Internet Protocol" ("VoIP") and map-based services. In other words, extensive and multi-disciplinary R&D made the Internet more stable, faster, and functional so that manufacturers of standard-compliant products (i.e.: mobile phones) could improve the quality of products and their related services.

11. Similar to the above developments, data-based service providers need to rely on constant enhancement of internet infrastructure. By way of example, a full deployment of the so-called Internet of Things (IoT) requires the successful adoption of 5G, a technical standard which remains a work-in-progress, and which implies the adoption of a number of patented technologies owned by different companies.[6] Technological innovation and progress are not generated by innovation in apps and data-related services.

12. The circumstance that some companies adopt a more data-driven business model does not mean that we are transitioning from an IP-based economy to a data-driven economy. Both intellectual property and data are elements of the economy that co-exist and continually rely on R&D – indeed both are empirically recognised success factors of a sustainable innovation system.

13. Diversity of business models must be allowed and supported, in compliance with competition law rules. Investments in R&D must be encouraged to ensure the viability and competitiveness of the digital economy in the long term. As recognised by the European Commission itself, the digital future needs intellectual property rights and technical standards because, in their absence, we would move toward an economy based exclusively on the services sector at the expense of the quality of the technology on which the applications run.[7]

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5 Petit Nicolas, The IEEE-SA Revised Patent Policy and Its Definition of 'Reasonable' Rates: A Transatlantic Antitrust Divide? (March 5, 2016). *Fordham Intellectual Property, Media & Entertainment Law Journal*, Vol. XXVII. Available at SSRN: https://ssrn.com/abstract=2742492 or http://dx.doi.org/10.2139/ssrn.2742492

6 The Internet of Things (IoT) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these things to connect and exchange data. IoT-related devices rely on the use of standardised technologies (i.e.: Wifi) and on the development of new ones (i.e.: 5G) which will make Internet connections faster and more suitable to such a major breakthrough. For a better understanding of the phenomenon of the "Internet of Things" and of the issues arising from it, see Lexinnova, Internet Of Things: Patent Landscape Analysis; Mckinsey Global Institute, The Internet Of Things: Mapping The Value Behind The Hype (2015); Goldman Sachs Global Investment Research, The Internet Of Things: Making Sense Of The Next Mega-Trend (2014); Joseph Bradley, Joel Barbier & Doug Handler, Embracing The Internet Of Everything To Capture Your Share Of $14.4 Trillion (Cisco, 2013).

7 In particular, according to the European Commission, ´Standards support innovation and growth in Europe, in particular providing for interoperability of digital technologies that are the foundation of the Digital Single Market (DSM)`. See Communication from The Commission To The European Parliament, The Council And The European Economic And Social Committee "Setting out the EU approach to Standard Essential Patents" (hereinafter "Commission Communication on Standard Essential Patents"), 29 November 2017, page 1.

B. Importance of platforms

14. As is the case with any technology-based sector, the data economy relies on the same mechanism of interoperability achieved by open industry-driven standardisation for the innovation economy, including:
    a) data processing algorithms; and

    b) applications which perform increasingly well with more accurate and larger volumes of data.

    Data-enhanced services also require Internet infrastructure, along with the new 5G standard currently being developed, as well as the physical devices and infrastructure which consumers choose to use.

15. One form of necessary physical infrastructure is the platform. Platforms are part of cyber-physical architecture which, on the one hand, allow consumers to connect their devices, and on the other hand, allow data transfer from consumer devices, data analysis and data-based commands being sent back to the consumer devices.

16. In technical terms, a platform constitutes the middleware, which 'serves as an integration layer for different kinds of sensors, actuators, devices, and applications."[8] Platforms involve 'appropriate communication technology, such as WiFi, a corresponding transport protocol, such as HTTP or MQTT, and a compatible payload format, such as JSON or XML.'[9]

C. Standardisation and future of platforms

17. As demonstrated above, the data economy requires physical infrastructure, which needs to be based on open standards enabling interoperability. In this regard, the European Commission duly noted that "without interoperability, enabled by standards, 40 % of the potential benefits of IoT systems would not be reaped".[10]

18. The only alternative is that the physical infrastructure of the platforms will not be a result of industry cooperation, but rather that the market will be dominated by one or few proprietary platforms, which will dictate goods and services to be provided through proprietary channels. What would be the consequence? Apart from quasi monopoly in the market, such a situation is foreseen to have far-reaching implications for the privacy of such data.

19. In terms of potential for follow-on innovation, governmental priorities and industry-driven standardisation provide far more conducive framework than any monopolistic behaviour of a potentially dominant proprietary platform provider. The tried and tested model of open standardisation reduces barriers to entry for new players in the data market, benefits for consumers and legal coherence,

20. Also important is the continuing ability to protect IP in all of its forms and investment in innovation efficiently, by relying on the intellectual property regulatory framework. In order to do so, it needs to be ensured that market players which are in a dominant position as a consequence of their data sets respect competition law rules when they use IP protected assets and engage in licensing negotiations with the IP holders.

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8 J. Guth, U. Breitenbücher, M. Falkenthal, F. Leymann and L. Reinfurt, "Comparison of IoT platform architectures: A field study based on a reference architecture," 2016 Cloudification of the Internet of Things (CIoT), Paris, 2016, pp. 1-6. Available at: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7872918&isnumber=7872907 [Last accessed on 10.10.2017]

9 *Ibid*, pg. 2.

10 See *supra*, Commission Communication on Standard Essential Patents, 29 November 2017, page 1.

D. Protection of a level playing field in the digital single market should be a priority for DG Comp

21. While it may be the case that software-based applications will be a source of innovation in the data economy, which will be prominent in the public eye, the significant contribution of research and development in hardware and software-based infrastructure must also be supported and encouraged. This may be best done by continued and steady commitment to the established legal framework, which provides predictable conditions for long-term investment in research, development and innovation.

22. Recognition that intellectual property rights and their protection is important and also contributes to the growth of data economy is the key for future development. It has been recognised that, in order to protect the incentive to innovate, '[a]n efficient and effectively enforced intellectual property infrastructure is necessary to ensure the stimulation of investment in innovation and to avoid commercial-scale intellectual property rights (IPR) infringements that result in economic harm. The European Commission's aim is to ensure that this infrastructure allows creators and inventors in the EU to reap appropriate returns from welfare-enhancing innovation for EU citizens.'[11] In particular, it is of utmost importance that the buyer´s power of a dominant data-based service provider is taken into account during negotiation of licensing agreements involving IP rights. In particular, any hold out strategy by such companies should be considered as an abuse of dominant position. It is considered that such conduct would likely also undermine a further element of the European Commission's strategy for a globally competitive Digital Single Market, being Horizon 2020.

E. Conclusion

23. Fraunhofer respectfully requests that the Directorate General for Competition bases its policy and enforcement agenda for the data economy on the understanding and recognition that physical infrastructure, its interoperability, the role of open standards, and the continued importance of intellectual property must be respected and continuously supported. So too must all forms of business models.[12] It has been the co-existence of varying forms of IP and business models over a significant period of time that has assisted the creation, successful development and growth in innovation to date. These are the foundations of our dynamic and competitive innovation-based common market.

24. In order to do so, it needs to be ensured that market players which are in a dominant position as a consequence of data ownership respect competition law rules when they use IP protected assets and engage in licensing negotiations with the IP holders.

25. Fraunhofer further requests that this Directorate invites to the conference of 17 January 2019 representatives from all stakeholders (owners of the patents covering the Internet infrastructure, software developers, product and service developers and providers,

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[11] See the European Commission's November 2017 report on Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights ('IPRED') at https://ec.europa.eu/growth/industry/intellectual-property/enforcement_en. This Directive reflects the Charter of Fundamental Rights of the European Union, that intellectual property – including standard essential patents – is property and is afforded all guarantees of the right to the property set out in paragraph one of Article 17 of the Charter. The second paragraph of Article 17 of the Charter specifically deals with the protection of intellectual property, 'taking into consideration an increasing importance of the protection of intellectual property in general, and in the EC law in particular': See *Commentary of the Charter of Fundamental Rights of the European Union,* at page 168, available at http://llet-131-198.uab.es/CATEDRA/images/experts/COMMENTARY%20OF%20THE%20CHARTER.pdf.

[12] Different business models are certainly to be respected. See Article 16 Charter of Fundamental Rights of the European Union.

consumers, government authorities and the public) to enable them to share their concerns, experience and proposals. Fraunhofer would be honoured to be invited to attend the event.

Yours sincerely,

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