RIGA GRADUATE SCHOOL OF LAW

The Effects of Sharing Sustainable Technology R&D on EU Competition Law

BACHELOR THESIS

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DECLARATION OF HONOUR:
I declare that this thesis is my own work, and that all references to, or quotations from, the work of others are fully and correctly cited.

(Signed) …….

RIGA, 2022

ABSTRACT

This paper explores the significance of EU competition system in attaining envisioned sustainability targets by analysing the prospective symbiosis between European competition and patent law. Furthermore, this research evaluates both the plausible threats in the internal market stemming from lenient competition legislation as well as highlighting the apparent benefits of coordinating EU intellectual property and antitrust law to facilitate innovation. The goal of this research is to determine whether such polar opposites can indeed be merged into sustainable competition policy or will it end up fostering breeding ground for collusive behaviour in the common market.

The main finding of this paper is that it is imperative for lawmakers to revamp the existing EU competition policy, with the aim of shifting the focus from purely consumer welfare-based approach to more pressing matters such as sustainable innovation and environmentally beneficial R&D practices. Even though the Commission has made great progress in reassessing the existing legislations and stimulating the cooperation of IP and competition law, it is imperative to understand that not only is it possible to facilitate sustainable development this way, but additionally boost the efficiency of internal market and establish European enterprises as global players in the international research and innovation arena.

Keywords: Art. 101(3) TFEU, Patent Law, R&D Sharing, European Green Deal

SUMMARY

The main aims of this research paper are to analyse the potential opportunities to coordinate competition and patent laws, whilst boosting the economy by incentivizing sustainable investments, and, subsequently, to address the economic and environmental benefits from the advancement of sophisticated R&D system in context of patent cooperation. Lastly, the author will outline the existing types of joint R&D agreements and the recent developments in regards to the establishment of environmentally conscious competition policy.

This research paper is largely based on scholarly materials analysing the environmental and economic consequences stemming from changes made to the EU competition legislation as well as numerous legal acts, which have been put forward as the new policy framework for the establishment of sustainable competition regime. All throughout the research process, the author carried out legal analysis as it provides the best methodological approach for exploring this topic. This method is widely used in different spheres of social science, subsequently establishing it as one of the main methodological approaches of choice in regards to economic policy research.

Although the author analysed both the benefits and possible detriments of more lenient EU competition legislation, the advantages significantly outweigh the harm and inconvenience that would initially ensue, especially in the long term, taking into account the existing circumstances on the common market. By the time of finishing the thesis, author was confident in her hypothesis - Expansion of exemptions pursuant to Art. 101(3) TFEU will incentivize investments in sustainable technology R&D. The hypothesis was proven to be true, largely due to the fact that, according to research, the main shortcomings of sustainable EU competition regulation and innovative patent policy are attributable to the prevalence of conservative opinion that antitrust and intellectual property rights are inconsolable, thus preventing legislators from establishing truly trailblazing incentives for the harmonization of both fields.

This topic could be researched further from the economic perspective of joint R&D agreements, which in authors opinion, would provide not only a much-needed affirmation that competition and IP laws are equally important for boosting the economy, but also facilitate the creation of harmonized and robust legislations that would undoubtedly exceed the efficiency levels of current mechanisms regulating sustainable R&D practices and moving us closer to reaching the EU sustainability targets.

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INTRODUCTION

The topic the author has chosen to research bears immense significance to the current world affairs as the establishment of sustainable economy and efficient curbing of climate crisis has become a primary objective for quite a large part of society. As the world is rapidly succumbing to the pressure of global warming it is crucial that scholars pursue research in the field of environmental policy and economics to provide legislators with the right tools to not only fight climate change and boost innovation, but also do it in an economically feasible way, therefore, the author considers this topic to be of utmost relevance.

The main aims of the research paper:

1. Analyse the importance of the EU patent law in boosting the economic efficiency and competitiveness in the common market,
2. Outline the existing types of innovative and pro-competitive avenues for pursuing joint R&D activities,
3. Elucidate the current EU agenda on reaching their sustainability targets through innovation, without compromising the competition in the European market.

The author primarily puts emphasis on analysing the opportunities for facilitating sustainable innovation through investments in R&D. The main research question challenges the opinion that more lenient competition policy will foster an environment with high costs for consumers and little innovative alternatives to already existing products. Therefore, it naturally begs the question of whether there is a way that EU competition and intellectual property law can exist symbiotically, whilst also increasing efficiency of the internal market by innovation through sustainable R&D practices?

Research question: Can more lenient competition law facilitate sustainable investments in Research & Development?

Hypothesis: Expansion of exemptions pursuant to Art. 101(3) TFEU will incentivize investments in sustainable technology R&D.

In writing this research paper the author has chosen to use analytical research method as it provides the best methodological approach for investigating this topic. This method is widely used in different spheres of social science to determine not only the legal, but also economic implications of legislations, thus it is fairly legitimate to apply it whilst researching, the highly economic, competition policy. The main idea of analytical method is to use critical thinking to discover the causation links for legal concepts that initially appear to have no substantial interconnecting values.

The aforementioned method, has been immensely helpful in the process of this research, as it aided the author in finding correlations amongst the various aspects of EU legislations and consequently provided a theoretical basis to hypothesise about the future possibilities in regards to the pursuing joint patent agreements and R&D, without breaching competition laws. In the words of Marcus Aurelius: "*Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.*"[1]

The research consists of three parts. Firstly, author will outline the main EU competition legislation on cartels, concentrations and abuse of dominant position, from the perspective of its effects on innovation and market efficiency. Secondly, describe the current European patent system and laws governing it as well as analyse the competition benefits of investing in sustainable R&D. Thirdly, the author will illuminate the different types of sustainability agreements and their impact on the collaboration between EU competition and patent law. Lastly, to grasp the full extent of the impact R&D sharing agreements have on the increase in innovation and conditions in the internal market, author will describe the latest amendments made to the EU competition law and analyse the current EU agenda on reaching its sustainability goals by facilitating and incentivizing investments in sustainable technology through increased leniency in antitrust regulation.

[1] Marcus Aurelius, *The Meditations Book III,* 167 A.C.E, accessed May 12th, 2022, http://classics.mit.edu/Antoninus/meditations.3.three.html,

1. PILLARS OF THE EU COMPETITION LAW

The premise of competition law, or in the case of United States – antitrust law, is to regulate the anti-competitive behaviour that persists in the free market and protect free competition. Most anti-competitive actions are designed to limit the capabilities of other businesses, mostly, by establishing dominance in the market and gaining unparalleled profits. As it can already be deduced, competition law in the EU bears not only judicial but also economic significance, therefore the legislation regulating it is extensive and substantial, consisting mainly from regulations and directives. However, as competition law is such a pivotal part of the mechanism of the internal European market, it is also regulated by the Treaty on the Functioning of the European Union (TFEU).

The first legislation that is mentioned in context of EU competition law undoubtedly is articles 101 through 109 of the Treaty on the Functioning of the European Union. These articles lay down principles of anti-competitive behaviour amongst undertakings such as cartels and abuse of dominance as well as establish exemptions from the aforementioned restrictions and provide regulation of state aid. For context, this treaty is an updated and consolidated version of its predecessors - Treaty Establishing the European Economic Community and Treaty Establishing the European Community (TEC), which was amended in 2009 to form the basis of common European Union law. In addition to the aforementioned, Regulation No. 1/2003 and General Block Exemption Guidelines have been created to regulate the implementation of rules laid down in articles 101 and 102 of the TFEU and specify the exceptions under which undertakings are exempt from the prohibitions stated in the article 101(1) TFEU, respectively. Moreover, as mergers are often directly related to the causation of changes in the competitive environment in the market, the European Commission has established the EU mergers regulation that govern the prohibition of strengthening or establishing an unnecessarily dominant player, which would likely result in price gauging, curb innovative practices and reduce the variety of goods and services in the market.

1.1. Arts. 101 and 102 of the TFEU

As previously mentioned, the main legislation regulating competition law in EU is embedded in the TFEU, which serves as the main guideline for establishing fair competition amongst undertakings. Even though there are various articles in regards to the competition in the internal market the most used ones undoubtedly are Arts. 101 and 102, which regulate cartels, abuse of

dominance and set out restrictions aimed at companies in regards to do market power. The history of these articles lies in the fact that at the creation of the European Community there was a need to establish a single market that would integrate all the member states economies and create a cohesive internal trade; thus, the Treaty of Rome was created in 1957. This treaty, which was renamed as the Treaty on the Functioning of the European Union in 2007, served as a catalyst for lower prices and bigger variety of goods, boost in innovation as well as significantly increase in the market efficiency.

The establishment of Art. 101 TFEU created a ban on colluding of undertakings that could have adverse effects on the competition in the internal market. The main prohibitions set out in Art. 101(1) are in regards to price fixing, limitation or control of production, markets, technical development or investment, sharing of markets or sources of supply as well as creating environment that puts competing parties at a competitive disadvantage, for example, horizontal and vertical agreements. On the other hand, Art. 101(3) lies down the exceptions that make the aforementioned paragraph inapplicable in general due to the agreements, decisions and concerted practices between the undertakings that contribute to the improvement of economic or technological progress. Undertakings which breach the prohibitions pursuant to Art. 101 TFEU and do not fall under the exemptions mentioned in Art. 101(3) could be levied a fine by European Commission amounting up to 10% of their global yearly turnover.

As for Art. 102 TFEU, which predominantly works in accord with the Art. 101 TFEU, the main emphasis is put on undertakings that have already established a dominant position in the internal market and have started to act in an abusive manner, by dominating the competition. The abuse of dominant position most frequently includes price gauging, limitation of products, markets or innovation on the account of consumers as well as creation of dissimilar conditions to equivalent transactions between undertakings. Of course, the aforementioned articles can in no way be reduced to only literal interpretation and are in fact multi-faceted, with myriads of precedents which have established an enormous amount of case law aiding to the application of these legal norms to resolve complicated cross-border disputes. The types of agreements and practices regulated by Arts. 101 and 102 TFEU will be further elaborated upon in the following paragraphs.

1.1.1. Cartels

The prohibition of cartels as embedded in Art. 101 TFEU, is intended to control the behaviour of private undertakings, so that there would be no restrictions on competition in internal market. One

of the main reasons for this prohibition lays in the fact that private enterprises shall not re-establish cross-border barriers which have been removed by treaties.[2] However, before delving into the peculiarities of cartels it is needed to discern how are they different from associations of enterprises and work in practice. As per the definition provided on the webpage of Directorate General for Competition on 19th of April, 2022, cartel is a group of similar, independent companies which agree either expressly of tacitly, to fix prices, limit production or development, share markets or customers between them or put other similar restrictions on competition. Price fixing between undertakings is considered to be the most prevalent type of cartels, however, in this chapter the author will illustrate also other variations.

In simple words, concerted practices are just mutual agreements between companies to not compete with each other, but the economic reality is much more complex. The impact of cartels use of concerted practices on competition in the internal market are detrimental for the free trade, and create high barriers for entry as well as rise prices for the goods or services sold. The prohibition of concerted practices is embedded in Art. 101(1) TFEU and similarly as cartels can be both horizontal and vertical. The distinction between the aforementioned types of restraints lies in the fact that in case of horizontal constraints, are amongst competitors, however, vertical restraints can be both between suppliers and distributors. The distinction of concerted practices serves as a safety net for occurrences where not all requirements for associations of undertakings are fulfilled to apply to the prohibition of price fixing and limitation or control of production. It enables regulators to create punitive measures for undertakings that engage in anti-competitive behaviour without them being in an agreement. To put this in perspective it is worth to mention *T-mobile* case, where five mobile carriers had a legal meeting discussing their commissions for dealers, however this information did not have any effect on the decision making of the undertakings.[3] Nevertheless, as per the opinion of Advocate General Kokott, for a concerted practice to violate Art. 101 by object, it is needed that uncertainty on the market was removed, thus restricting competition, which is indeed the circumstance in the present case.[4]

[2] V. Emmerich, In: Immenga and Mestmacker (eds), Wettbewerbsrecht Band 2, 2012, Art. 101(1) AEUV, para. 4.
[3] Judgement of the General Court (Third Chamber) of 4 June 2009, *T-mobile Netherlands BV, KPN Mobile NV, Orange Nederland NV and Vodafone Libertel NV* v *Raad van bestuur van de Nederlandse Mededingingsautoriteit*, C-8/08, ECLI:EU:C:2009:343, paras. 9-17.
[4] Opinion of Advocate General Kokott delivered on 19 February 2009 *in Case C-8/08 T-mobile Netherlands BV* v *Nederlandse Mededingingsautoriteit* [2009] ECLI:EU:C:2009:110, paras. 105-106.

As one would imagine, price fixing by definition is an anti-competitive practice, however it is not limited to decisions by undertakings to fix minimum or maximum prices[5], but also includes the harmonization of rebate rules[6] and any coordination of monetary nature. One of the most famous cases in regards to price fixing in EU is *Heineken Nederland and Heineken* v. *Commission* (T-240/07) where three beer companies operated in cartel fixing lower prices for their products, which resulted in them controlling more than 90% of Dutch beer production market. In addition to the aforementioned, Heineken also provided rebates to bars selling their products. Each of the companies was fined by the Commission with fines amounting to 197,9 million euros.[7] Interestingly enough, in this case a fourth company had also operated under this practice, but escaped any punitive measures by acting as a whistle blower, and cooperating with the authorities.

Even though vertical agreements are commonly deemed to be less imperative in distorting competition in the internal market, it cannot be said that their influence is non-existent. Agreements between, for example, suppliers and distributors, frequently distort and limit the production and create a controlled market. This, on the other hand is regarded as serious offence similarly as horizontal agreements. Art. 101(1)(b) prohibits the limitation or control of production, markets, technical development or investment[8], which often times ties together with price fixing. Most notably, in *Consten and Grundig*, German manufacturer of electronic equipment Grundig entered into an exclusive distribution agreement with the French company Consten in which they agreed that Consten would be the sole distributor of Grundig's products in France and Grundig would not deliver its products to anyone in France.[9] The court found that in this case the agreement prohibited Consten to export its products to other countries in the internal markets, thus undoubtedly affected competition by isolating the French market for Grundig products and giving them market power, which was used to increase the prices of their products above the competitive level.[10] Based on the aforementioned it can be concluded that even in the case of agreement between non-dominant

[5] Judgement of the General Court (Grand Chamber) of 29 October 1980, *Heintz van Landewyck SARL and Others* v *Commission of the European Communities*, Joined Cases 209 to 215 and 218/78, ECLI:EU:C:1980:248, paras. 147-156.
[6] *Ibid.* para. 10.
[7] Judgement of the General Court (Sixth Chamber, Extended composition) of June 16 2011, *Heineken Nederland BV and Heineken NV* v *European Commission*, T-240/07, ECLI:EU:T:2011:284, paras. 1-3, para. 336 and para. 436.
[8] Treaty on the Functioning of European Union (TFEU) (Consolidated version 2012), *OJ C* 326/01, 26.10.2012., Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT, Accessed April 20, 2022, Art. 101(1)(b).
[9] Judgement of the Court (Grand Chamber) of 13 July 1966, *Etablissements Consten S.a.R.L. and Grundig-Verkaufs-GmbH* v *Commision of the European Economic Community*, C-56/64, ECLI:EU:C:1966:41, para. 343.
[10] *Ibid.* paras. 341-342.

undertakings it is possible to distort competition in the internal market by limiting the access and controlling certain markets.

Sharing of markets under Art. 101(1)(d) TFEU, is considered by the ECJ as restrictions by object, for the reason that, empirically, these conducts almost certainly create negative effects on the competition in the internal market. There are three types for sharing a market – quantitatively, territorially or on the basis of customers' characteristics. To share market quantitatively, agreement should contain a reference to determination of volume of supply or proportion of demand to be met by each undertaking, mostly through quotas. The latter are based on agreement between the parties to operate in certain geographical areas and to supply their products or services to particular customer demographics.[11] These types of agreements derail one of the main pillars of the EU – a free single market between the member states. In *Chemiefarma* v. *Commission* six chemical manufacturers entered into an agreement to divide German and Dutch markets as well as fix prices on export and quotas in regards to chemical trade to other countries. The court found that even though the agreement between the parties had no effect on competition in the Common Market, "such a situation cannot render lawful an agreement the object of which is to restrict competition"[12] This precedent established the definition of "restrictions by object" as also the ones that "by their very nature have the potential of restricting competition".[13]

1.1.2. Abuse of Dominance

There is no concrete definition of dominant position in Art. 102 TFEU, thus it is left up to interpretation by courts and administrative practice. This is for the reason that it signifies a concept that is so engrained in the legislation of the EU that it is difficult to harmonise with national legal standards.[14] Art. 102 is closely linked with Art. 101 TFEU because it establishes the prohibition of abuse of dominance where only one undertaking is involved. It establishes the responsibility for undertakings to engage in economic activities without hindering the competition in the internal market by putting their competitors at an unfair disadvantage. Therefore, it can be concluded that

[11] Swedish Competition Authority, *Object Contra Effect in Swedish and European Competition Law*, 2009, p. 25., Available on: https://www.konkurrensverket.se/globalassets/dokument/informationsmaterial/rapporter-och-broschyrer/uppdragsforskning/forsk-rapport_2009-3_object-contra-effect-in-swedish-and-european-competition-law.pdf.
[12] Judgement of the Court (Grand Chamber) of 15 July 1970, *ACF Chemiefarma NV* v *Commission*, C-41/69, ECLI:EU:C:1970:71, paras. 126-127.
[13] Communication from the Commission, *Guidelines on the Application of Art. 81(3) of the Treaty*, *OJ* 2004/C 101/08, para. 21, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52004XC0427(07).
[14] Frenz, Walter., *Handbook of EU Competition Law*, (Berlin, Springer, 2016), p. 665.

dominant position as such is not prohibited by the restrictions imposed by Art. 102 TFEU, but it only puts certain obligations on undertaking that already possess a dominant position. For Art. 102 to apply it is required for the undertaking in question to be a significant player in the internal market, in possession of least 40% of total market share, which has been found guilty in abusing their dominant position.[15] Undoubtedly the most famous case of abuse of dominant position is *Michelin* v. *Commission*, where company which was a leader in tire industry abused its dominant position by issuing rebates to tire dealers in France, thus essentially closing the French tire market to other manufacturers by imposing unfair trading conditions. Based on this decision delivered by ECJ and the Commission, a definition for the abuse of dominant position was created: An undertaking must act to a material degree independently in dealing with competitors, customer and thus consumers as well as based on its economic position in the market and thus be able to effectively impede competition in the relevant market.[16]

Under Art. 102(1)(a) TFEU, direct or indirect imposition of unfair trading purchase or sale prices or other trading conditions are viewed as expressions of exploitative abuse. The determinant factor of unfair purchase or sale price is the actual value of the good/service in question.[17] Additionally an alternative approach can be used, which looks at the correlation between the costs incurred by the undertaking and the price of the goods/services sold.[18] In *United Brands* a two-fold test was established – the price must be "excessive", which in the case when the difference between the cost of production and the selling price of the product is excessive, and the price must be "unfair" either (i) in itself or (ii) when compared to competing products.[19] Even though CJEU has endorsed other means of determining unfair purchase or sale prices, as well as safeguard tools to decrease the probability of false negative errors[20], the *United Brands* test still prevails in practice.

For example, in the EU, refusal to licence can be considered grounds for abuse of dominant position, under Art. 102(1)(b) TFEU, in the precise circumstances outlined in the "exceptions test"

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[15] Lorenz, Moritz, "Article 102 TFEU – Abuse of a Dominant Position," in *An Introduction to EU Competition Law*, (Cambridge: Cambridge University Press, 2013), pp. 188–241.

[16] Judgement of the Court (Grand Chamber) of 9 November 1983, *NV Nederlandsche Banden Industrie Michelin* v *Commission of the European Communities*, C-322/81, ECLI:EU:C:1983:313, para. 30.

[17] Judgement of the Court (Grand Chamber) of 13 November 1975, *Genral Motors Continental NV* v *Commission of the European Communities*, C-26/75, ECLI:EU:C:1975:150, paras.11-12.

[18] Judgement of the Court (Grand Chamber) of 14 February 1978, *United Brands Company and United Brands Continentaal BV* v *Commission of the European Comunities*, C-27/76, ECLI:EUC:1978:22, paras. 248-257.

[19] *Ibid.* paras. 251-252.

[20] Botta, Marco., "Sanctioning unfair pricing under Art. 102(a) TFEU : yes, we can!", *European Competition Journal* 17 (2021): pp. 156-187, accessed April 22, 2022, doi: 10.1080/17441056.2020.1860566.

applied in *Magill* and *IMS Health* cases.[21] The aforementioned test is divided into three parts: (i) the requested licence is required for competition, (ii) the undertaking which requested the licence intends to offer goods not provided by the owner of IP rights and for which there is a potential consumer demand, (iii) the refusal of licencing creates an opportunity by the IP owner to access secondary market by eliminating competition, (iv) refusal is not justified by objective considerations.[22] This test was used in the famous *Microsoft* case, in which their refusal to supply interoperability information risked eliminating competition in the server operating systems market, because the information was indispensable for Microsoft's competitors. Even, though Microsoft appealed the judgement by claiming that the refusal was needed to create incentives to innovate, CFI did not consider it to be an objective justification.[23]

According to Commissions Guidance, it is only required to intervene on the basis of Art. 102(1)(c) TFEU only in the cases where an abuse of dominance is almost certainly going to lead to anti-competitive foreclosure. For determining whether there has been an abuse of dominance the Commission has created a test in which it assesses multiple factors such as (i) the position of a dominant undertaking, (ii) the conditions on the relevant market, (iii) the position of dominant undertaking's competitors, (iv) the position of the customers or input suppliers, (v) the extent of allegedly abusive conduct,(vi) possible evidence of actual foreclosure as well as (vi) any direct evidence of any exclusionary strategy.[24] Under essential facilities doctrine, the owners of essential facilities have a duty to deal with competitors,[25] however, with time, the scope of the application of aforementioned doctrine has decreased, in part due to *Bronner* case. This case put forward a precedent that it is not sufficient for an undertaking to possess a dominant position and essential facility if it is not indispensable to the competitors in downstream market. In this case, the court

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[21] Brinsmead, Simon, "Interoperability Standards and Competition Law." in *Essential Interoperability Standards: Interfacing Intellectual Property and Competition in International Economic Law*, (Cambridge: Cambridge University Press, 2021), pp.157–230.

[22] Ahlborn, C., Evans, D., Padilla, J, "The Logic & Limits of the "Exceptional Circumstances Test" in Magill and IMS Health", *Fordham International Law Journal* 28 (2004): p. 1, Available on: https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1982&context=ilj.

[23] Judgement of the Court of First Instance (Grand Chamber) of 17 September 2007, *Microsoft Corp.* v *Commission of the European Communities*, T201/04, ECLI:EU:T:2007:289, paras. 642 – 658, para. 1333.

[24] Communication from the Commission, *Guidance on the Commission's enforcement priorities in applying Art. 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings*, *OJ* 2009/C45/02, Available on: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009XC0224(01) , para. 20.

[25] Evrard, J. Sebastien, "Essential Facilities in the European Union: Bronner and Beyond", *Colombia Journal of European Law* 10 (2004): para. 2, Available on: https://www.jonesday.com/files/Publication/e2d79ea9-8440-49e6-a879-c834f4b0b557/Presentation/PublicationAttachment/9cf89b02-295b-43cf-8a-003cbea13a85bf/Article%20essential%20facilities.pdf.

decided that less beneficial modes of conducting business were available, thus there was no obstruction of competition, thus strengthening the requirements for breach of Art. 102 TFEU.[26]

Tying under Art. 102(d) follows the same idea that is put forward in Art. 101(e) TFEU and is formulated as a "conclusion of contracts subject to acceptance by the other parties of supplementary obligations, which have no connection with the subject of such contracts".[27] This might sound complicated, however in practice, this is a fairly simple concept. It is certain that almost every person has encountered some type of tying in their life. For example, every person who purchased the new iPhone in 2014, received the most recent U2 album in their iTunes for free, for which Apple later issued an apology. Nonetheless, even though this might sound appealing at first, this practice has been distinguished by the Commission as one exclusionary abuse restricting competition under Art. 102 TFEU, for the reason that it distorts competition in wide-raging ways, for example by forcing other undertakings to accept the tied goods together with the primary purchase, which in reality do not have a high demand, thus asserting the dominant position of already dominant market player by accretion.[28] Famously, this practice was shown in practice in the already mentioned *Microsoft* case, in which upon purchasing a computer with Windows software, the customer automatically received Windows Media Player. In investigating this particular case the Commission applied five step test determining whether Microsoft had – (i) dominance in the tying market, (ii) the tying and tied goods are two separate products, (iii) customers have no choice of obtaining tying product without the tied product, (iv) foreclosure effect on competition and (v) absence of objective justification.[29] The court derived the aforementioned test from case-law namely, *Hilti* v. *Commission* (C-333/94) and *Tetra Pak II* (C-53/92), where it was concluded that there is no justifiable reasoning for tying.

1.2. Concentrations

According to Art. 3 of EC Merger Regulation, concentration shall be deemed to arise in the occurrence where (i) two or more previously independent undertakings (or parts of undertakings) merge, or when (ii) there has been an acquisition by multiple persons already multiple undertakings

[26] Opinion of Advocate General Kokott delivered on 28 May 1998 in *Bronner v Mediaprint*, C-7/97 [1998], ECLI:EU:C:1998:264, para. 67, Available: https://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX:61997CC0007,
[27] TFEU, *supra* note 8, Art. 102(d).
[28] Frenz, *supra* note 14, p. 757.
[29] *Microsoft* case, *supra* note 23, paras. 854-859.

controlling at least one undertaking, either by purchase of equity, contract or any other means, that create a direct or indirect control of the whole or part of one or more other undertakings.[30] In order for undertakings to engage in concentration it is necessary for them to submit the planned merger or acquisition for review to the Commission, which, under EC Merger Regulation (2004), exercises control over such cooperation. During the investigation the Commission employs various tests and makes a decision on a case-by-case basis taking into account multiple factors such as dominant position of an undertaking and turnover thresholds, which will be further elaborated upon in the succeeding paragraphs.

The turnover thresholds imposed by Art. 1(2), (3) ECMR illustrate the requirements needed for concentrations to be considered to have a Community dimension. For a concentration to be considered possessing a Community dimension it is necessary to have a total aggregate worldwide turnover of all undertakings concerned to be more than five billion euros as well as to have total Community-wide turnover of each of at least two of the undertakings concerned to exceed 250 million euros.[31] In *Ryanair/Aer Lingus* case, the Commission concluded that since both undertakings have a world-wide turnover exceeding 2500 million euros and their community-wide turnover is greater than 100 million euros, the conditions put forward in Art. 1(3)(a) and (d) have been fulfilled. However, the fulfilment of remaining requirements set out in Art. 1(3)(b) and (c) on whether their combined aggregate turnover in at least three member states in addition to whether each of them achieves at least 25 million in these member states, are dependent on the geographical allocation of the turnover of these undertakings.[32] Based on the aforementioned, it was decided that the concentration between Ryanair and Aer Lingus would significantly harm the competition in the internal market within the meaning of Art. 2(3) Merger Regulation.

With the implementation of the new Merger Regulation in 2004, a new test for the determination of whether concentration "significantly impedes effective competition" (SIEC) was established, pursuant to Art. 2(2) and (3) of the Regulation and is interpreted in the Horizontal Merger Guidelines. In determining whether non-coordinated effects would result in the restriction on competition in the internal market the Commission has put forward various factors to be

[30] Regulation (EC) No 139/2004 of the Council of 20 January 2004 on the concentrations between undertakings (the EC Merger Regulation), *OJ L* 24, 29 January 2004, Available on: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32004R0139, Art. 3(1).
[31] *Supra* note 30, Art. 1(3).
[32] Summary of Commission Decision of 27 June 2007 Declaring a Concentration to be Incompatible with the Common Market and the EEA Agreement (COMP/M.4439 – *Ryanair/Aer Lingus*), *OJ C* 47, 20 February 2008, paras. 11-43, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:C2008/047/05.

examined, such as whether – (i) merger firms have large market shares and (ii) are close competitors, (iii) do the customers have limited possibilities of switching suppliers, (iv) is it unlikely that competitors will increase supply if price increases, as well as whether (v) merged entity is able to hinder the expansion by competitors and (vi) eliminates an important competitive force.[33] This test was used in *ABF/GBI* case where *Airtours* and *Sony* judgements were applied to conclude whether concentration will lead to a situation where competition in the concerned market will be impeded in order to profit from a situation of collective economic strength without competitors or consumers being able to react effectively.[34] It was concluded that such practices could amount to undertakings pursuing practices prohibited by Art. 101 TFEU.

Non-horizontal concentrations bring light to specific issues and represent the occurrences where undertakings active in different markets merge. They are regulated by Guidelines of Non-horizontal Mergers and are divided into two types: vertical and conglomerate mergers. Vertical mergers involve undertakings active at different levels of the supply chain, however conglomerate mergers are mergers amongst companies that are in a relationship that is neither horizontal nor vertical, for example, firms active in closely related markets.[35] In *General Electrics* case the court found firstly that there on the engine-starter market there is a great degree of supply-side concentration, making competitors dependent on this undertaking and, secondly, that the merger would create a vertically integrated commercial structure that would result in restriction on competition on the internal market by strengthening already apparent dominant position that General Electric has.[36]

[33] Communication from the Commission, *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings*, *OJ* 2004/C 31/03, paras. 24-38, Available on: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52004XC0205(02).

[34] Judgement of the Court (Grand Chamber) of 10 July 2008, *Bertelsmann AG and Sony Corporation of America* v *Independent Music Publishers and Labels Association (Impala)*, C-413/06 P, ECLI:EU:C2008:392, para. 120.

[35] Notice of the European Commission, *Guidelines on the Assessment of Non-horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings OJ C* 265, 18 October 2008, paras 3-5, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008XC1018(03).

[36] Judgement of the Court of First Instance (Second Chamber, extended composition) of 14 December 2005, *General Electric Company* v *Commission of the European Communities*, T-210/01, ECLI:EU:T:2005:456, para. 298.

2. PATENTS AND R&D IN THE EUROPEAN UNION

Firstly, it is needed to establish the fact that intellectual property by definition has an immaterial character and the goods protected by intellectual property rights are mainly creations by creative human activity in certain field, such as inventions, literary and artistic works, designs, symbols, names and images used in commerce.[37] Generally, intellectual property is divided in five types – patents, copyrights, trademarks and designs and "related rights", however in this paper the author will emphasize the importance of patent law and its role in research and development (R&D) process. As intellectual property is not tangible, the "property" aspect of the rights is hard to discern, however, it stems from the powers that relevant EU institutions and legislation gives to the owner of these rights, which result in the power to use and to prohibit others from using this "property right" in any way as defined in the applicable laws. Further on, the author will illustrate the main characteristics of patents and R&D, as well as outline the main legislations governing these intellectual property rights.

According to WIPO, a patent is a right granted to an inventor by State to ban other parties from exploiting such invention commercially, for a certain period of time. To gain a patent right, it is necessary to disclose the invention to others, so that they can gain benefit from this invention.[38] In order to be patentable, the subject-matter claimed must involve an instruction addressed to a skilled person as to how to solve a particular technical problem using particular technical means, in other words, "technical teaching".[39] Moreover, the invention shall fulfil the four basic requirements pursuant to Art. 52(1) of European Patent Convention – (i) there must be an "invention", belonging to any field of technology, (ii) the invention must be "susceptible of industrial application", (iii) the invention must be "new" and (iv) the invention must involve an "inventive step".[40] One of EU objectives as set out in the TFEU is to strengthen its scientific and technological bases by achieving a European research area in which knowledge and technology can freely circulate and become more competitive.[41] For this reason it is imperative for the EU to

[37] Kur, Anette, Dreier, Thomas, Luginbuehl, Stefan, *European Intellectual Property Law*, (Cheltenham: Edward Elgar Publishing, 2019), p. 2.
[38] World Intellectual Property Organisation, *Intellectual Proprty Handbook: Policy, Law and Use*, 2004, doi: 10.34667/tind.28661, p. 17
[39] European Patent Office, *Basic Proposal for the Revision of European Patent Convention*, Available on: https://documents.epo.org/projects/babylon/eponet.nsf/0/BF2BE052EB885D6CC125727C00481F27/$File/ec00100.pdf, p. 39.
[40] Convention on the Grand of European Patents (European Patent Convention) No. 16208, 11 January 1978, Available on: https://treaties.un.org/doc/Publication/UNTS/Volume%201065/volume-1065-I-16208-English.pdf, Art. 52(1).
[41] TFEU, *supra* note 8, Art. 179.

facilitate the advancement of R&D, especially in environmental technology and sustainability, in compliance with the EU Green Deal. The main purpose of R&D is to develop a new technology or production process, which aids the enhancement of innovation in the European Union. In these days, when the whole world is scrambling to develop and invent new sustainable technologies such as renewable energy resources and electric vehicles, it is of utmost importance to create a favourable environment in which innovation can prosper and help us curb the environmental crisis.

All secondary law of the EU is essentially based on the premises set out in the basic treaties – EU Treaty, TFEU and Charter of the Fundamental Rights of the European Union – and intellectual property law is no different. The basic principles of EU intellectual property law are enumerated in regulations and directives, which serve as main legislative basis for the governance of intellectual property law in the EU.[42] However, patent law, which is regarded as the most established field of IP law in the Union, has never been strictly dependant on EU legislations, but rather international conventions, such as European Patent Convention, which is employed by European Patent Office in issuing European patent rights. As for the judiciary mechanism, in 2012 the proposal for Unified Patent Court was put forward, to set up common administrative and legal procedures to promote unified litigation process and substantive rules promoting a community wide standard for adjudication of patent cases, currently, 16 EU countries have ratified the agreement establishing this court and it is expected to be launched in late 2022.[43]

2.1. Patent Law in the EU: European Patent Convention and Treaties

The history of international patent law stems in the late 19th century when Paris Convention for the Protection of Industrial Property was concluded. This convention set the basis for all subsequent legislations in the field of patent law based on the principle of national treatment and right of priority, which are prevalent to this day. Almost 80 years later, in 1971, the International Patent Classification was established through Strasbourg Agreement. This, in turn, significantly alleviated the administrative burden thrusted upon patent issuing authorities and inventors, by making the database for already existing patterns much comprehensive and structured.

The governance of European patent law was initially entrusted to European Patent Organization, which the contracting states of European Patent Convention have delegated to

[42] Kur, Dreier, Luginbuehl, *supra* note 37, pp. 40, 49.
[43] *Ibid*. pp. 57-58.

exercise certain powers in the field of patent law.[44] However, nowadays, the main institutions supervising the issuing of patents and legislative functions are Administrative Council and EPO, which act as legislative and executive bodies, respectively. It is important to discern that European Patent Office is not an EU institution and includes also non-member states such as Lichtenstein, Norway and Monaco. The main task of the Office is to grant patents pursuant to EPC on behalf of the European Patent Organization. The seat of the Office is in Munich, with branches also in Vienna, Berlin and the Hague. The significance of European Patent Office has dramatically increased in the recent years, with almost 190 thousand applications submitted in 2021.[45] Most recently, EPO signed a Memorandum of Understanding with the European Institute of Innovation and Technology to facilitate innovation and promote contemporary IP culture in Europe.

Even though the basis of EU patent law is set out in international conventions, such as European Patent Convention and Paris Convention, the Union has created various directives and regulations specifying and accommodating the patent legislation to fit particular cases, for example the discovery of new plant varieties, as well as to promote the harmonisation of patent legislation in EU member states. The most prominent secondary legislation is the EU Biotech Directive, which aim is to regulate and harmonise the conditions under which patents regarding biotechnological inventions can be granted in Europe.[46] In addition, various regulations have been established to protect the patent rights of specific products such as medicinal and plant protection.

2.1.1. European Patent Convention

As mentioned in the previous paragraphs, European Patent Convention is based on the preceding Paris Convention, however, the provisions set out in this legislation are not highly connected with the Paris Convention, as it promotes more of an international scope. The first draft of EPC was put forward in 1962 by the Commission of European Community, now European Commission, with the main version being signed in October of 1973 and ratified four years later in 1977. The main aim of it being the development of uniform patent law in the European community by means of harmonising patent law throughout the member states to enhance the compliance with the Rome

[44] European Patent Organization, Opinion of Enlarged Board of Appeal of 12 May 2010, Available: https://www.epo.org/law-practice/case-law-appeals/pdf/g080003ex1.pdf.
[45] European Patent Organization, *Patent Applications in Europe Reach Record Level in 2021*, 5 April 2021, Available: https://www.epo.org/news-events/news/2022/20220405.html.
[46] Directive 98/44/EC of the European Parliament and of the Council of 6 July 1998 on the legal protection of biotechnical inventions, *OJ L* 213, 30 July 1998, Art. 1, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31998L0044.

Treaty. In addition to the main text of EPC, there are five protocols for the interpretation of the Convention, which are considered integral to the functioning of this legislation and have prevalence over any conflicting provisions – (i) Protocol on Recognition, (ii) Protocol on Privileges and Immunities, (iii) Protocol on Centralization, (iv) Protocol on the Interpretation of Article 69 EPC and (v) Protocol on Staff Complement.[47] One of the underlying factors for the drafting of this convention was to enable smaller European companies to obtain patent rights more easily, as there was a clear dominance of big American companies in the patent market purely based on the cornucopia of resources these enterprises possess, thus creating discriminative environment.[48] Currently there are 38 countries that have ratified this convention.[49]

Substantive patent law of Europe is set out in Part II of the EPC, which illustrates the legal norms of (i) Patentability, (ii) Persons entitled to apply for and obtain European patents, (iii) Effects of the European patent and the European patent application, and (iv) The European patent application as an object of property.[50] According to Art. 52(1) EPC the requirements for obtaining a patent encompass a necessity for the product to be new, bare industrial application and involve an inventive step. However, not all products shall be patentable, such as discoveries, scientific theories and mathematical methods, aesthetic creations, schemes rules and methods for performing mental acts and presentations of information.[51] The description of requirements set out in Art. 52 EPC are discussed in Arts. 54-57 of the same convention. The application for patent may be submitted by legal or natural persons, either jointly or solely, or by two or more applicants designating different contracting states.[52]

The application procedure for gaining a European patent, according to EPC, is multifaceted and requires the involvement of several EPO institutions, namely - General Search Division, Examining Division, Opposition Division as well as Receiving Section. Each of the organs has different role, thus alleviating the bureaucratic burden of the EPO. Firstly, an application completed in either of the three official languages of the EPO shall be submitted to the Receiving Section, which reviews the application in preliminary and supplementary formal examinations and,

[47] European Patent Convention, *supra* note 40, Chapter II.
[48] Nicolai, R. Thomas, "The European Patent Convention: A Theoretical and Practical Look at International Legislation," *International Lawyer* 5 (1971): pp. 136-164, Available on: https://scholar.smu.edu/cgi/viewcontent.cgi?article=4219&context=til.
[49] European Patent Organisation, *Member States of the European Patent Organisation*, Available on: https://www.epo.org/about-us/foundation/member-states.html.
[50] European Patent Convention, *supra* note 40, Part II, Chapters I-IV.
[51] *Ibid*, Art. 52.
[52] *Ibid*, Arts. 58-59.

interestingly, the date of filing sets off the 20 year period validity of patent right.[53] Afterwards, the application is transferred to General Search Division, with aim to discover the state of art of an invention, which is a pivotal component in determining whether it involves an inventive step and is novel.[54] The initiation of search is based on claims, with special attention being provided to the description and drawings of the invention[55], thus determining the extent of protection the invention would receive in case a patent right is granted.[56] This step acts as an intermediary between the filing of application and granting of patent.[57] Similarly to the standard of review illustrated in Patent Cooperation Treaty, state of art shall be considered everything made publicly available either by written or oral means, use or otherwise, before the date of filing the European patent application, if the disclosure of invention can be proven.[58] Afterwards, pursuant to Art. 92 of EPC, a search report is prepared to consolidate the results of search and, in particular, identify the documents involving the relevant state of art, with the information subsequently being provided to the applicant, the examining division and to the general public.[59] After the publishing of European search report, the Examining Division assesses whether the product corresponds to the conditions of patentability encapsulated in Art. 52(1) EPC. Firstly, in case of any deficiencies in description, claims and drawings, the Division shall request the applicant to amend the application, pursuant to Art. 94(3) of the Convention.[60] In case the application is deemed to be valid, the Examination Division shall request the applicant to pay all relevant fees, and file a translation of claims in both EPO official languages within four months[61], without fulfilling these preconditions in due time, the application shall be deemed to be withdrawn.[62] Finally, the Examination Division shall grant the European patent right and publish the specification in the European Patent Bulletin.[63] After the publication, European Patent Office provides for a period of up to nine months to appeal the granting of patent on the grounds of non-conformity to the requirements. Such appeals are reviewed

[53] European Patent Convention, *supra* note 40, Arts. 63 and 90-91.
[54] Administrative Council of the European Patent Organization, Implementing Regulations to the Convention on the Grant of European Patents of 5 October 1973, Rule 61(1), Available on: https://www.epo.org/law-practice/legal-texts/html/epc/2020/e/EPC_reg_20200701_en_20201208.pdf.
[55] European Patent Convention, *supra* note 40, Art. 92.
[56] *Ibid.* Art. 69(1).
[57] European Patent Office, *Guidelines for Examination in the European Patent Office*, Part B, Chapter II-1, paras. 1,3, Available on: https://documents.epo.org/projects/babylon/eponet.nsf/0/E5CF26FC37C06F00C12587F700552B22/$File/epo_guidelines_for_examination_2022_hyperlinked_en.pdf.
[58] European Patent Convention, *supra* note 40Art. 54(2).
[59] *Ibid.* Arts. 92 and 93(1).
[60] *Ibid.* Art. 94(3).
[61] Administrative Council of the European Patent Organisation, *supra* note 54, Rule 71(3).
[62] European Patent Convention, *supra* note 40, Art. 94(4).
[63] *Ibid.*, Arts. 97-98.

by the Opposition Division and in case the claims are unsubstantiated, EPO officially issues a European patent.[64]

2.1.2. Patent Cooperation Treaty and Patent Law Treaty

In the middle of 20th century, the contracting states of Paris Convention undertook an investigation on whether it would be possible to create a unified patent application procedure to avoid the duplication of filings for the same invention in different states and alleviate the administrative burden for both applicants and the issuing authorities. This investigation culminated in the creation of Patent Cooperation Treaty, which came into force on the 24th of January, 1978, thus creating a single international application procedure for gaining patent rights as well establishing the International Patent Cooperation Union, whose members are all contracting states of the Patent Cooperation Treaty, currently 155 contracting states.[65]

The International Application is largely based on the procedure established by the EPO, however includes certain aspects that promote the international scope of this process such as centralized publication and unified filing and examination procedure. According to Art. 3 PCT, an international application shall contain a request, description, one or more claims, one or more drawings (where required) and an abstract.[66] Arguably, the most important part of International patent application, is the International Search phase, where International Search Authority pursues the aim of discovering whether there is relevant prior art, pursuant to Art. 15(2) PCT.[67] The main emphasis of such search is to determine the inventive concept of the patent whilst covering all technical fields which may contain material pertinent to the patented invention.[68] As for the concept of relevant prior art, according to Rule 33.1(a) of Guidelines on PCT, it shall consist of everything that has been made available to the public in any place by means of written disclosure which could include both drawings as well as illustrations and which is able to help determine whether invention submitted for patentability is novel and involves an inventive step, bearing in mind that such disclosure happened before the date of filing the international application.[69] Interestingly, the

[64] European Patent Convention, *supra* note 40, Art. 99(1).
[65] World Intellectual Property Orgnisation, Patent Cooperation Treaty (PCT) as of October 3 2001, Art. 1, Available on: https://wipolex.wipo.int/en/text/288637.
[66] *Ibid.* Art. 3(2).
[67] *Ibid.* Art. 15(2).
[68] World Intellectual Property Organisation, Regulations under the Patent Cooperation Treaty Rule as of July 1, 2020, Rule 33.2., Available on: https://www.wipo.int/export/sites/www/pct/en/texts/pdf/pct_regs.pdf.
[69] *Ibid.* Rule 33.1

International Search Authority shall examine not only art of the same classification, but also any analogous art, disregarding the fact that it might be classified differently, and investigate whether the necessary essential function or use of analogous invention is the same as indicated in the application for patent subject to the international search.[70] After the thorough searching process, the discoveries of all the relevant prior art shall be compiled and published in the form of international search report. It is worth to mention that, according to the treaty, the patent application shall not only comply with the international requirements but also with the national or regional patent laws of the countries or, in some cases, regions, that have been designated by the applicant in the filed application.[71] Generally, the PCT has been considered to be a great step forwards the establishment of international patent, with applicants appreciating that there is no need to file multiple applications for the granting of patent in different countries and national patent issuing authorities enjoying it as a common tool for looking up information about the patents that have already been issued.[72]

The second of two treaties governing the European patent legislation, Patent Law Treaty, was another attempt to establish an internationally harmonized patent law, however, it wound up establishing the formal requirements for the patent applications and introducing an electronic filing procedure, thus essentially acting as a streamlining of the Patent Cooperation Treaty. The aforementioned legislation has been adopted by 43 contracting parties, including EPO, which implemented it into the European Patent Convention, thus making it a part of patent law in Europe. Arguably, the most pivotal provision included in the PLT is the standardization of requirements for obtaining a patent application filing date, which now stipulates three basic preconditions: (i) an indication to the effect that the elements are intended to be an application, (ii) indications that would allow the office to identify or to contact the applicant and (iii) a description of the invention.[73] However, it is pivotal to note that these shall not be considered maximum formal requirements that the institution granting patents can request from the applicant and in case they have not been fulfilled the filing date cannot be issued. Lastly, PLT incentivised the use of electronic application procedure, thus phasing out paper communication.[74] Based on the

[70] World Intellectual Property Organisation, *supra* note 68, Rule 33.2.
[71] Flanagan, L. Eugene, "The Patent Cooperation Treaty: Effects on Domestic and Foreign Patent Practice." *The International Lawyer, 13*, (1979): p. 146, Available on: https://scholar.smu.edu/cgi/viewcontent.cgi?article=3392&context=til
[72] Kur, Dreier, Luginbuehl, *supra* note 37, p. 87.
[73] World Intellectual Property Organisation, Patent Law Treaty adopted by the Diplomatic Conference on June 1, 2000, Art. 5, Available on: https://wipolex.wipo.int/en/text/288773.
[74] Grubb, W. Philip, "The Trilateral Cooperation", *Journal of Intellectual Property Law & Practice* 2 (2007), doi: 10.1093/jiplp/jpm054, p. 397

aforementioned it can be concluded that the attempts to facilitate the harmonization of European patent law has been fairly successful and resulted in not only legislative changes in the patent field, but also provided tangible results for both the applicants and issuing authorities.

2.2. R&D in Sustainable Technology

As it is, hopefully, evident all throughout this paper, EU has made it its priority to reach certain sustainability goals as fast as possible with the biggest goal being that of reaching climate neutrality until 2050, however, it is necessary to develop novel environmental technologies that would replace current ones. And as it can be deduced, the main way to do it is to carry out research and development processes, which are subject to intellectual property rights and are unquestionably costly. Up until recently only huge market players and rich enterprises were able to participate in R&D by using resources already available to them and employing top of the line scientists and engineers to invent a new technology. Naturally this puts smaller market players at a disadvantage, which in itself both restricts the competition in the internal market and curbs innovation. However, it might be possible for states to invest in sustainable R&D, to promote the development of cutting-edge technologies.

Currently, the EU has created a strategic plan for research and innovation, namely Horizon Europe, which sets out priorities in research and innovation to promote sustainable recovery and accelerate the EU sustainability and digital policy, which is expected to lead to "green" Europe fit for the digital age where the economy aids the people.[75] Horizon Europe is the ninth European Research and Innovation Framework Programme for the years 2021-2027 in the context of a new European Research Area for research and Innovation,[76] which is currently in its first phase. It has been divided into six clusters, from which the fifth one with the ambition to achieve climate neutrality in Europe by 2050 by transitioning to climate neutrality in the energy and mobility sectors by 2050, at the same time boosting the competitiveness, resilience and utility of these sectors for the good of the European society, ensuring a just transition.[77] Thankfully, this is not just

[75] European Commission, Directorate-General for Research and Innovation, *Horizon Europe : strategic plan 2021-2024*, Avaible on: https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/ec_rtd_horizon-europe-strategic-plan-2021-24.pdf.
[76] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *A New ERA for Research and Innovation*, COM/2020/628, 30 September 2020, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:628:FIN,
[77] Horizon Europe, *supra* note 75, p. 76

another EU initiative that the companies do not want to comply with, with sustainable technology R&D expected to become one of the most competitive industries in the future with projected 25 billion euros to be invested during the next two years.[78]

2.2.1. Investments in R&D

The main reason for granting patent rights undoubtedly stems from the fact that new inventions promote innovation, thus boosting economy and competition in the internal market. Even though granting of patent creates an exclusive right to use the new technology, it is in EU interests to not only promote innovation but also further the development of sustainable technologies that can be used in reaching the set out environmental goals. Of course, investing in R&D is not only policy prerogative, but also of significant interest in the private sector, as companies understand that the need for sustainable technologies, especially in energy sector, will become indispensable, thus opening a hugely profitable market in which they can get a head start by making substantial investments into environmental technology R&D. Therefore, it can be concluded that both the EU and private sector are more than willing to work hand in hand to attain their respective goals, albeit for different reasons. To put that in perspective, even though in 2020 world experiences a recession due to a pandemic, the global investments, by companies evaluated in European Commission report, in R&D increased by 6% amounting to 908,9 billion euros in 2020.[79]

In 2016 the European Commission adopted the EU Common Consolidated Corporate Tax Base (CCCTB), which proposed that all R&D expenses should be immediately made deductible and foresaw an Allowances for Growth and Investment and R&D. One of the aims of this programme was to increase the level of investment in R&D to comply with reaching EU's goal of reaching 3% of GDP that is invested in R&D.[80] First of the two provisions in regards to taxable revenues includes an arrangement that R&D costs are fully expensed in the year incurred, with the exception of immovable property. Moreover, companies taxed on R&D are entitled to a yearly super-deduction of 50% if their expenditure does not exceed 20 million euros and if the expenditure

[78] European Commission, Joint Research Centre, *The 2019 EU survey on industrial R&D investment trends*, (Seville: Publications Office, 2019), p. 19, figure 8, doi: https://data.europa.eu/doi/10.2760/200895.
[79] European Commission, Joint Research Centre, *The 2021 EU industrial R&D investment scoreboard : executive summary*, (Seville: Publications Office, 2021), p. 3, doi: https://data.europa.eu/doi/10.2760/248161.
[80] D'Andria, Diego, Pontikakis, Dimitrios, Skonieczna, Agnieszka, "Towards a European R&D Incentive? An Assessment of R&D Provisions Under a Common Corporate Tax Base", *JRC Working Papers on Taxation and Structural Reforms* No. 3-2017, (Seville: Joint Research Centre, 2017), pp. 3-4, doi: http://hdl.handle.net/10419/202249.

is larger than 20 million the exceeding amount can be deducted by 25%. Furthermore, to create more favourable conditions for start-ups and promote entrepreneurship, new companies that do not have particularly innovative associated enterprises, may deduct 100% of their R&D costs if they do not exceed the 20 million euro mark.[81] As for the Allowance for Growth and Investment, it initiates the concept of deducting the interest paid out on loans, thus creating a favourable environment for financing through debt instead of equity. In colloquial wording, companies that pay taxes will be given an allowance to stimulate growth and investment, thus their expenditure on equity will be deductible from their tax filings.[82]

2.2.2. R&D as a Resource to Improve Competition in Europe

EU is well aware of the economic theory that considers advancement in R&D to be a huge boost to economic growth. Therefore, their prerogative to become global innovation powerhouse and competitive market player is prioritized to such extent that it has been assigned as one of the three pillars of Horizon Europe programme.[83] It is completely certain that by making significant investments and strengthening research it will not only create a more competitive environment in the EU, but also put Europe on the track to successfully compete with the US and Asian technological giants. However, the centralized European initiative of funding R&D will not be focused on already established and evolved companies, but will primarily give aid to smaller businesses and start-ups, similarly to tax deductibles, as **i**t has been proven that smaller companies are three times more willing to invest in R&D than others as they perceive this as an opportunity to grow and become competitive players in the internal market.[84]

For attainment of their goals, EU has established two institutions – the European Innovation Council and the European Institute of Innovation and Technology. The first instrument, EIC, will focus on the financing of hug-risk innovations with the potential to create new markets and support trailblazing innovators and entrepreneurs that have the potential to scale-up their ideas and bring them to the internal market. Currently, the European Innovation Council has supported almost 6000

[81] European Commission, *Proposal for a Council Directive on a Common Corporate Tax Base*, COM/2016/0685, 25 October 2016, p. 9, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016PC0685.
[82] *Ibid*. p. 10.
[83] European Commission, Directorate-General for Research and Innovation, *Horizon Europe, pillar III - Innovative Europe : supporting and connecting innovators across Europe*, (Seville, Publications Office, 2021), p. 1, doi: https://data.europa.eu/doi/10.2777/90204.
[84] Investment Trends, *supra* note 78, p. 17.

start-ups, resulting in over five billion euro follow up investment from the private sector. As for the European Institute of Innovation and Technology, it works like an entrepreneur bootcamp in which, through courses, research projects and business incubators, the young innovators develop innovative products and services.[85] With the combined budget of more than 13 billion euros, these two instruments are a bold step on the part of the EU to foster not only research and innovation but also competitive environment in the market. However, since R&D involves significant intellectual property rights it is pivotal for European Union to figure out a way in which young innovators will not be abused by the big companies, by creating a special intellectual property legislation that allows the sharing of R&D without company losing exclusive rights, in addition to modifying the current European competition law to include provisions for the sharing of sustainable technology R&D without harmful impacts on the competition in EU. The current impacts of sustainability technology R&D sharing on European competition law will be further elaborated on in the next chapter of this paper.

[85] Innovative Europe, *supra* note. 83, pp. 1-3

3. IMPACT OF R&D SHARING ON EU COMPETITION LAW

"*As we move from pure R to applied R and ultimately to D, however, one can fairly ask whether our legal and commercial institutions are in fact properly designed to promote, rather than discourage the creation of products and services that draw on many strands of innovation…*"[86] – Carl Shapiro

3.1. Synergy of EU Competition and Intellectual Property Law in Innovation

Intellectual property law and competition law by definition are completely polarizing subjects. One supports the exclusivity of rights and the right to unilaterally monopolize a certain subject, and the other aims to eradicate the dominance of undertakings and provide equal environment for every entity. Even though these concepts are entirely different, the one similarity is that they both aim to enhance economic welfare and innovation, albeit by different means. Therefore, it naturally begs the question, is there even a possibility that these two opposites can collaborate and more importantly can legislators create a political climate where they act symbiotically without compromising their essence?

As outlined in the previous chapter, nowadays, more than ever, innovation and creation of trailblazing technology is imperative in achieving the sustainability goals set out by the EU. Naturally, the European lawmakers have pondered about this for more than 60 years, however, the question still stands, are the current legislations sufficient for promoting innovation through exclusive intellectual property rights without compromising the competition in the internal market. In this chapter, the author will analyse the current legislative environment in regards to the common policy for innovation and incentives for new R&D and hopefully answer the question of what will it be - will the mountain go to Mohammed or must the Mohammed come to the mountain?

[86] Shapiro, Carl, "Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standard Setting" *Innovation Policy and Economy* 1 (2000), p. 120, Available on: https://www.journals.uchicago.edu/doi/epdf/10.1086/ipe.1.25056143.

3.1.1. Patent Pools

The prevailing definition of patent pools is that they are cooperative agreements among several patent holders to exploit their exclusive intellectual property rights by licencing their respective patents to third parties as a bundle.[87] There are various reasons for creating patent pools, thus the form of these creations differs depending on their purpose. Generally, there are two types of patent pools – those which involve transfer of control to a cooperation or independent legal entity, which then acts as an agent or on their own behalf and the ones where the individual patents of different firms are bundled together and licenced by one of the participants.[88] The distinction between these two types of patent pools is pivotal for this paper as the choice of form often illustrates the competitive strategy of the partnered enterprises. According to European Commission Guidelines, technology pools can create competitive incentivizing effects by reducing transaction costs and setting a limit on total royalties, thus avoiding double marginalisation. This is particularly significant in industries where there is prevalence of intellectual property rights and it is necessary to receive a licence to successfully operate in the market, such as environmental technology market.[89] As illustrated in the previous chapter, R&D and patents are a pivotal part of environmental technology industry as they require trailblazing innovations, which most of the time require huge investments, thus limiting the market only to few wealthy companies, in turn negatively impacting competition in the internal market and increasing the costs for consumers. Luckily, licensees, consider patent pools to be a convenient practice of one-stop shopping, alleviating the burden of licencing each patent individually and paying for patent rights that might turn out to be useless to them.[90] However, the growing popularity of patent pools also raises concerns in regards to the flourishing of price fixing cartels, because of the joint selling aspect that is embedded in the premise of patent pools. Therefore, it naturally begs the question, are patent pools really a viable mechanism for the incentivization of innovation and R&D or is it a leeway for big companies to engage in collusive behaviour.

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[87] US Department of Justice and Federal Trade Commission, *Antitrust enforcement and intellectual property rights: Promoting innovation and competition*, April 2007, pp. 84-85, Available on: https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf.

[88] Drexl, Josef, *Research Handbook on Intellectual Property and Competition Law*, (Cheltenham: Elgar Publishing, 2008), p. 139.

[89] Notice of the European Commission, *Guidelines on the Application of Article 81 of EC Treaty to Technology Transfer Agreements*, *OJ C* 101, 27 April 2004, para. 214, Available on: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52004XC0427(01).

[90] Shapiro, *supra* note 86, p. 134.

The overarching presumption about patent pools is that they are pro-competitive practice that incentivize the creation of new technologies and reduce the transaction costs for R&D, however, as mentioned above, it may lead to distortion in competition if the negative effects outweigh the positive ones in form of too close of a cooperation between competitors. For this reason, the regulators have made a differentiation between blocking and non-essential patents as well as substitute and complementary patents and their effects on the mechanisms of patent pools.[91] For patent pools to be considered valid under Art. 101(1) TFEU, they must possess essential technologies, for the reason that they do not involve horizontal price fixing, thus do not limit innovative competition. In this occurrence, even patent pools created by market dominating enterprises are considered legal, because they bring together essential patents that enable easy technology licencing.[92] Interestingly, complementary patents can also be essential patents if there is no substitute for them. On the other hand, in case a significant part of the pooled patents is substitutable, this would create a situation of price fixing, thus these kind of patent pools would not be caught by the Art. 101(3) TFEU, as the substitutable patents by definition are not indispensable.[93] However, patent pools, as most of intellectual property concepts, are not absolute and include also non-essential complementary and non-significant substitute patent pools, which compliance with Art. 101(3) TFEU is decided on a case-by-case basis, depending on whether they eliminate competition and lead to increase in licencing fees.[94] As for the impact of patent pools on innovation, it can be concluded that if the possibility of imitation in technology market is high, because of more lenient patent legislations, the enterprises will choose to not create patent pools, in turn generating substitutes, thus decreasing the level of innovation. Alternatively, if competition law of the internal market is more permissive, companies are more likely to create patent pools and pursue joint R&D, which would likely result in establishment of novel technological inventions in the industry.

As opposed to technology transfer and R&D sharing, patent pools are not regulated by a particular legislation as neither Technology Transfer Block Exemption Regulation or R&D Block Exemption Regulation apply to them, however there are certain of aspects that are regulated by TTBER such as cross-licensing. Currently, patent pools and exchange of licences in EU law are treated the same as technology transfer agreements, thus potentially benefiting from the group

[91] Konigs, Martin, "The Guidelines on Technology Transfer Agreement: The Second Edition and Its Consequences on Patent Pools", *Journal of Intellectual Property & Practice*, 9 (2014), p. 1012, Available on: Oxford Academic.
[92] Guidelines on application of Art. 81, *supra.* note 89, §220
[93] Guidelines on application of Art. 81, *supra.* note 89, §219
[94] Drexl, *supra*. note 84, pp. 135-136

exemption under TTBER, which depends on several factors – market share, non-conformity with hardcore restrictions and whether they are vertical or horizontal by nature.[95] In practice though, patent pools are regulated by Technology Transfer Guidelines as cross-licensing frequently goes hand in hand with patent pools and the revised version even includes a new guidance on "safe harbours" that can be employed by companies to benefit from the simpler and more economical access to intellectual property rights that are necessary for them to create innovative technologies by participating in patent pooling.

3.1.2. Technology Transfer

Pursuant to Art. 1(1)(c) of Technology Transfer Block Exemption Regulation (TTBER) technology transfer means (i) technology rights licencing agreement entered into between two undertakings for the purpose of the production of contract products by the licensee and/or its sub-contractors, or (ii) assignment of technology rights between two undertakings for the purpose of the production of contract products where part of the risk associated with the exploitation of the technology remains with the assignor.[96] Generally, patent rights are considered to be technology rights in the context of knowledge and technologies created in the process of R&D and according to European Commission facilitate economic efficiency and promote competition as they by definition reduce duplication of R&D and incentivize new research, thus increasing competition in the market by boosting innovation. It is held that technology transfer agreements possess a significant influence on incentivizing innovation and enhancing the efficiency and frequency of R&D as well as fostering new inventions.[97] In simpler terms, technology transfer in essentiality is just licensing of intellectual property, which brings us to our point, that technology licensing poses significant threat to competition in the market. Therefore, in this part, the author will illustrate the benefits and harms that technology transfer brings upon competition, and whether it is worth it.

Similarly, to patent pools, technology transfer involves licencing of patents, just not as a bundle but individually. However, from intellectual law perspective, licensing agreements are

[95] Drexl, *supra.* note 84, p. 145
[96] Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (TTBER), *OJ L* 93, 28 March 2014, Art. 1(1)(c) , Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.093.01.0017.01.ENG.
[97] Barazza, Stefano, "The Technology Tranfser Block Exemption Regulation and Related Guidelines: Competition Law and IP Licencing in the EU", *Journal of Intellectual Property Law & Practice* 9, (March 2014), p. 186, Available on: Oxford Academic.

much more compatible with the EU competition legislation. The possibility that licensing agreements would fall under the restrictions of Art. 101(1) TFEU is small and would entail very particular circumstances.[98] One such occurrence was in *Nungesser* case where a man was permitted to register plant varieties in his own name under the condition that the seeds would be sold in Germany and two thirds of the production should be imported from France.[99] Even though Commission found a violation of Art. 101(1) TFEU, the offence fell under the exemptions provided by Art. 101(3) TFEU on the grounds that the absence of exclusive licence would be damaging to the spreading of new technology and, thus, prejudice competition in the internal market.[100] As it can be deduced from the aforementioned, even though the infringement of Art. 101(1) exists, the exclusivity of patents that promote the innovation in the internal market will be generally decided to fall under the exceptions of Art. 101(3) TFEU and are covered by the Block Exemption Regulation. However, each case has to be investigated thoroughly as the line between technological innovation through exclusive patent rights and violations of competition law is thin.

Overall, technology licencing agreements are successful means to incentivize innovation by sharing R&D and licensing patents, without posing significant threats to competition in the internal market. The EU has been aware of this opportunity for more than 50 years since the publication of Notice on Patent Licensing Agreements, which acted as a catalyst for licensing agreements being exempted from the restrictions embedded in Art. 101(1) TFEU.[101] More recently, European Commission has implemented the TTBER which specifically regulates such agreements and creates a "safe haven" for their establishment. This practice has been proven to act in favour of increase in creation of innovative technologies and, possibly, more importantly, has done so by infringing competition law very rarely. Although the overarching presumption is that technology transfers are the most pro-competitive patent sharing practice, it comes with its pitfalls. As illustrated in *Tetra Pak* case, the Commission concluded that even though licencing agreements that infringe Art. 101(1) TFEU can be justified either by exemptions under Art. 101(3) or Block Exemptions, this practice can still be harmful to competition, for example, in cases where the

[98] Kur, Dreier, Luginbuehl, *supra* note 37, pp. 493-494.
[99] Judgement of the Court (Grand Chanmber) of 8 June 1982, *L.C. Nungesser KG and Kurt Eisele* v *Commission of the European Communities*, C-258/78, 1982, ECLI:EU:C:1982:211, para. 10, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:61978CJ0258.
[100] *Ibid*. paras. 76-78.
[101] Barazza, *supra*. note 97, p. 189.

licensor of patents is acquired by a significant market player, thus making it exorbitant, amounting to abuse of dominance, breaching Art. 102 TFEU.[102]

3.1.3. R&D Sharing in the European Union

The EU has been openly categorical in their willingness to incentivize the technological innovation in the internal market, embedded in Art.179(2) TFEU, which reads that EU should encourage small and medium-sized undertakings to pursue high quality R&D, and support their efforts to collaborate in this matter. The results of these actions that promote technological and economic progress shall be considered to be a natural consequence of joint R&D. Even though such agreements could restrict the competition, the EU shall make sure that facilitation of R&D and protection of competition is reconciled. Thus, the Commission enacted Regulation No. 1217/2010 on the Application of Art. 101(3) of the TFEU to categories of research and development agreements (R&DBER).[103] But why are the legislators so keen on facilitating this behaviour? Well, according to Marinucci, the main aim of legislators in incentivizing cooperation in R&D is to increase the research activity and competitiveness of European enterprises. This is especially favourable for governments as the cooperation increases investments in R&D, eliminates the duplication of inventions and both lowers the consumer costs and increases the quality of products in the market.[104] However, as with everything, in order for this to be a sustainable practice, there needs to be appropriate regulation to support the development of this system, which should promote the competition in the EU without undermining the exclusive rights provided by patent law.

R&D is a key component of success and power for firms existing in a competitive market, however, as previously established, it is quite costly and often involves spending resources on inventions and patents that are not useful for the final product. For this reason, firms nowadays are more than willing to participate in joint R&D, to limit unnecessary spending and create innovative technology faster by sharing the risks with other market players. As this practice involves sharing of patent rights and horizontal cooperation, the EU has created more lenient competition regulation, namely R&DBER, and subsidies to facilitate joint R&D agreements. Subsequently, pursuant to

[102] Judgement of the Court of First Instance of 10 July 1990, *Tetra Pak Rausing SA* v *Commission of the European Communities*, T-51/89, ECLI:EUT1990:41, para. 23, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:61989TJ0051.
[103] TFEU, supra note 8, Art. 179(2).
[104] Marinucci, Marco, "A Primer on R&D Cooperation Among Firms", *Occasional Papers of Banca D'Italia No. 130*, (Rome: Economic Research Department of Bank of Italy, 2012), p.. 17, Available on: SSRN.

Art. 2(2) of R&DBER the exemption of enforcing Art. 101(1) TFEU applies only to R&D agreements which contain provisions which relate to the assignment or licencing of intellectual property rights to one or more of the parties or to an entity the parties establish to carry out the (i) joint R&D, (ii) paid for R&D or (iii) joint exploitation, provided that those provision do not constitute the primary object of such agreements, but are directly related to and necessary for their implementation.[105] A good example of this practice is shown in *Philips/Osram* case where Commission received a complaint alleging the breach of Art. 101 TFEU in LED light fixture and component market by Philips and Osram based on the fact that Philips waived its rights to receive royalties from Osram due to it being a "Qualified supplier". The Commission ruled out infringement of Art. 101 TFEU pursuant to the fact that cross-licensing payments were already made beforehand and that, even though such agreements could amount to a cartel, the agreement does not restrict sale and development of other products incorporating licenced technology and the mere fact that cross-licensing is not cost-neutral to the consumers is not sufficient to establish anti-competitive behaviour.[106]

For us to understand the full extent to which R&D sharing impacts innovation and competition in the EU it is necessary to acknowledge the benefits and drawbacks of such agreements. As already established, the main way that governments facilitate R&D partnerships is by creating more lenient competition legislation, such as Block Exemptions. However, this raises huge concern about enterprises abusing these rules by engaging in collusive behaviour, thus legislators have to be very careful as to not boost anti-competitive environment.[107] Currently, the primary requirement for enterprises to engage in joint R&D is that their *ex ante* market share shall not exceed 25% of the relevant market for the contract products.[108] This prerequisite is pivotal in making sure that dominant undertakings do not abuse the leniency provided for R&D agreements and gives opportunity for small and medium-sized enterprises. However, in case the market share exceeds 25%, the undertakings shall prove that their agreement is in compliance with Art. 101(1) TFEU. For example, in 2004 Microsoft and Time Warner intended to jointly acquire a US undertaking with specialization in licencing and development of intellectual property rights,

[105] Commission Regulation (EU) No 1217/2010 of 14 December 2010 on the application of Article 101(3) of the Treaty on the Functioning of the EUropean Union to certain categories of research and development agreements, (R&DBER), *OJ L* 335/36, 18 December 2010, Art. 2(2), Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32010R1217.
[106] European Commission Decision rejecting the complaint in Case AT.39913-LED, C(2019) 78-5, 25 October 2019, paras. 87-96, Available on: https://ec.europa.eu/competition/antitrust/cases/dec_docs/39913/39913_772_7.pdf.
[107] Kur, Dreier, Luginbuehl, *supra* note 37, p. 20.
[108] R&DBER, *supra* note 105, Art. 4.

however after the Commission conducted a comprehensive investigation it expressed doubts about this agreement's compliance with existing competition regulation, thus the acquisition did not go through.[109] However, according to study by Ruble and Versaevel, the market share criterion is not univocally linked to incentive for firms to engage in R&D agreements, as by focusing on it the regulation loses *raison d'être* of the Block Exemption itself and in turn disincentivizing large firms to participate in such agreements to the detriment of technological innovation and consumers.[110]

3.2. Sustainability Goals and Competition in the EU Market

As the threats of climate emergency loom upon us, the EU has ramped up its decision making and legislative authorities to figure out ways that EU could follow through with the European Green Deal and reach climate neutrality until 2050. The latest development happened in March of this year, when, after thorough consultations and deliberation about competition law hindering the promotion of green initiatives, the Commission published a draft of the revised Guidelines on Horizontal Agreements as well as amendments to Research & Development Block Exemption Regulation, with increased focus on the use of exemptions provided in Art. 101(3) TFEU and their application in cases concerning sustainable technology R&D. In the words of president of the NAT section of the EESC: "Competition policy should facilitate, not hinder, the transition to sustainability – a transition that should leave no one behind! This is essential if we want to achieve a European Green and Social Deal"[111] For these reasons, the author considers that it is pivotal to examine the most recent developments of the EU sustainable competition policy and outline the possible outcomes of these changes in legislation.

3.2.1. The European Green Deal and Competition Policy

Recently, as EU stays awfully focused on the European Green Deal, a Competition Policy Brief was published, outlining three current paths of reforms that shall be implemented in the EU

[109] Rubble, Richard, Versaevel, Bruno, "Market Share, R&D Cooperation, and EU Competition Policy", *GATE Working Papers*, (Eqully: GATE groupe, 2009), p. 4, Available on: https://halshs.archives-ouvertes.fr/halshs-00377541/document.
[110] Rubble, Richard, Versaevel, Bruno., "Market Shares, R&D Agrements, and the EU Block Exemption", *International Revie of Law and Economics* 37 (2014), pp. 1, 9, doi: 10.1016/j.irle.2013.04.008.
[111] Opening remarks of President of the NAT section of the EESC Peter Schmidt, Online Conference on Competition Policy and Social Sustainability, March 14th, 2022.

competition legislation: (i) State aid directed at the funding of non-fossil fuels; clarifying and simplifying the rulebook; and enhancing possibilities to support innovation, (ii) antitrust, where further clarification is required whether and how to assess sustainability benefits; improving guidance and an open door policy, and (iii) mergers with strengthening enforcement regarding possible harm to innovation; reflecting sustainability aspects prevailing in the market and consumer preferences for them. Accordingly, the Commission has published drafts of amended competition policy, namely Guidelines on Horizontal Agreements and R&DBER. In this chapter, the author will outline the main changes made to competition policy and provide, hopefully, constructive analysis.

Interestingly, EU member states have been leading the way on sustainability and competition cooperation instead of Commission, for example the Netherlands national competition authority issued Dutch Draft Guidelines, which proposed preferential treatment of environmental initiatives in competition law. The aforementioned guidelines were considered to be a part of consultation before the drafting of new Horizontal Cooperation Guidelines. The main issues the Commission wanted to address were that the assessments made in regards to the sustainability agreement compatibility with the EU competition law were highly focused on the internal market even though they more often than not fall outside the scope of the internal market and therefore do not concern the consumers within the EU. Following the public debate, three propositions were made: (i) need for expansion of Art. 101(3) TFEU to take into consideration the long-term benefits that the society and consumers would gain from the sustainability agreements, (ii) create exception from the application of Art. 101(1) TFEEU on public policy grounds (following *Wouters* and *Albany* route), and (iii) give special status to environmental protection pursuant to Art. 11 TFEU and Art. 37 of the EU Charter.[112]

3.2.2. Use of Art. 101(3) of the TFEU in Aiding Sustainable Development

The overarching view of legal scholars is that there are four ways in which sustainability agreements could be compatible with EU competition law: (i) agreements fall outside of the scope of Art. 101(1) TFEU, (ii) agreement does not restrict competition, (iii) agreement falls under the individual exemptions set out in Art. 101(3) TFEU and (iv) agreements falling within the ancillary

[112] Capiau, Jeroen "Sustainability Agreements Under EU Competition Law: Draft Revised Guidelines on Horizontal Cooperation Agreements", *JFTC International Symposium*, 25 March 2022, p. 3, Available on: https://www.jftc.go.jp/cprc/events/symposium/2021/220325sympo1.pdf.

restraints doctrine.[113] As the first three ways have been discussed earlier in the paper and are quite straight forward, the author will outline the premise of agreements that fall within the ancillary restraints doctrine. It stems from *Albany* case, where CJEU held that "it therefore follows from an interpretation of the provisions of the Treaty as a whole which is both effective and consistent that agreements concluded in the context of collective negotiations between management and labour in pursuit of such objectives must, by virtue of their nature and purpose, be regarded as falling outside the scope of Art. 101(1) of the Treaty".[114] As Holmes concluded the social policy objectives can be applied to sustainability objectives even more efficiently given the multiple references to sustainability aspects in the constitutional provision, thus corroborating the ancillary restraints doctrine.[115]

Peculiarly, the importance of Regulation 1/2003 is often undermined in regards to sustainability development and its corelation with the EU competition law, however, there is a significant aspect that this Regulation provides, namely, it requires the direct application of Art. 101 TFEU at the national level, and not only consider Art. 101(1) separately. This change provides the possibility for the Commission to adopt positive decisions in regards to sustainability agreement compatibility with the Art. 101 TFEU, pursuant to Art. 10 of the aforementioned Regulation.[116] More frequent use of Art. 10 of Regulation 1/2003 in combination with the existing exemptions under Art. 101(3) TFEU and adopting decisions on such legal basis would be immensely beneficial for the Commission as it would create an obligation for the national competition authorities and courts to use uniform application of harmonized competition law rules in regards to sustainability agreements.[117] However, the Commission should become increasingly warry of the occurrences of greenwashing as was displayed in *Consumer Detergents* case, where three major detergent manufacturers collaborated in collusive behaviour by coordinating prices, namely keeping them unchanged. when the amount and quantity of product was decreased, masquerading behind the façade of being environmentally conscious, thus achieving market stability.[118] Subsequently,

[113] Holmes, Simon, "Climate change, Sustainability, and /Competition Law*", Journal of Antitrust Enforcement* 8, July 2020, p. 368, Available on: Oxford Academic.
[114] Judgement of the Court of 21 September, *Albany International BV* v *Stichting Bedrijfspensionenfonds Textielindustrie*, C-67/96, ECLI:EU:C:1999:430, para. 60.
[115] Holmes, *supra*. note 113, p. 370.
[116] Bruzzone, Ginerva, Capozzi, Sara, "A Pro-competitive Strategy for EU Sustainable Growth", (2020), pp. 5-6, Available on: SSRN.
[117] Pezza, Anrea, "The European Green Deal: Shaping Environmentally Friendly Policies Under Art. 101 TFEU", *Market and Competition Law Review* 4, 2020, pp. 164-165, Available on: SSRN.
[118] Commission Decision of 13 April, 2011 relating to a proceeding under Article 101 of the Treaty on the Functioning of the European Union and Article 53 of the EEA Agreement,, (COMP/39579 - *Consumer Detergents*), paras. 33, 53, Available on: https://ec.europa.eu/competition/antitrust/cases/dec_docs/39579/39579_2633_5.pdf.

pursuant to Arts. 7 and 23(2) of the Regulation 1/2003, the "sustainable" agreement was ended and a fine was imposed on each of the respective parties.[119]

3.2.3. New Requirements for Providing State Aid in the EU

Financing sustainable development through state aid has existed in the EU for around 30 years now, and European Commission has been forthcoming in such cases. The most prominent recent example was when Belgian government issued 3,5 billion EUR in state aid to fund offshore wind farms, stimulating the energy transition. Moreover, in 2010 Germany provided state aid amounting to more than 37 million EUR to fund gas recycling and production of solar panels, however, since such immense amounts of money are funnelled into the private sector it naturally begs the question of whether these sustainability boosting practices do not compromise the *status quo* of the EU competition law.[120] Luckily, comprehensive guidelines on environmental state aid, such as the Guidelines on State Aid for Environmental Protection and Energy, have been established and, in authors humble opinion, this is a great example of creating cooperation between sustainable development and competition law.

Even though the EEAG was in force only until the end of 2021, its aim to support innovation encouraging investments and creation of sustainable technology, still remains a priority and the Commission has provided flexibility in state aid rules for the attainment of goals set out in the European Green Deal.[121] For example, the currently prevailing opinion of the European Commission in regards to facilitating sustainable development through state aid lies in doctrine set out in *Hinkley Point* case. The aforementioned case provides an interpretation of Art. 107(3)(c) TFEU and puts a duty on the Commission to examine whether the granting of state aid is not in contrast with the EU law on the environment, thus cannot be declared compatible with the internal market.[122] Therefore, when deciding the granting of state aid, even if the economic activity falls within the provisions of Art. 107(3)(c) TFEU, the Commission must check whether this will not

[119] *Consumer Detergents*, *supra* note 118 paras. 62, 64.
[120] Outhuijse, Annalies *The Relation Between Environment and Competition Policy: Trends in European and National Cases*, 2020, pp. 6-7, Available on: SSRN.
[121] Verschuur, Steven, Sbrolli, Cecilia, "The European Green Deal and State Aid: The Guidelines on State Aid for Environmental Protection and Energy Towards the Future", *European State Aid Law Quarterly* 19 (2020) p. 289, Available on: ProQuest.
[122] Judgement of the Court (Grand Chamber) of 22 September 2020, *Republic of Austria* v *European Commission* C-594/18 P, ECLI:EU:C:2020:742 para. 45, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62018CC0594.

infringe the EU law on the environment, and if it indeed is the case, the Commission shall declare the granting of state aid incompatible with the internal market and not pursue any other form of examination.[123] As can be deduced, this case provides a new narrative for the symbiosis between competition law and sustainability agreements. Even though it concerned the decision to not grant state aid to nuclear plants, it can be interpreted as giving primacy to EU environmental law on the basis of Art. 11 TFEU and Art. 37 of the EU Charter, instead of just blindly following the competition law legislation. In authors opinion, this is a step in the right direction, as it is clear that the primary goal of EU, currently, is the promotion of sustainability and avoidance of worsening of climate crisis, thus it is completely logical to consider competition law through the lens of whether it is compatible with the environmental law set out in the EU Treaties. This trailblazing decision overturned the prior *Castelnou* decision that stipulated that it is irrelevant whether the state aid complies with EU environmental laws eunless the granting of state aid has environmental objectives and that any infringements shall be carried out according to procedure set out in Art. 258 TFEU.[124]

[123] *Austria v Commission, supra* note 122. para. 100.
[124] Judgement of the General Court (Second Chamber) of 3 December 2014, *Castelnou Energia, SL* v *European Commission,* T-57/11, ECLI:EU:T:2014:1021, paras. 189-191, Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:62011TA0057.

CONCLUSION

In the words of Oscar Wilde, the cynic knows the price of everything, but the value of nothing[125], and finally, the EU has come to complete consensus that curbing of environmental crisis is the primary concern in the Union and that there is no option for remaining cynical and that simple recycling is not going to cut it. Subsequently, the EU has been actively working to figure out a way to facilitate sustainable innovation, without causing detrimental effects to the efficiency of the internal market and, undoubtedly, has proven itself to be a leading actor in global sustainability initiatives. The main finding of the research was that, indeed, competition and patent law can exist in symbiosis, and provide not only improvements in sustainability, but also boost EU market efficiency and put the Union on track to become a global innovation powerhouse.

As for the research question, the conclusion is that more lenient competition law does in fact facilitate investments in sustainable R&D. More importantly, not only does it incentivize pursuing of R&D, but also increases the competitive environment in the internal market. By the time of finishing the research author was confident in her hypothesis - Expansion of exemptions pursuant to Art. 101(3) TFEU will incentivize investments in sustainable technology R&D. The hypothesis was proven to be true, for the reason that by creating more lenient competition regulation, and subsidies to facilitate joint R&D agreements, the EU has garnered more than five billion euros in private investment for R&D, which naturally increases the innovation and competition in the internal market.

The main stumbling stone for the author, in carrying out the research, was the fact that this topic is widely researched within econometrics, however the amount of legal analysis and scholarly material on harmonization of EU competition and patent law is on the rise as the EU is adamant in following through with their sustainability obligations under the European Green Deal. To authors mind, this subject should definitely be researched more widely, for the reason that, even though all of the benefits and drawbacks of sustainable competition law can be analysed and explained through the scope of economics, increased amount of legal analysis would be of immense help to legislators. Viewing joint R&D agreements through the prism of environmental law would open up many opportunities of not only proposing sustainable policy improvements, but also providing aid to the creation and structuring of harmonized and robust legislations that would undoubtedly exceed the efficiency levels of current mechanisms regulating competition law in the EU.

[125] Wilde, Oscar, *Lady Windermere's Fan*, (Boston: The Wyman-Fogg Company, 1948) p. 134.

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