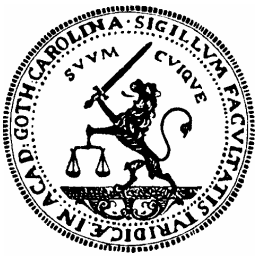

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Master thesis

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Patent Pools-

An Effective Instrument for the High Technology

Co-operation?

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Contents

Summary

Companies share their intellectual property with potential competitors in many different ways, including patent pooling. A patent pool is an agreement between two or more patent owners to license one or more of their patents to one another or to third parties. In Europe the Commission used the term patent pool as the bringing together of the patents of two companies, which makes it available for use for joint benefit. Through the use of patent pools, patent owners can agree to give up their respective exclusive rights in their patents and contribute them to a pool, thereby making the patents available under one package or joint license to each other and to other licensees. This kind of agreement can be very efficient where multiple intellectual property licensees are necessary to develop or use a particular technology, like for example the third generation mobile telephone. Nevertheless, patent pools can also have negative effects due to the fact that they tend to reduce or eliminate innovation.

Patent pools are very often divided into three categories, this classification depending on the inter-relations of the patents in the pool. The first category covers competing patents, the second category patents relating to the same technology (complementary patents) and the third category blocking patents.

The distinction between the three categories is of a great importance, as pooling of complementary and blocking patents may be justified on the grounds that litigation is avoided and the technology used can be improved. Pooling competing patents can lead to antitrust problems since their combination can eliminate competition and enable the fixing of prices. However it is not always easy to distinguish between the three categories: sometimes a patent pool can contain features from all three categories.

Over the years there has always been a tension between intellectual property rights and antitrust law. One could argue that, over the course of the last century, many courts' view' have been changing from defending the goals of antitrust law to rather upholding those of intellectual property law. With the 1995 Antitrust Guidelines for Licensing of Intellectual Property (IP guidelines) and approval of several patent pools the U.S. authorities have clearly taken a more positive attitude towards patent pooling than they had in earlier decades. But when we examine the European point of view (with its small number of cases) and the opinions of the Commission, one can clearly see that the European Union has actually avoided discussing patent pools. The only statement of the Commission is that patent pools can be both pro-competitive and anti-competitive. One of the most important questions remains open and that is: could patent pools be seen as an effective and lawful instrument for high technology co-operation?

Abbreviations

1995 Guidelines- Antitrust Guidelines for the Licensing of Intellectual Property

DOJ- Department of Justice

DVD- Digital Versatile Disc

ETSI- European Telecommunication standard Institute

FTC- Federal Trade Commission

IP Guidelines- Antitrust Guidelines for the Licensing of Intellectual Property

IPR- Intellectual Property rights

MPEG La- The Moving Pictures Experts Group Licensing Administrator

R&D- Research and Development

TTBE-Transfer Technology Block Exemption Regulation

1. Introduction

Companies share their intellectual property with potential competitors in many different ways, including patent pooling. Although such behaviour is common, particularly in high-technology industries, the subject has attracted relatively little empirical or theoretical study from either lawyers or economists.

Intellectual property rights have always created a tension between themselves and the goals of antitrust law. One could argue that, over the course of the last century, many courts' view' have been changing from defending the goals of antitrust law to rather upholding those of intellectual property law. But patent pools are seen as one of the toughest problems in antitrust law. When two competitors hold similar patent rights, neither of them may be able to develop relevant new technology without infringing the other's patent. If they solve this problem through co-operation, cross-licensing or pooling their patents the risk that the resultant horizontal agreement might lead to monopoly pricing or other negative effects to the competition can be severe. Nevertheless, patent pooling is regarded as a practice with potentially strong pro-competitive effects. As the Intellectual Property Guidelines (IP Guidelines) states, patent pools agreements are often pro-competitive due to the fact that they may promote innovation. They thus recognised the pro-competitive benefits of patent pooling and departed from the *per se* prohibition that had applied to patent pools in the past. However, the Department of Justice (DJO) and Federal Trade Commission (FTC) have expressed their concerns that a pooling agreement may harm competition between actual or potential competitors. They claim that the IP Guidelines point to the need to balance between the goals of preventing monopolistic behaviour and of promoting innovation. In the European Union as well, a debate on patent pools has slowly started. Nevertheless, it is hard to find a clear European opinion on patent pools. In the Christmas message of 1962 the Commission refused to apply it to all possible types of patent arrangements and no firm position has subsequently appeared.

1.1 Purpose

My thesis has several aims. The first is to obtain a clear picture of what is included in the patent pool concept and how this has developed over the years. Second in importance is to explore the possible implications of patent pools for antitrust law. Key questions here are: Are patent pools promoting innovation? Do patent pools harm the competition between actual or potential competitors? Finally, I wish to investigate the latest developments in patent arrangements and determine whether the patent pool is an effective instrument for high technology co-operation.

1.2 Method and Materials

The method used to examine the legal situation of patent pools in Europe and the U.S. has been through regulations, decisions, case law and legal doctrine. The method used for locating sources of information was mostly the traditional library search. I have been using different online search-methods available at libraries, like *Lovisa* and *Libris*. One of the most valuable databases for my thesis was the on-line search-engine *Westlaw.*

Searching for information on patent pools in Europe proved to be very difficult, because the debate in Europe is not as broad as in the United States. Due to the fact that my thesis is trying to incorporate a wide-ranging U.S. discussion into a narrower European one, the method used to achieve this is partly comparative and partly descriptive.

1.3 Delimitation

The idea behind my master thesis came from the course Intellectual Property and Technology Transfer held by Ass. Prof. Hans Henrik Lidgard.

The main focus will be on the telecommunications area but a brief discussion of patent pools in the biotechnology area will also be given, in order to allow the reader to compare 2 areas. The reason for choosing the biotechnology area is that, like telecommunications, it is working with rapidly developing technology. A comparison between the two areas should give the reader a better understanding of the problem this master thesis is trying to solve. A further feature of the telecommunications industry is the fact, that both in Europe and the U.S. there is much interest in pooling telecommunication technologies. Other reasons for primarily limiting my thesis to the telecommunication sphere are that one of the most successful patent pools was achieved in the telecommunication area and also because the European Union has started to discuss pooling arrangements for the third generation mobile equipment.

I am aware that there are areas that are not included in this thesis, or are only mentioned very briefly (for example standard settings and cross-licensing). These areas have been left out by choice because including them would make the thesis too wide-ranging. Another reason is that I focus on patent pooling agreement and not on other similar forms of licensing.

Even though the purpose of this master thesis is aimed at analysing and comparing the current view on patent pools, it starts with an historical overview. The reason for this is to illuminate the fact that patent pools have caused a lot of confusion during the years: formerly forbidden by law, they are now viewed as capable of promoting innovation.

In order to benefit from this thesis, its readers need a basic knowledge of European competition and intellectual property law.

1.4 Disposition

My thesis will be divided into in six parts. Chapter I describes the merger between Sony and Ericsson and the possibility of a hidden patent pool. A brief definition and categorisation of patent pools will follow. Chapter II will give the reader an historical background on pooling agreements. Chapter III is one of the most important chapters and will explain to the reader the changing view on patent pools held in the European Union, focussing on the latest developments. Chapter IV will discuss the most successful patent pool, MPEG La and other patent pools of major importance. A brief overview of the biotechnology area will also be presented. Chapter V considers the pro- and anti-competitive effects of pooling arrangements. In connection to this there will also be a discussion of the economic effects of pooling patents. Finally, the master thesis will be completed with a concluding chapter, which will try to answer the main question, whether the patent pool is an effective instrument for high technology co-operation.

2. Sony Ericsson

Sony and Ericsson announced on the 24 of April 2001, that they had signed a Memorandum of Understanding with the intention of creating a new company, which would incorporate their respective mobile phone businesses. The new company is named Sony Ericsson Mobile Telecommunication and will be equally owned by Sony and Ericsson. Ericsson then controlled 10.7 percent of the mobile phone market, compared to Sony's 0.9 percent. Despite this difference, the new venture will be split 50:50. The two companies claim to be aiming for a 12 percent market share in the short to medium term.[1] The new company will take advantage of Sony's leading expertise in consumer electronics products and Ericsson's leading experience of mobile telecommunication. The new joint venture will be responsible for product research, design and development, as well as marketing sales, distribution and customer services. The parents, Sony and Ericsson, will provide support to the new company.

Kurt Hellström, Ericsson's President and CEO, in his statement about the new company said; "by combining *the complementary strengths* of Ericsson and Sony, the new company can become a world leader in telecommunications due to the fact that the technology moves rapidly towards mobile Internet. Sony brings experience in consumer electronics and entertainment -music, pictures and games and Ericsson contributes with the mobile technology, which is one of the world's largest consumer based technologies among the mobile operators."[2] A further interesting statement which was made by the Sony Chairman and CEO, Nobuyuki Idei, was that he approved the joint venture due to the fact that Sony did not want to pay licensing fees to Ericsson for their GSM patents.[3] One interesting aspect of this joint venture is whether it could be seen as a patent pool masquerading as a joint venture due to the uncertain view of patent pools in Europe?

2.1 Outline of the joint venture (Sony Ericsson)

"Name of company: Sony Ericsson Mobile Communications
Capital: Ericsson 50%, Sony 50%
Start of operation: October 1, 2001
Fiscal year 2000 shipments: Approx. 50million units (Approx. US$7.2 billion). Reference figures based on parent companies' world wide fiscal year sales. Ericsson: January-December, 2000 / Sony: April 2000 - March 2001

[1] Wearden, G., Ericsson and Sony confirm mobile tie-up, April,2001,www.zdnet.uk.,2003-04-20.
[2] Press release, Ericsson and Sony to create leader in mobile Phones, April, 200, www.sony.com, 2003-04-20.
[3] Prash, A., Sony CEO: Nokia Doesn't Get It, March, 2003, http://www.techdirt.com/articles/20030305/118213.shtml, 2003-04-20.

Board of directors:
4 from Ericsson (including 1 from the new company)
4 from Sony (including 1 from the new company), Chairman of the Board is Kurt Hellström (President and CEO, Ericsson)

Corporate executive team:
-President, Katsumi Ihara (Corporate Executive Vice President, Sony Corporation)
-Executive Vice President, Jan Wareby (President, Ericsson's Consumer Products Division)

Estimated number of employees:· Approx. 3,500 (world wide)

Products: Mobile phones and handheld multimedia communication products."[4]

[4] See footnote 2.

3.Definition

3.1 What is a patent pool?

"A patent pool is a agreement between two or more patent owners to license one or more of their patents to one another or to third parties"[5]. A patent pool can also be defined as an "aggregation of intellectual property rights which are a subject of cross licensing[6], whether they are transferred directly by patentee to licensee or through some medium, such as joint venture, set up specifically to administer the patent pool."[7] Pooling patents come in different shapes: cross-licensing, among individual patent owners within the pool, ownership of patents within a single company and transfer of patents to a neutral agency or single member, who in return licenses all patents back to each member. A patent pool is also described as an arrangement under which the members of the pool have the right to use the pooled patent under the requirement to pay: 1) no royalty 2) predetermined royalty or a royalty decided by arbitration. Patent pools usually offer standard licensing terms to licenses that are not members of the pool and, in return, the typical patent pool allocates a portion of the licensing fee to each member of the pool.[8]

In Europe the Commission used the term "patent pool" as the bringing together of the patents of two companies, which makes them available for use for joint benefit. The Commission dealt with this in an informal decision in *Concast/Mannesmann(1983)* where two companies made their patents available to each other but exploited them independently. When the two companies sued for infringement by a third party the defendant stated, and the Commission agreed that the patent pool eliminated competition between the two parties when it came to innovation and their technology had a dominant position (60% of an important market) which forced customers only to deal with the two companies. The companies were forced to terminate their co-operation.[9]

The use of patent pools, like every practise with patents, is subject to limitations and restrictions laid down in antitrust law. To understand the application of the antitrust law to patent pools, it is first necessary to understand their uses and economic advantages.[10]

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[5] CPTech on Colletive Management of IP Rights:Patent Pool p.1, wwww.cptech.org/cm/patentpool.htlm, 2003-01-31.
[6] Interchange of intellectual property rights between two or more persons.
[7] Klein Joel I., Cross Licensing and antitrust law, 1997, San Antonio,Texas, www.usdoj.gov/atr/public/speeches/1123.htm p.3.
[8] See footnote 1.
[9] Kohrah, V., Technology Transfer agreements and the EC Competition Rules, New York, 1996, p.97.
[10] Taylor,D.,The sinking of United States electronics industry within Japanese patent pools, George Washington Journal of International Law and Economics, 1992, p.200.

3.2 Different categories of patent pools

Patent pools are very often divided into three categories, this classification depending on the inter-relations of the patents in the pool. The first category of pool is created to harmonise competing patents. Competing patents are patents that are so similar that they effectively constitute an alternative to each other. An individual who acquires the right to a competing patent eliminates his demand for the rights of other competing patents within and outside of the pool. A pool of competing patents is of no use unless it has obtained all substitute patents. One good example is the glass jar, which was commonly manufactured according to specific processes (feeding process and suction process)[11]. The patent holders could choose to co-operate or to have monopoly.[12]

The second class is patent pools of patents relating to the same technology (complementary patents). These formations are often made because the patents are more valuable in a pool than one their own. For example in the production of light bulbs, rights to a patent for a vacuum bulb are useless without rights to a patent for a tungsten filament. These categories of patents are different from the competing patents in that the patents are not substituting for each other. The complementary patents perform separately but they have related functions and access to one patent increase the demand for the other.[13]

Last but not least a patent pool is often used to consolidate blocking patents. The blocking patents appear because the grant of a patent only gives the patent owner the right to exclude others from using his discovery. One example is where inventor A gets a patent for a chair. Inventor B improves the chair by adding four legs, permitting more stability to the chair. Inventor B cannot produce his invention unless inventor A gives him permission to do so. Inventor A is also partly blocked by inventor B's improvement, in that he cannot produce the chair with the four legs without B's consent. Thus, creating a patent pool with the two patents would allow the inventors to produce a chair with four legs.[14]

The distinction between the three categories is of great importance due to the fact that pooling of complementary and blocking patents may be justified on the grounds that litigation is avoided and the technology used can be improved. Pooling competing patents can lead to antitrust problems because their combination can eliminate alternatives and raise prices. Nevertheless, it is of great importance to mention that the distinction between the three categories is not always clear; sometimes one patent pool

[11] Case- Hartford-Empire Co. v. United States, 323 U.S., 386, 393 (1945).
[12] Carlson S.C., Patent pools and the antitrust dilemma, Yale Journal on Regulation, 1999,p.3.
[13] See footnote 10, p.201.
[14] Ibid, p. 201-202.

includes a combination of the three classifications.[15] Two categories of licensing, which are closely connected to patent pools, are also discussed below.

3.2.1 Cross-licensing

When innovation becomes blocked under overlapping patent rights another method for solving the problem is through cross-licensing. Cross-licensing is described in the doctrine as the alternative method for carrying out the goals of a patent pool. Companies holding overlapping patents license their patents to each other to receive the benefit of gaining access to another patented technology. It is in many companies' interests to conclude cross-licensing arrangements, as these would create open competition over what would otherwise be a closed market-monopoly. Sometimes, cross-licensing agreements are entered into for more then the purpose of protecting patents and royalties and other restrictions are likely to be incorporated in the agreements. In case *United States v. Line Materials*[16] the companies entered into a royalty-free cross-licensing arrangement but, nevertheless, it stipulated a pricing scheme for sublicenses.

Even if cross-licensing and patent pool arrangements differ when it comes to procedure, they are to a large extent treated in the same way by the legislator.[17]

3.2.2 Standard-setting

Many industries have developed standard specifications for manufacturing a certain product: standardisation is very popular in the video, communications and data areas. Standard-settings are only possible if patents are shared between the companies. For instance, the standard for a particular product might include up to twenty different patents, thus requiring a manufacturer seeking to conform to a particular standard to negotiate with every patent holder to obtain a license for the use of his patent. Patent pools can help to eliminate this problem by creating one single entity which would grant licenses for all the patents in the pool, thereby making it possible for the licensee to obtain a package license that includes almost all patents needed to achieve one specific standard.[18]

[15] See footnote 10, p.201-202 and footnote 8,p.4.
[16] Case- 333 U.S.287, (1948).
[17] See footnote 7.
[18] Raymond D.G., Benefits and risks of patent pooling for standard-setting organisations, 2002, p.4-6.

3.2.3 Standard-setting in the mobile communication area

In the last years the need for standardisation in the telecommunication area has been growing. In the EC one of the first steps towards a European telecommunication standard was taken in 1987 when the Green Book on the telecommunication area was published. The traditional link between manufacturers and national network operators made way for the establishment of ETSI (European Telecommunication Standard Institute), allowing for proper representation of the new order in the sector. Such a standardisation body would inevitably have to deal with some old and some relatively new problems. Property rights seem to have been one of the most problematic issues. The interest of different actors varies widely and it is a difficult task to balance all of them. One good example is the GSM-global system for Mobile communications where the ETSI standard covers a large number of patents and the license fees have become one of the largest single costs for the manufacturers. During the first commercialisation phase some patent owners adopted a restrictive licensing strategy, and cross-licensing agreements for GSM infrastructure and terminals were concluded only between the biggest patent holders. It is clear that both infrastructure and mobile stations' market were very polarised. The parties that entered into cross-licensing agreement controlled no less than ninety per cent of the market. These agreements allowed the members cheap access to the patents, especially for those companies that previously invested heavily in R&D in order to obtain them. Companies that did not take place in these cross-licensing agreements were of course, placed in a unfavourable position on the market.

For the next generation of European mobile standard-Universal Mobile Telecommunication Systems, intellectual property rights ("IPRs") are expected to become a major issue. Seven major industries have been appointed to design the base of the system. The ETSI is planning to create a patent pool for the new standard but they are not certain if all patent owners will agree. There is not much experience of patent pools in the standard-setting field. In 1998, the fears of many involved were realised when the United States company Qualcomm, owners of a large numbers of essential patents for the European UMTS standard refused to license its technology. ETSI required Qualcomm to license their technology unconditionally, Qualcomm insisted on a solution that would not only include compatibility with GSM but also with their own CDMAOone standard. Only under this condition was Qualcomm prepared to license.

An important question in this context is whether or in what case, an owner of a essential patent in a European mobile standard can be forced to license to others. The Commission mentioned in 1992, in the Communication on IPR and standardisation that abusive exercise of patent holders that have a dominant position on the market fall under Art. 86 of the Treaty, (Art. 85 of

the Treaty regulating agreements between the patent holders). There has been no case law in this field, there are, however, some cases about possible abuse of other types of property rights. In the case *Volvo v. Veng*[19] the ECJ decided that a dominant party's refusal to deal does not in itself constitute an abuse of dominant position but it was mentioned that in particular circumstances the outcome could be different. In the *Magill*[20] case the question was whether the three Irish television broadcasters abused their dominant position by refusing to license programme information to a third party. The ECJ stated that there was an abuse based on three conditions: there was a refusal to license, prohibiting the introduction of a new product to the market for which a potential demand exists.

Several problems can come up when strong and binding obligations are imposed on patent owners to make a standard available to everyone on fair and reasonable terms. The risk of slowing down R&D and losing important participants is very high. Where no binding measures are taken, innovative behaviour is stimulated but there is no equal access to the standard. When several standards compete, designers of the standard (very often the major patent holders) are likely to lower the license fees to gain the necessary support from the manufacturers. There is no guarantee that these license fees would not increase once the standard has reached a dominant position. There is a discussion in Europe whether the Commission should be more decisive on possible misuse of essential patents in standards. Some oppose this by arguing that, patents must be considered as the result of costly R&D efforts and these incorporate significant risks due to the fact that much research never leads to an end result. Therefore patent holders should be given exclusive rights to protect the outcome of their efforts. The nature of the market and the concomitant financial risks could also be a reason why only a small number of competitors should be active.

As described above, there is no single way to balance the interest of the parties involved in such a way that the public interest is served best, the tension between patent owners and standard settings is balanced: this could be expected to be one of the most delicate issues for future standards.[21]

[19] Case, C-238/87 [1988] E.L.R. 6211.
[20] RTE,ITP v. Commission, Case, C 241/91 P [1995] I-743.
[21] Bekkers R., Liotard I., European Standards for Mobile Communications: the tense relationship between standards and intellectual property rights, E.I.P.R, [1999], issue 3, p.110-126, Ed. Solis E. and others, [2003] 4 C.M.L.R., Antitrust Report, part 1, p.19-20, Ed. Solis E. and others, [2002]5 C.M.L.R., Antitrust Report, part 11, p.1051-1053, for further development see chapter, Third generation mobile equipment.

4. EU policy towards patent pools

4.1 The European Union policy in the field of IPR

In the EU it is hard to define the interrelation of the IPR and competition policy due to the fact that the granting of IPRs is still to a large extent done at a national level. This is slowly changing as EC legislation is giving rise to new or harmonised IPRs throughout the EU. Such legislation covers trademarks, the harmonisation of the term of protection of copyright, the legal protection of databases, biotechnology inventions and designs. New legislation that is in the process of being adopted includes a proposed Directive on the harmonisation of certain aspects of copyrights. The Commission has recently adopted a proposal for a Council Regulation on the Community Patent. Nevertheless, Art. 295 of the Treaty requires the Commission to respect national systems of property ownership and Art. 30 of the Treaty provide exemption from the free movement provisions if a conflict with national IPRs appears.

On the other hand the ECJ has stressed the importance of the fundamental principles of free movement and competition within the Community. Just for this reason, the ECJ has developed a distinction between the grant or existence of the IPR which cannot be affected by the rules of free movement and competition and its use.[22] For example in the case *Consten-Grundig v. Commission*[23] the ECJ found that Art. 30 and 295 of the Treaty "do not exclude any influence whatever of Community law on the exercise of national IPRs. Art. 30 of the Treaty could not limit the field of application of art.81 of the Treaty. In relation to Art. 295 the Court made it clear that the contested (Commissions) decision to refrain from using rights under national trade mark law in order to set an obstacle in the way of parallel imports does not effect the grant of those rights but only limits their exercise to the extend necessary to give effect to the prohibition under Art. 81(1) of the Treaty."[24]

The ECJ makes a distinction between existence and exercise of an IPR by taking into account the concept of the subject matter. The Commission and the Court have always defined the subject matter very narrowly. The subject matter is a package of rights that builds the IPR. Normal use of an IPR is regarded as maintaining the existence of the right and cannot be overruled

[22] Commission evaluation report on transfer of technology block exemption regulation no. 240/96, p.10-11.
[23] Case C -6/64, (1964)CMLR 425.
[24] Ibid, p.346.

by the competition provisions of the Treaty. A possession of an IPR gives the owner the right to license and ask for royalties. But the ECJ and the Commission have always considered that the conditions of license may fall under Art. 81 and 82 of the Treaty. Under Art. 82 it is foreseen that the conditions of a license may not discriminate between licensees and the royalties should not be excessive. In the *Magill*[25] case the ECJ stated that a dominant company could under certain conditions be forced to license to their competitors.[26] EC policy towards licensing agreements does not recognise the existence of the full monopoly granted by IPR law. The Commission could scrutinise the exercise of that monopoly under the competition rules. Licensor and licensee are two different companies and are also treated as such.[27]

The major difference between the U.S. and the European approach in the field of IPR is that the U.S. puts more limits on the possibilities of competition policy intervening against agreements between non-competitors. It thus gives the licensor much more scope to exploit its IPR when the licensing takes place between non-competitors. The European approach allows the same intra-brand restrictions but keeps the possibility of
intervening where considered necessary. Finally, the U.S. approach is more coherent where it concerns licensing agreements between competitors.

4.2 Patent pools under the Technology Transfer Regulation, NO. 240/96.

It seems that, in the EU, there is no full stated opinion on patent pools. Therefore art. 5 of the Technology Transfer Regulation provides that:

This regulation shall not apply to:

(1) agreements between members of a patent or know-how pool which relate to the pooled technology.

(3) agreements under which one party grants the other a patent and/or know-how licence and in exchange the other party, albeit in separate agreements or through connected undertakings, grants the first party a patent, trademark or know-how licence or exclusive sales rights, where the parties are competitors in relation to the products covered by those agreements;

The fact that patent pools and reciprocal licences are exempted was not expected, due to the fact that the both of them could be efficient in enabling members to develop technology, together or separately, without being afraid of infringing each other's patents.

Another interesting factor is the fact that the Regulation distinguishes between technology pools and reciprocal rights without any further

[25] Joined cases, C- 241/91P and C-242/91P Radio Telefis Ireann (RTE) and independent Television Publications Ltd (ITP) v. Commission (1995) ECR I-74.
[26] See footnote 41, p.12-13.
[27] Ibid.,p.14.

indications. The only remark one can make is the fact that sub-paragraph (3) of Art.5 (1) which relates to reciprocal rights is more limited than sub-paragraph (1) for patent pools. The exemption in sub-paragraph (1) of Art. 5. (1) applies only when the parties are competitors in relation to the product covered by the agreement. When reading sub-paragraph (3) of Art. 5.1 of the Regulation it speaks in the singular, of one party granting a right to another.

It appears that Art. 5(1) and (3) of the Regulation exclude patent pools and reciprocal grant of rights from its operation even if the parties exploit the technology independently of each other and even if the pool creates efficiencies by avoiding blocking patents. The above mentioned are not *per se* grounds of legality according to the Regulation, but efficiencies can be argued raised before the Commission and an exemption or negative clearance can be granted.[28]

Nevertheless, patent pools are allowed under art. 5.2.2 of the Technology Transfer Regulation if the members of the pool are not subjected to any territorial restriction within the Common Market, in their use of the technology. Art.5.2.2 states that:

This regulation shall nevertheless apply:

(2) To agreements to which paragraph 1(1) applies and to reciprocal licences within the meaning of paragraph 1 (3), provided the parties are not subject to any territorial restriction within the common market with regard to the manufacture, use or putting on the market of the licensed products or to the use of the licensed or pooled technologies.

It may seem surprising that the Commission permits the group exemption to apply automatically to patent pools where the parties are competitors and the pool will permit prices or royalties to be raised under the condition that no territorial restriction exists. However, it must be kept in mind that the Regulation only applies if the agreement contains one of the provisions laid down under Art.1 (1) and points 2-6 of these confer territorial protection. Art. 5 2(2) exempts only non exclusive licenses, or non exclusive licenses including an obligation to use the licensor's mark or get up or an obligation to limit production to the licensee's requirement to manufacture its own products.

The question that arises on reading the article is what is meant by the concept of 'any territorial restriction within the Common Market'. The usual interpretation is that to grant a sole territory does not restrict the licensor in the ways mentioned in the article but that of an exclusive territory does, in that it limits the places where the licensor may put the product on the market.[29]

4.3 Commission Evaluation Report on

[28] Korah, V., Technology Transfer Agreement in the EC Competition Rules, New York 1996, p.103.

[29] Ibid, p.104-105.

Technology Transfer Regulation NO. 240/96 and patent pools

The Technology Block Exemption Regulation (TTBE) follows a legalistic approach similar to the one followed in the past by the Commission in the field of vertical and horizontal agreements. The TTBE has a narrow scope due to the fact that it only covers certain types of agreements. The TTBE focus is mainly on intra-brand competition and market integration. The TTBE is designed to play an important role in the development of innovation within the EU economy and to contribute to competitiveness of business operating in the Community.

The TTBE aim is to balance between three major objectives. The first objective is to simplify the rules on licensing agreements by combining the block exemptions on know-how and patent licensing into one single Regulation. The second main feature is to guarantee effective competition in technologically new or improved products. The third aim is to create a favourable environment for companies investing in Europe, by providing them with legal certainty and reduce the administration resulting from individual notification under Art. 81 (3) of the Treaty.

The scope of the TTBE is to exempt certain licensing agreements entered into between only two parties for manufacturing purpose, use and commercialisation (art 1.1). The TTBE only applies if the licensee himself manufactures the licensed goods or provides the licensed services or has them manufactured or provided for his account (recital 8).

In the Commission evaluation report of the TTBE, bilateral pools and cross-licensing agreements were investigated. Criticism had been raised against the TTBE on the grounds that the Regulation applies different rules to cross-licensing and patent pools. The TTBE cover bilateral pools between non-competitors only if the parties are not subject to territorial restrictions. Cross-licensing between non-competitors are exempted even if the parties grant each other exclusive territorial rights. Cross-licensing and bilateral pooling are agreed upon for similar reasons and both of them produce similar efficient effects, so the more severe treatment of bilateral pooling under the TTBE is unjustified. The TTBE only covers cross-licensing and patent agreements if the parties are not subject to any territorial restrictions when it comes to manufacturing, using or putting on the market of the pooled technologies or licensed product. By establishing this kind of rule the TTBE emphases only one particular concern and that is the sharing of the geographic markets. It neglects other important anti-competitive effects, as for example price fixing as well as possible pro-competitive effects like solving the problem of blocking positions.[30]

[30] Commission Regulation on the Transfer Technolgy Block exemtion regulation NO. 240/96 and Commission evaluation report on the Transfer Technolgy Block exemtion

4.4 Patent pools under Regulation No. 2659/00

Some patent pools are also exempted under Regulation No. 2659/00, which applies to collaboration for R&D where the parties are not competing with each other or companies that have market shares not exceeding 20 per cent. It is important to stress the fact that when the parties make complementary contributions, or the co-operation does not extend beyond the R&D area as it is defined in that Regulation, the agreement would not infringe art. 81(1) of the Treaty. Regulation 2659/00, recital 3. provides that:

"Agreements on the joint execution of research work or the joint development of the results of the research, up to but not including the stage of industrial application, generally do not fall within the scope of Article 81(1) of the Treaty. In certain circumstances, however, such as where the parties agree not to carry out other research and development in the same field, thereby forgoing the opportunity of gaining competitive advantages over the other parties, such agreements may fall within Article 81(1) and should therefore be included within the scope of this Regulation."

If in some circumstances the agreement would infringe art. 81(1) of the Treaty, the Commission might still grant an individual exemption or a comfort letter.[31]

After the Christmas message of 1962 the EC view of patent pools was not clear. Patent pooling can be pro-competitive when different companies are bringing together patents, which are made available for use by both parties for their joint benefit. On the other hand patent pools may affect competition by establishing a concerted practice, which excludes other competitors, who also have an interest in the results of the concerted practice. According to some legal scholars this can explain why the Commission makes it clear, in the preamble of the Technology Transfer Regulation point 8 and art. 5.1 those patent pools are exempted from this Regulation (the Regulation applies under the conditions laid down in art.5.2.2).[32]

4.4.1 The European case law

The European case law on this mater comes from the 1970s and 1980s. One of the first cases was *Bronbemaling v.Heidmaatschappij*[33], *Heidmaatschappij*, in which a Dutch company applied for a patent for a drainage system but some competitors had already been using it. Therefore the companies decided to grant licenses between themselves and when

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regulation NO. 240/96 Technology Transfer Agreements under article 81 of the Treaty. www.europa.eu.int/comm/competion/antitrust/technology_transfer/, 2003-05-10.

[31]Commission Regulation No 2659/2000 of 29 November 2000 on the application of Article 81(3) of the Treaty to categories of research and development agreements, L 304 , 05/12/2000 P. 0007 – 0012.

[32] Lidgard, H.H., Licensavtal i EU- kommentar till kommissionens förordning 240/96 om tillämpning av Romfördragets art.85.3 på vissa grupper av avtal om tekniköverföring, Stockholm, 1997, p. 91 and 291.

[33] [1975] OJ L249/27, [1975] 2 CMLR D67, CMR 9776.

appointing new licensees consensus would be necessary. When Bronbemaling was refused a license the company complained to the Commission. The Commission stated that this was an Article 81.1 infringement, which could not be exempted under Article 81.3 of the Treaty. It pointed out that the infringement did not concern the agreement but instead the refusal of licenses, which does not fall under the special patent protection. The Commission had a very restrictive view of exclusive license agreements and stated that there should not be restrictions of this kind.

In *Bayer and Hennecke v. Süllehöfer*[34], a question about the validity of certain technical industrial property rights granted to the licensor in several Member States of the European Community was considered. Cross license agreements were granted and one of them contained a no-challenge clause. The Commission argued that such a clause should in principle be legal due to the fact that it was only ancillary to the agreement. Also of importance was the fact that the no-challenge clause was related to the technology.[35] The ECJ rejected this view and stated that to be able to solve a conflict regarding intellectual property rights it is of importance to take into consideration the economic context just as in any other agreement. The ECJ argued that a no-challenge clause could, in the light of both economic and legal aspects be contrary to art. 81.1. of the Treaty. The ECJ stated that an agreement would not restrict the competition, if it is royalty free or if the invention was outdated and not being used by the licensee. The ECJ did not analyse the benefits or the anti-competitive effects of the agreement, but left it to the national court to estimate the legal and economic context.[36]

IGR Stereo Television (1985), two German television companies set up a body which obtained the patents needed to manufacture television sets which could receive stereo transmissions. These rights were given to IGR, whose members were companies producing colour televisions sets in the whole of Germany. IGR granted licenses only to its members. In 1983 IGR started to grant licenses also to non-members. Yet, IGR did not grant licensees to Salora, a Finnish manufacture that was already operating on the German market. Salora complained to the Commission and the Commission considered ordering interim measures. When this happened IGR decided to license outsiders. It seems that the members of IGR had built a monopoly for the benefit of its members. Unlike joint venture for R&D, the group exemption only applies if the result was pooled, this was not the case and therefore it was an appropriate way to stop the exclusion of others.[37]

[34] (65/86) [1988] ECR 5249, [1990] 4 CMLR 182, [1990] 1 CEC 220.
[35] Ibid, paragraph, 15-16.
[36] See footnote 28, paragraph, 15-16.
[37] See footnote 28, p.102.

4.4.2 Recent development of patent pools in the European Union

A Digital Versatile Disc (DVD) has the same size as a compact disc but the differences are that a DVD has more than seven times its capacity. By using the DVD disc one can store video and audio signals, as well as computer data and software thus allowing a single DVD to hold a two-hour film.

The European Commission has approved an agreement by some of the companies that develop the DVD technology to pool their patents. This agreement will allow all interested manufactures to license all patents necessary for the DVD production, leading to lower administration and transactions costs which the consumer will benefit from.

Hitachi Ltd, Matsushita Electric Industrial Co Ltd, Mitsubishi Electric Corp, Time Warner Inc and Toshiba Corp. are the parties that have agreed to contribute their DVD patents to a single nonexclusive license program which would be administrated by Toshiba. The DVD technology was developed by ten companies which also included Philips, Sony, Pioneer and Thomson: the first three have join the pool, while Thomson is the only one not to have agreed to it. The standard license contract between Toshiba and third parties contain the following provisions: under this agreement the licensee gains the world-wide non exclusive right to make, have made, sell, use or dispose the DVD technology[38] under all essential patents owned by the parties to the agreement, the licensee has an option to negotiate for any essential patent/s with any other member of the agreement which is required to grant a license on non discriminatory terms, all licensees will be informed if any member of the pool is granted more favourable royalty terms, the licensees must grant a license on "fair, reasonable and non-discriminatory terms" to any essential patent it holds to any member of the agreement and to all other licensors which form part of this scheme. The last point was that, if the licensor takes action against one of the members of the pool for breach of an essential patent that the licensee holds and if it refuses to grant the member a licence on "fair, reasonable and non-discriminatory terms" for that patent, the member can terminate the licensee's rights to the patents that the member has contributed to the pool.[39]

In May 1999 the companies notified the Commission about the agreement. The investigation of this co-operation by the Commission's competition service found that this patent pool would help promote technical and economical progress by allowing efficient introduction of the DVD technology. Competition official concluded that the agreement does not contain "unnecessary or excessive" restrictions on competition, and an administrative comfort letter under Art. 81(3) of the Treaty was issued.[40]

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[38] More explanations see, OJ 242,27.8.199, p 6.
[39] OJ 27 August,1999 (OJ 242,27.8.1999,p.5).
[40] Meller P., EU says yes to DVD manufactures' patent pool, Brussels, October 16, 2000.,www..computerworld.co.nz/webhome.nfs/UNID 2003-04-19, Press release, Commission approves a patent licensing programme to implement the DVD standard, Brussels, 9 October 2000,

4.4.3 Third generation mobile equipment

4.4.3.1 Background

The new 3G mobile technology is expected to bring high-speed voice and data services to mobile phone users. Manufactures producing 3G equipment need to comply with the so-called IMT-2000 (standing for International Mobil Telecommunication) 3G standard. The IMT-2000 standard comprises four different technologies, each of which can be used to produce 3G equipment. In order to produce 3G equipment the manufacturers need to have access to the patents, usually called "essential patents" for achieving the standard. However, a patent that is essential for a particular technology may still compete with a patent that is essential for another technology. When investigating the licensing agreement for 3G-equipment the Commission must make sure that the competition between the essential patents is maintained.

In July 2000, the parties-Alcatel, Cegetel, Electronics and Telecommunications Research Institute Korea, France Telecom, Fujitsu, Royal KPN N.V., LG Information and Communications, Matsushita, Mitsubishi Electric, NEC, NTT DoCoMo, Robert Bosch GmbH, Samsung Electronics, Siemens AG, Sk Telecom, Sonera Corporation, Sony and Telecom Italia Mobile, which refer to themselves as the 3G Patent Platform Partnership (3G3P), submitted agreements dealing with the 3G essential patents to the Commission. The agreements set up a procedure to identify the essential patents and the licensing fees that should be paid for them. The 3G3P claimed that the agreement would have pro-competitive effects; membership is voluntary, its intention is to facilitate market entry and access to the 3G technology by preventing blocking patents. The patent platform was formed to reduce the costs, uncertainties and delays connected with the licensing of a large number of patents. Due to the fact that the agreement is similar to that of a patent pool it had to be scrutinised by using the criteria of patent pools under the competition rules.[41]

4.4.3.2 Analysis of the notified agreement

The Commission mentioned some arguments that would distinguish the 3G3P agreement from a pure patent pool agreement. The pool was open to both licensees and licensors whereas a patent pool consists only of licensors; the licensor can license outside the pool (non-exclusive right) and they do not assign patent rights to the pool; the patents are not bundled hence it could be claimed that no pooling exists due to the fact that the

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http://www.europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/00/1135|0|RAPID&lg=EN, 2003-04-19.

[41] Ed. Solis,E. and others, Antitrust Report, part 1, [2003] 4, CMLR 1-198, January 2003,p.19-21.

licensees have the chance to pick and choose between patents. The licensing is based on a bilateral base, there is no single agreement between the licensee and the patent pool and last but not least, the parties to the pool can choose between the standard of the pool or a negotiable individual license. The Commission stated that even if the legal doctrine of patent pools cannot be adopted, the rules concerning patent pools under competition law should still be used as guidelines.

The existing practice, both in the EU and in the US has a number of requirements that must be met by a pool. The patent pools should only include essential patents, the patents should be licensed on non-discriminatory terms, confidential commercial information should not be exchanged and the pool should not discourage further R&D and innovation. To obtain an exemption, the pool must consist of essential patents only. An essential patent is a non-competing complementary patent[42]. When investigating whether the 3G3P consisted of complementary patents the answer was not clear and experts concluded that some competition would appear between the five technologies. Given the fact that a degree of competition would appear, there was concern regarding the potential anti-competitive effects of the agreements. In order to safeguard competition the parties made amendments to the agreement in June 2002: the major modification was the fact that five different technologies pools, one for every technology, were formed instead of combining all essential patents in one single pool. The system of five different 3G patent licensing arrangements is unlikely to restrict competition and innovation. The Commission had also taken into consideration the fact that a number of major 3G essential patent holders, like Ericsson, Nokia and Motorola were not parties to the notified agreements.[43]

The Commission has issued a comfort letter, which is limited to the notified agreements and does not under any circumstances extend to other industries' initiatives or to the decisions of 3G standard settings bodies or working groups.[44]

[42] For further information, see Definition of patent pools.
[43] Choumelova, D., Competition law analyses of patent licensing arrangements- the particular case of 3G3P, Competition policy newsletter, nr 1, Spring 2003, p.41-42, www.europa.eu.int/comm/competition/publications/cpn.
[44] Ibid.

5. Historical treatment of patent pools

5.1 The early years

To protect the public, the government of the United States first created organisations mandating patents and patent pools and, over the last one hundred and fifty years, patent pools have played and important role in industry and in American Law. Prior to the passage of the Sherman Act in 1896, the sewing machine industry formed one of the first patent pools.[45] In 1902, the case of *E. Bement & Sons v. National Harrow Co*.[46] the Supreme Court ratified the dominance of patent law over federal antitrust law. The Supreme Court stated that an owner of patents enjoys *absolute freedom* to license patents under *any* conditions decided by a contract between the patentee and the licensee. The fact that the contract created a monopoly or even fixed prices did not, in the Court's opinion, violate the Sherman Act. The absolute freedom ended in 1912 with the case *Standard Sanitary Manufacturing Co. v. United States*[47] where the Supreme Court began to condemn patent pooling as a practise that did indeed violate the Sherman Act. The Court dissolved a patent pool relating to an enameling process for sanitary ironware. The pool brought eighty-five per cent of the enamelware manufactures. The patent licenses that bound the companies provided that the participants agree on minimum sales prices, resale prices enforcement, and refusal to sell to unlicensed manufactures. The Supreme Court ruled that the patentees have crossed the line on what is necessary to protect the use of a patent.[48]

In 1917 the United States entered World War I and found itself in desperate need of airplanes. At this time two firms held blocking patents necessary for the airplane manufactures. The Wright Company controlled the basic patent, namely the wing-twisting mechanism. Curtiss Aeroplane & Motors Corporation held the principal patents for a wing-flap mechanism that improved upon Wright's basic patent. The two companies were involved in a long drawn-out dispute in which Wright accused Curtiss of infringement of its wing-twisting mechanism, therefore they refused to manufacture airplanes. This put the United States in a grave situation just before the entrance into the war. To solve this situation the National Advisory Committee for Aeronautics proposed a cross-licensing agreement where the aircraft manufactures should each pay a royalty to be able to have access to all patents in the pool. The patent pool included all the airplane

[45] Merges, R., Institutions for Intellectual Property Transactions: The case of patent pools, 1999, s.18.
[46] Case, 186 U.S. 70 (1902).
[47] Case, 226 U.S. 20 (1912).
[48] See footnote 12, p.6-7.

manufactures and thereby also solved the dispute between the two major manufactures. The Attorney General concluded that the pro-competitive effects of these arrangements outweighed any anti-competitive effects. This agreement had the pro-competitive benefit of removing the stranglehold on the aircraft industry and as the patents did not compete with each other or with any others, competition could not be harmed. This opinion held by the Attorney General was of course driven by the situation that the U.S. was facing. [49]

Anti-trust law was enacted to prevent the creation of monopolies and other matters distorting competition and antitrust law and patents law has often been in conflict, especially when dealing with pooling arrangements. The Supreme Court continued with their anti-patent pooling judgements, and, in 1931 with *Standard Oil Co. v. United States*[50] (also called the cracking patents case) the Court created the market power test which gave the authorities guidelines to determine when a patent pool is violating the Sherman Act.[51] In 1945 the Supreme Court applied its market power test and dissolved one of the biggest patent pooling agreement in history, *Hartford-Empire Co. v. United State*[52]. The patent pool covered over six hundred patents (ninety-four percent) of all the glass made in the United States. The patent pool allowed their members to maintain unreasonable high prices. Judge Hugo Black stated in the judgement: " The history of this country has perhaps never witnessed a more completely successful economic tyranny over any field of the industry than that accomplished by the appellants."[53] As part of the remedy the Court forced the firms to license the patents without discrimination or restrictions on the standard royalties. This provision is the non-discriminatory and reasonable royalty provision, which is still widely used even today.

In 1948, the Supreme Court showed that even an agreement, which combines blocking patents could violate the Sherman Act, if price-fixing was involved. In the case *United States v. Line Materials*[54] the Court stated that a cross-licensing agreement between blocking patents was *per se* a violation of the Sherman Act due to the price-fixing clause. [55]

In 1973, this time at the district level, the case *United States v. Glaxo Group Ltd*[56] was decided. A British drug manufacturer held an American

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[49] Bender M., The plane lands on patent pooling, 2001, www.peperlaw.com/pepper/show_article.cfm?RID=185.0, 2003-01-29.
[50] 283 U.S. 163, 174 (1931).
[51] Lin D., Research versus development; Patent Pooling, Innovation and Standard Setting in the Software Industry, http://www.jmls.edu/ripl/voll/issue2/lin-middle.htlm 2003-02-11.
[52] Case, 323 U.S. 389 (1945).
[53] Clark, J., and others, Patent Pools: A solution to the problem of access in the biotechnology patents, 2000, p.5.
[54] Case, 333 U.S. 287 (1948).
[55] See footnote 49.
[56] Case 410 U.S. 52 (1973).

patent on a fungicide and another British drug manufacturer held an American patent on a microsize dosage form of fungicide. The two manufacturers formed a patent pool agreement, containing certain restrictions on the sale of the bulk form of this fungicide. The two companies made similar restrictions in sublicensing agreements with American drug companies. In a civil antitrust action in the District Court of Colombia, the United States Government sought to enjoin enforcement of the bulk-sale restrictions on the ground that they had a negative effect on trade and therefore violate the Sherman Act. The Government also challenged the patent, which the British manufacturers had obtained. The District Court held that the bulk-sales restrictions did infringe the Sherman Act but since the manufacturers did not rely on the patent in their defense the government could not challenge their validity. The District Court granted the government's request for injunctive relief against future violations but denied the government's request that the manufacturers should be ordered to make bulk-sales on reasonable, nondiscriminatory terms and to grant reasonable royalties licenses to the manufacturers.

Pooling agreements do not need to be open to all that would like to join. However, exclusion from an pooling agreement among parties that together posses a dominant position may, under some circumstances harm the competition, as was stated in the case *Northwest Wholesale Stationers, Inc. v. Pacific Stationery and Printing Co*[57]. Exclusion from a patent pool is unlikely to have anti-competitive effects unless, the users of the excluded technologies cannot on their own compete with the pool on the relevant market and if the pool members possess a dominant position on the relevant market. If these circumstances appear then the authorities evaluate the case and decide whether the agreement's limitations on participants are reasonably related to the efficient development of the pooled technologies. Another possible anti-competitive effect of patent pools arrangements, which was mentioned in the case, was the fact that pooling agreements may require that the members should grant each other licenses for current and future technology at a low price. This can reduce innovation due to the fact that the members of the pool have to share their successful R&D and each of the members can get a "free ride" on the accomplishment of other pool members.

By 1960's the Department of Justice evaluated all patent pools and created the "Nine No-Nos " regarding patent licensing, which the department *per se* viewed as illegal.[58] The "Nine No-Nos" were:

"(1) requiring a licensee to buy unpatented materials from the licensor;
(2) requiring a licensee to assign to the patentee any patent which may be issued to the licensee after the license agreement is executed;

[57] Case 472 U.S. 284 (1985).
[58] Anthony,S., F., Antitrust and Intellectual Property Law: From Adversaries to Partners, 2000, http://www.ftc.gov/speeches7other/aipla.htlm, 2003-02-05.

(3) attempting to restrict the purchaser of a patented product in the resale of that product;
(4) restricting the licensee's freedom to deal in products or services not within the scope of the patent;
(5) agreeing with the licensee that the licensor will not, without the licensee's consent, grant further licenses to any other person;
(6) requiring the licensee to take a package license;
(7) requiring the licensee to pay royalties, including total sales royalties, in an amount not reasonably related to the licensee's sales of products covered by the patent;
(8) attempting to restrict a process patent licensee's sales of products made by the patented process; and
(9) requiring a licensee to adhere to any specified or minimum price in its sale of licensed product"[59].
This policy tended to make companies afraid of patent pooling agreements.

5.2 The current view

5.2.1 Antitrust Guidelines for patent pools

Since 1977, the Antitrust Division of the U.S Department of Justice has had the regulatory task of reviewing different types of business practises proposed by private parties. Since 1979, the FTC had had a similar task. In 1995 the Department of Justice together with the FTC issued an Antitrust Guidelines for the licensing of Intellectual Property (IP Guidelines) which, among other things deals with patent pools involving intellectual property rights and their owners.[60] The IP Guidelines states the antitrust enforcement policy of the U.S. Department of Justice and Federal Trade Commission with respect to licensing of intellectual property protected by patent, copyright, trade secret law and know-how. These Guidelines does not cover the antitrust treatment of trademarks, although the same general antitrust principles that apply to other forms of intellectual property apply to trademarks as well. The Guidelines are only dealing with technology transfer and innovation-related issues that arise with respect to patents, copyright, trade secrets agreements, rather than with product-differentiation issues that are typical for trademarks. By stating this general policy, the authorities hope to assist those who need to predict whether the FTC or DJO will challenge a practice as anti-competitive. Every case will be evaluated in the light of its own facts and the Guidelines will be applied reasonably.

The 1995 Guidelines has three general principles. The first principle is that the Guidelines are created for the purpose of antitrust analysis. The FCT and

[59] See footnote 58.
[60] Lerner J., Strojwas M. and Tirole, J., The Structure and performance of patent pools: Empirical evidence, 2003, p.3-4.

DJO regard intellectual property as being essentially comparable to any other form of property. The authorities do not presuppose that intellectual property creates market power in the antitrust context and the last principle is the recognition that intellectual property licensing allows companies to combine complementary factors of production and this is generally seen as pro-competitive.[61] When examining patent pools the IP Guidelines states that patent pooling is pro-competitive when it;

1) "integrates complementary technologies,
2) reduces transaction costs,
3) clears blocking positions,
4) avoids costly infringement litigation, and
5) promotes the dissemination of technology.

The IP Guidelines also states that patent pooling can be anti-competitive if;
(1) the excluded firms cannot effectively compete in the relevant market for the good, incorporating the licensed technologies,
(2) the pool participants collectively possess market power in the relevant market, and
(3) the limitations on participation are not reasonably related to the efficient development and exploitation of the pooled technologies.

The IP Guidelines also discusses the guidelines that must be taken into consideration when approving a pooling agreement;
(1) the patents in the pool must be valid and not expired,
(2) no aggregation of competitive technologies and setting a single price for them,
(3) an independent expert should be used to determine whether a patent is essential to complement technologies in the pool,
(4) the pool agreement must not disadvantage competitors in downstream product markets, and
(5) the pool participants must not collude on prices outside the scope of the pool, e.g., on downstream products"[62].

In contrast with past eras the IP Guidelines seek to achieve a more liberal approach when dealing with patent pools. Indeed, in 2000, the DJO and the FTC, expressly recognised that patent arrangements can have important pro-competitive benefits.[63]

[61] U.S. Department of Justice and Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property (1995) (IP Guidelines, www.usdoj.gov/atr/public/guidelines/ipguide.htm
[62] Ibid, S. Field, Patent Pools: A solution to biotechnology patents access, 2001, p.2
[63] Ibid, 2-3.

6. Recent patent pools

6.1 The Moving Pictures Experts Group Licensing Administrator (MPEG La) patent pool

6.1.1 Introduction

In the last few years a number of companies have joined together to form patent pools in the consumer electronics sphere, so called MPEG-2. The MPEG-2 pool was the first one, and it covered patents on data compression technology. A pair of patent pools concerning the DVD technology followed the MPEG pool. These pools have some features of both mega-pools- sharing all patents in a specific industry and the simple contract based pools. Thus, they represent a new kind of patent pooling due to the fact that they are less comprehensive than a mega-pool, since they only share one technology, rather than all patents in a specific industry. But the pools are more substantial than pools based on cross-licensing because they include various adjustment mechanisms for adding new patents and fixing royalty shares.[64]

6.1.2 The MPEG-2 patent pool

In the late 1980's a panel of engineers' came together to establish an industry standard for digital video compression, a process where digital videos are compressed in size. Today the MPEG format is the most used digital standard format for movies and video-clips on the Internet due to the compressed size, which ensures fast transfer rates.

The panel knew that the biggest problem in implementing the standard was that many different patent owners were involved. The solution was to form an independent company that would manage the pool of patents, allowing one stop shopping for patent holders and licensees. In 1996 the MPEG LA was born.[65]

From the start the MPEG-2 patent pooling agreement was created by four different agreements: 1.) an agreement among licensors, in which they agreed to license their MPEG-2 essential patents jointly through a common license administrator. They also agreed upon basic terms of the pool, such

[64] See footnote 45, p.28.
[65] Andersen,S., Inside MPEG LA, the prototypical patent pool recovering lawyer revolutionizes IP management model, Corporate Legal Times, Volume 12,number 130,September, 2002.

as the field of use, the amount and allocation of royalties and the procedure of adding or deleting patents from the pool.
2.) a licensing administration agreement between the licensors and the MPEG LA,
3.) a license from each licensor to MPEG LA for the purpose of granting a portfolio license, and
4.) the portfolio license.
The members of the patent pool were Columbia University, Fujitsu, General Instrument, Matsushita, Mitsubishi, Lucent, Philips, Scientific-Atlanta and Sony, they combine twenty-seven patents and permit one stop shopping for manufactures of television, digital video disks and players, telecommunications equipment as well as cable, satellite and broadcast television services. To get support for the formation of the pool, the nine patent holders identified all patents essential to be able to meet the international standard know as MPEG-2. Under the licensing agreement the patent holders decided to license their patents under a licensing agent known as MPEG LA, based in Denver. MPEG LA administers the pool on behalf of the members. It employs an independent patent expert to determine if the patents in the pool are essential and suitable to be included in the pool.[66] A patent was considered essential if there was no technical alternative to the patent. The MPEG lawyers reviewed over eight thousand U.S. patents abstracts and over eight hundred patents owned by over thousand companies and inventors. Eventually they identified twenty-seven essential patents most of which have foreign owners. The license is world-wide and the MEPEG LA is required to grant a license to any licensee, without discrimination. New patents are added to the pool as soon as the patent offices around the world grant them the rights. The MEPGA LA also collects royalties and distributes them among the members according to a pro-rata allocation based on each licensor's proportionate share of the total number of patents in the pool.[67]

Like all patent pools the MPEG pool has grown and now includes France Telecom, Hitachi, JVC, KDDI and NTT. It has today more than five hundred and twenty five patents and one hundred and eleven patent families [68]. There is a mechanism for recalculating royalties when a new patent is included in the pool, which is called "the liability rule"- a set of rules and norms to be used to value a new essential technology. The agreement has also a grant back provision that requires the licensee to grant to the licensor a non-exclusive grant back of any essential patent that it has a right to license or sublicense. The pool imposes no obligation on the licensee to use the licensed patents only but leaves the licensee free to develop competitive products outside of the pool.[69]

[66] Sharpio, C., Navigating the patent thicket: cross licensing, patent pools and standard-settings, Berkeley, March 2001,p.17-18.
[67] See footnote 22, p.28-30.
[68] This was the number in September 2002, see footnote 50.
[69] See footnote 53, p.13-14.

Another provision in the agreement is the "partial termination" provision. This means that every MPEG-2 member can partially terminate the agreement when the licensee has brought a lawsuit or other proceedings against the MPEG-2 licensor for infringement of a licensee patent and refusal to grant MPEG-2 licensor a license on "fair and reasonable terms and conditions". The DOJ pointed out that the termination of the agreement puts the licensee in the same position it would be in if there were no pool at all.[70]

In the MPEG review letter the DOJ was given the chance to stress when pooling patents may be pro-competitive and apply the relevant factors to the MPEG pool. DOJ took in consideration four major factors: all patents in the pool must be essential to comply with the MPEG-2 standard and are complementary and not competitive; only license terms were only; the structure of the pool prohibited exchange of sensitive information between the members; and finally the license agreement did not discourage the development of competing products. The first two points have been discussed before, the last two will be analysed below. The MPEG LA agreement is set up to minimise the risk that sensitive information is exchanged. The only one who has access to the information flowing into the pool is the MPEG LA, which is independent from the licensors and the information flowing from MPEG LA to the members is confidential.

The MPEG license does not discourage innovation, by basing the royalty rate on the number of units manufactured, which are described as "actual use" by the DOJ. If a new technology comes along the licensing agreement does not impose extra costs to switch to the new technology, nor does the license prohibit a licensee from manufacturing non MPEG-2 products.[71]

6.1.3 DVD

As with the MPEG-2 a group of companies declared a standard for the DVD technology. Two patent pools were formed.

In 1998 Sony and Pioneer agreed to form a nonexclusive license agreement of all essential patents necessary for compliance with the DVD standard specification of Philips. Philips agreed to grant licenses of the essential patents to all interested parties, to manufacture, have made, sell use or otherwise dispose of "disc and players that conform to the standard specification". The three companies are allowed to license their essential patents outside the pool. A patent expert is appointed to investigate and decide which patents are essential. The royalty is set at 3,5% of the net selling price for each player sold and 0.05 U.S.D. for each disc sold. The royalties are also determined on every sold disc and not on the number of patents contributed to the pool. The patent pooling agreement does not

[70] See footnote 45, p.31.
[71] See footnote 19, p.1-4.

require that the licensee must grant licensor a non-discriminatory and reasonable license of any essential patent that they own.[72]

Hitachi, Ltd., Matsushita Ltd., Mitsubishi, Time Warner Inc. and Victor Company of Japan formed the other patent pool. In this patent pool the parties agreed to license their present and future patents. Toshiba agreed to include the essential patents in a pool and to license the patents to all manufactures of DVD products and to distribute the royalties from their licensing to other licensors. The companies are free to license their patents outside the pool. The same method as in the other pools is used here about appointing an expert to decide which patents are essential. The experts' decisions are non-appealable. The patent pools is open to any patent holder of an essential patent who is willing to accept the terms and condition of the pool. The royalty rate is 4 per cent of the net sales prices for each DVD players and 0.0075 U.S.D. for each DVD disc sold. The royalty rate is based on the following grounds: how often a licensor's essential patents are infringed, age of the patent and if the essential patents to the disc standard are optional or mandatory features. The pool has also a grant back provision which requires the licensees to grant back to the licensors all essential patents on "fair, reasonable and non-discriminatory terms". Disputes between the members are solved by arbitration.[73]

The DOJ approved both pools, even though the existence of both formations precluded the opportunity for one-stop-shop for DVD licensing. The DOJ stated that they at least reduce transaction fees.. Now the manufacturers of DVD discs or equipment can deal with these two pools instead of ten separate companies.

The DVD patent pool provides a clear example of the relationship between standard-setting and patent pools. The DVD pools grew out of industry standard-settings organisations. In some cases the companies that have participated in standard-setting are in advance required to agree to license any patents that are essential to the standard. Even if no formal requirement is made many actors on the market simply expect this to be a natural progression.[74]

Like the MPEG-2 pool, the DOJ concluded that the two DVD pools were not likely to be anti-competitive. It would have been a surprise if the DOJ had concluded otherwise, due to the similarities between the MPEG-2 and DVD pools. The similarities are:
1. Both implement a widely accepted technology standard.
2. All licensors of the pool grant non-exclusive licenses to the pool, it means that they are free to license even outside of the patent pool.

[72] See footnote 53, p.14.
[73] Ibid, p.15.
[74] See footnote 19, p.3-4.

3. An independent patent expert evaluates which patents are essential patents in the formation of the pool. There are also some decisions on how to evaluate patents that enter the pool.
4. The pool should license to any interested party in a non-discriminatory manner.
5. The grant back provisions are limited to the essential patents and require non exclusive licenses on fair and reasonable terms.
6. The royalties of both pools are relative small compared to the total cost of manufacture.[75]

6.1.4 Summit Technology & VISX

The third patent pooling case involved an enforcement action initiated by the Federal Trade Commission (FTC). In 1998 the FTC challenged the Summit/VISX patent pool on the grounds that it sheltered an invalid patent. VISX had obtained its patents by falsification of its scientific records in order to earn an earlier priority date for its patents. Shortly after that, Summit and VISX formed their patent pool and an action against *Summit Technology Inc. and VISX Inc.* regarding their patent pool related to photorefractive keratectomy (PRK) was initiated. PRK is a form of eye surgery that uses lasers to reshape the lens in the eye. They were the only firms that had FDA (Food and Drug Administration) approval to market the PRK equipment. Just for this reason the FTC lodged the complaint, claiming a violation of Section 5 of the Federal Trade Commission Act. The FTC claimed that both VISX and Summit had the intellectual property rights and other assets needed to enter the market as independent competitors, and they choose to form the patent pool as a perfect tool for price-fixing. One of the terms of the patent pool was to charge a licensing fee of 250 USD each time a eye surgery was performed using the patent equipment. The royalties were, of course, divided between Summit and VISX, the rates were higher than if the companies remained competitors. According to the statistics the consumers paid 30 million dollars in 1997 to cover the licensing fee of the patent pool.

According to the FTC the patent pool eliminated horizontal competition between the two companies. The FTC and the two companies came to a consent agreement proposed by the companies, in which patents in the patent pool should be available for cross-licensing on a royalty-free and non-exclusive bases to third parties.[76]

A comparison between MPEG-2 and Summit/VISX pools is useful to show how the “rule of reason” produced different results in each case. The MPEG pool was limited to patents that were useful for the MPEG-2 products only in conjunction with the other patents. In the case of Summit/VISX, the FTC stated that, in the absence of the pooling agreement the two companies

[75] See footnote 53, p.13 and footnote 60, p.47.
[76] Summit Technology, Inc. a Corporation, and VISX, Inc., a Corporation, before the Federal Trade Commission, doc., nr. 9286, www.ftc.gov/os/1998/9803/summit.cmp.htm.

would have competed with one another in sale and lease of PRK equipment. The other important point was that the exclusivity of the pool differed: the MPEG pool patents could be made available by the individual members, as well as by the pool, the Summit/VISX pool prohibited unilateral licensing. The third issue was that Summit or VISX could veto licensing by the pool to other companies. The veto power decreased the chance of there being licensing of the patents to other PRK manufactures. The MPEG pool was specifically build to facilitate licensing of patents to manufactures on non-discriminatory terms and appeared to make new products possible. The Summit/VISX pool was designed more to grant the parties the power to control prices.[77]

6.1.5 Patent pools in the biotechnology industry

When it comes to the biotechnology area the view on patent pools differ. In a white paper, published by lawyers of the United States Patent and Trade Office a debate on the possible benefits and legal implications of patent pools in the biotechnology area were analysed.

The first benefit associated with patent pools was the elimination of the problems caused by blocking patents and stacking licenses[78]. In biotechnology, the granting of patents for basic products, like nucleic acids, may create a blocking patent like the one in the airplane technology in 1914, which could lead to such a patent preventing companies from bringing products into the market. One possible solution, according to the white paper is to form patent pools of the basic products. Companies working with the product can then easily obtain all necessary licenses to practice the new technology.[79]

The second benefit mentioned is the reduced cost of licensing transaction fees and also the elimination of litigation over the patent rights. Without a pool arrangement a company has to obtain the licenses separately from different patent holders which, of course, takes more time and money and gives the patent holders motivation to hold out on licensing their patents.[80]

The final benefit mentioned, was the exchange of technical information, which are not covered by patents. A patent pool provides a mechanism for free sharing of technical information related to the patented technology among the members.[81]

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[77] See footnote 58,p.22-24.
[78] It is described as a right for an owner of a patent in upstream research to participate in downstream innovation. U.S department of Justice & Federal Trade Commission, Antitrust Guidelines for the licensing of intellectual property (1995) www.usdoj.gov/atr/public/guidelines/ipguide.htm., sec.5.5.
[79] See footnote 58.
[80] See footnote 53, p.8-9.
[81] See footnote 53, p.10.

Not everything is positive for patent pools in the biotechnology sphere and voices have been raised against them. The general criticism is that they have an anti-competitive effect and lead to monopoly pricing.[82]

The white paper argues that due to the benefits achieved through patent pools in other industries, patent pools should be established for genomic inventions. This approach may have worked in the airplane industry with few manufactures and homogenous products but the genomic industry is too widely dispersed and fast developing for patents pooling to be efficient. The airplane industry has the same goal and manufactures basically homogenous products, while the genomics industry has varying goals depending upon whether the patent holder is a private company or an no-profit institution. A second concern was how to determine what patented technology should be pooled. Although the genomics industry has some kind of internal structure, there are still no discrete categories of research compared to the aircraft industry. In order to get a patent pool to function in this area a huge number of genomics patents would have to be part of the pool, which would certainly lead to antitrust problems.[83]

[82] See footnote 12, p.13-15.
[83] Rochelle K. Seide & Michelle LeCointe, Trendspotter: Just say 'No' to patent pooling for Genomics, 2001, www.genomeweb.com, 2003-02-12, Bradly J. L., Evaluating the use of patent pools for biotechnology: a refutation to the UPSTO White paper concerning biotechnology patent pools, Santa Clara Computer & High Technology Law Journal, December, 2002.

7. The pro- and anti-competitive effects of patent pools

Due to the fact that patent pools are limited to essential patents, one must ensure that the pro-competitive aspects of the agreement outweigh the potential harm that may be posed by their pooling. The fundamental features of a patent pool is to bundling of complementary technologies, the reduction of transaction fees, the clearance of blocking patents and the avoidance of costly infringement litigation. The effectiveness of the patent pool comes principally from a consensus among the participants that individual patent rights will be made available for the members on fair, reasonable and non-discriminatory terms.[84]

7.1.1 Rapid development of technology

Patent pools are promoting the rapid development of technologies that can otherwise be blocked by patent disputes. One very good example was the aircraft technology pool, which resolved patent disputes between the manufacturers. Recently, the formation of the so-called most successful MPEG pool was formed to achieve rapid standardisation of a protocol for protecting copyrighted works on the Internet. The pooling of these patents allow numbers of industries such as computers, televisions and other media delivery systems to transfer data more efficiently.

Another area of rapid development of technology is the telecommunication area, and in this area too patent pooling play a major role. Various communication technologies have their own know-how, which is adapted as an industry standard. If these standards can be pooled the members can easily share their developments. All these patent pools enables innovations to reach the market when they might otherwise might have been prevented by blocking patents. [85]

7.1.2 Reduction of transaction fees

One- stop- shopping for licensed technology promotes efficiency and allows the company using the technology to avoid negotiations with every patent holder owning a patent that is essential to the standard. If we take the example of the MPEG LA patent pool, every company that wants to sell equipment that will be capable of decoding a digital video on a DVD must manufacture the product according to the MEPG-2 standard. In January 2002, there were at least fourteen different companies owning essential patents. One can only imagine the transaction costs for both patent owners

[84] Lawrence, M.S, Greater predictability may result in patent pools, 2002, www.ftc.gov/opp/intellect/020417/lawrencesung1.pdf
[85] See footnote 45, p.4.

and licensees. A patent pool certainly facilitates the licensing of and co-operation in valuable technologies.[86]

7.1.3 The clearance of blocking patents

One of the important tasks of patent pools is the clearing of blocking patents. Blocking patents can affect the development of technology by giving rival patentees the right to exclude each other from manufacturing, using or selling the technology. Important technology can be blocked and cannot be exploit until some kind of co-operative agreement is signed. This problem has for a long time been recognised by the courts[87] and patent pools have thus been justified. Patent pools and cross-licensing agreements solve it by allowing intellectual property rights to be combined and licensed jointly.[88]

7.1.4 The reduction of litigation costs

Patent litigation is extremely costly and uncertain: litigation that includes a trial is estimated to cost between two to five million USD and patent litigation has over the years produced the largest damages awarded. *Kodak* had to pay nine hundred twenty-five million USD in damages to *Polaroid* in settlement fees. Patent litigation is uncertain due to the fact that judges and juries are often badly equipped to handle complex technical disputes. Patent litigation puts patents in danger because the judge may invalidate them. If a company can obtain a license to all patents related to a standard for a reasonable royalty, then litigation makes little financial sense. Rather than risk time and money, companies form patent pools or cross-licensing agreements: these options are especially interesting to smaller industries which do not have the resources to initiate patent litigation and for patent owners who fear that their patents might be invalidated in court.[89]

Other important pro-competitive effects are the fact that patent pools promote innovation by creating a mechanism for the members to share the risks and the benefits of new technology. Pooling spreads royalties among various companies that invest to produce successful invention. The pool increase the possibility that each member will recuperate the investments made in the development of its technology. By reducing the litigation costs patent pools can increase smaller firms' opportunities for survival alongside major firms.

7.2 The anti-competitive effects of patent

[86] Kulbaski, J.,J., Comments on patent pools and standards for Federal Trade Commission Hearing regarding competition & intellectual property, January, 2002. www.ftc.gov/opp/intellect/020417/james kulbaski.pdf.
[87] See Standard Oli v. United States 283, U.S. 163, 171 (1931) and International Mfg.Co. v. Landon, Inc., 336 F.2d 723, 730 (90th Cir.1964).
[88] See footnote 12, p.9.
[89] See footnote 12 and 58, p.9, p.7.

pooling

While patent pools can reduce transaction costs, clear blocking patents and promote information exchange, they can also be abusive and have anti-competitive effects. As history has shown us *in E. Bement & Sons v. National Harrow Company*[90] patent law was initially viewed as more valuable then antitrust regulations. This decision led to the fact that companies began forming patent pools that created monopolies in various industries and the government was unable to apply the Sherman Act to break the monopolies. The change came with the case *Standard Sanitary Manufacturing v. United States*[91] where a large number of patent pools were seen as too monopolistic. Today's view is that patent pools are mostly pro-competitive but there are some occasions when pooling can affect competition in a negative way.[92]

7.2.1 Distortion of competition

Patent pooling can harm the market by bringing horizontal competitors together. This risk is especially high when the companies own competing patents or processes. The pool effectively produces a horizontal merger of two companies and permits them jointly to set royalty fees for their own patents. This may lead to monopoly prices on an otherwise competitive market. This happened in the case of Summit/VISX and the FTC forbade the parties to form a patent pool of laser eye surgery techniques. The two parties were the only firms which received marketing approval by the FDA, which meant that the two parties were the only competitors on the market. The pooling agreement allowed the companies to raise and fix prices of the new eye surgery technology.[93]

Pooling agreements generally need to be open to everyone who would like to join. Exclusion from pooling arrangements among parties that collectively possess market power can, under some circumstances harm competition. In general, exclusion from a patent pool is unlikely to have an anti-competitive effect unless the excluded companies cannot compete in the relevant market and the pool members collectively have a dominant position on the relevant market. If these circumstances appear, the authorities will determine if the agreement's limitations on participation are reasonably related to the development of the pooled technologies and will also evaluate the effect of that limitation in the relevant market.[94]

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[90] Case, 186 U.S. 70 (1902), further information see chapter ,The early years.
[91] Case, 226 U.S. 20 (1912), further information see chapter ,The early years.
[92] Bradly J. L., Evaluating the use of patent pools for biotechnology: a refutation to the UPSTO White paper concerning biotechnology patent pools, Santa Clara Computer & High Technology Law Journal, December, 2002, p.4-5.
[93] See footnote 9, p.12-13.
[94] See footnote 62,p.33-34.

7.2.2 Effect on innovation

Another big concern with patent pools is the fact that these arrangements can have a discouraging effect on innovation. The patent system is constructed to encourage innovation by giving the patent holders a limited monopoly on their inventions. Pooling agreements often contain a grant-back clause, which requires all parties to make available to the pool any essential patent that they may obtain in the future. The clause is designed to be pro-competitive, due to the fact that it diminishes the ability of any party to benefit from the pool and then turn around and prevent other companies from sticking to the standards by blocking access to new essential patents. Further, the fact that a pooling arrangement contains all essential patents necessary to achieve a specific standard could eliminate a company's desire to invest in R&D. To avoid this, when, for example, an agreement contains a grant back clause then it should be limited to improvements on the fundamental patent. Another formula for encouraging innovation is the royalty fees structure, new developed patents receiving more royalties than older patents. This would encourage companies to develop new essential patents to the pool.

What must be kept in mind is the fact that the competitive effects of any agreements may change over time and the government will only take into consideration the effect of the agreement as of the time of possible harm to the competition.[95]

7.2.3 Protection of invalid patents

One of the major concerns when dealing with patent pools is the fact that they can protect invalid patent from litigation. Many patent holders that fear that their patent could be invalidated by litigation have a strong desire to create a patent pool or a cross-licensing agreement. In the case *United States v. Singer Mfg. Co.*[96] the sewing machine manufactures chose to pool their patents by a mutual agreement with the competitors rather than risk litigation where their patents might have been invalidated. Once invalid patents are pooled with the rival companies the risk of a patent challenge is eliminated. Therefore patent pools can contain invalid patents that licensees still must accept. The Supreme Court stated already in 1892 with the case *Pope Mfg. Co. v. Gorumully*[97] that it is of importance to the public domain that competition should not be harmed by worthless patents. In 1998 the FTC challenged the Summit/VISX[98] patent pool on the further ground that it sheltered an invalid patent. VISX had obtained its patents by falsification of its scientific records in order to earn an earlier priority date for its patents. Shortly after that, Summit and VISX formed their patent pool. The two companies stated that they pooled their patents in order to reduce the

[95] See footnote 46, p.4-5 and footnote 62, p.34.
[96] Case, 374 U.S. 174,177 n.2 (1963).
[97] Case, 144 U.S. 224, 234 (1892).
[98] For further information see chapter 4. Recent patent pools.

uncertainty and expense of litigation that would have followed. The FTC rejected this defense and dissolved the pool and ordered the companies to cross-license their patents royalty free. The FTC prosecuted VISX for fraud: the litigation is still pending.[99]

The pro-competitive effects of patent pools are many, especially when it comes to complementary patents. However, in some circumstance patent pools have a negative effect on competition. A pool, which gives careful attention to the concerns mentioned above, can reduce the risk of violating the law.

7.3 The economic effects of patent pools

7.3.1 Positive effects

The characterisation of the economic relationship between pool patents is very important for the antitrust analyse of any pooling agreement. Whether a patent pool is likely to be anti- or pro-competitive is often determined by the economic relationship of the pooled patents. The economic relationships among pool patents depend on whether the pooled patents are competing, complementary, blocking or unrelated. [100]

Patent pools may have several economic advantages for the companies, which are part of the pool. One advantage is that the patent holders within the pool may grant each other immunity from patent infringement lawsuits for violation of a member's patent. Another important advantage is that a patent pool allows for methods of resolving legal conflicts, which, of course, decreases the uncertainty and the cost of litigation that is involved in a patent validity or an infringement suit. Pooling arrangements are a perfect mechanism for an efficient method of licensing a large numbers of patents through a creation of a single unit capable of granting licenses to all members. Individual negotiations between various patent holders and licensees would be necessary without a patent pool. Pooling agreements promote competition between producers who are licensed to market a product, which results in improved products and lower prices for the consumers. Forming a patent pool helps in assisting to capture the whole value of the patent. The efficient use of patent pooling not only raises the value of the member's patents, but also helps to encourage R&D on the essential patents. Finally, a patent pool minimises the threat of strategic behaviour. Every pool has to hire an independent patent expert to evaluate and decide which patents are essential to the standard. An independent review puts a stop to strategic behaviour and conflicts. A company would find it difficult to argue that their patents are the keys patents to the standard

[99] See footnote 9, p.12.
[100] Newberg, J.,A., Antitrust, patent pools, and the management of uncertainty,2000, p.3-4.

and therefore deserves higher share of the royalties, if an independent expert decides otherwise.[101]

7.3.2 Negative effects

A patent pool can also have negative economic effects. The grant of immunity from an infringement suit can provide a patent holder with valuable information about a licensee or avoid collusion on the market. Such an arrangement between two or several major competitors may provide them with a significant advantage over their competitors. Other economic disadvantages may occur if competitors agree to pool future patents. Pooling of future patents can have discouraging effects for competitors investing in R&D of new technology. This encourages the competitors to take advantage of the time and expenses spent by other members of the pool. Last but not least, pool members can place restrictions on patents, which increase prices, decrease outputs or distort competition.[102]

[101] See footnote 10, p. 202-203 and footnote 45, p.34.
[102] See footnote 10, p. 202-203.

8. Concluding remarks

From a general point of view, patent pools are rather pro- then anti-competitive. As the history of the American case law showed, there have been different views on how to treat a patent pool, from the initial non-violation of the Sherman Act, to later development where a market test was introduced to decide which patent pools were against the Sherman Act. When looking at the small number of cases in Europe and the opinion of the Commission, one can clearly see that the Commission has avoided discussing patent pools. The only clear statement of the Commission is that patent pools can be both pro-competitive and anti-competitive.

When it comes to the telecommunication technology and the joint venture of Sony Ericsson one interesting question is whether it could be classed as a patent pool agreement at all. There are some provisions supporting the view that it be seen as a patent pool. It is the case that there are two companies sharing one or several of their intellectual property rights in the telecommunication area. Further, the two companies complement each other's technology, namely Sony's leading expertise in consumer electronics products and Ericsson's leading experience of mobile telecommunication. A complementary patent pool is of great importance because the patents involved are more valuable in a pool then on their own. The Sony Ericsson co-operation created the possibility of producing a new product, a mobile phone which can also be used as a camera. This new technology, phone/camera, might never have reached the market without the co-operation of Sony Ericsson. Due to the fact that if this new phone/camera would have been developed by Sony and Ericsson would have improved it by adding to the product a new improved sms system then none of the companies can market the new product without mutual consent**.** This is a blocking patent and can be prevented by a patent pool co-operation. An agreement pooling complementary and blocking patents can be justified on the grounds mentioned above-technology improvements and the avoidance of litigation concerning patent infringement.

Basing oneself on the 1995 Guidelines given by the DOJ and the FTC, one could draw the conclusion that the Sony Ericsson co-operation fulfills all five of the points required for a pooling agreement to be pro-competitive and falls under none of the anti-competitive points.

The effect on the market is also positive. The public domain will benefit from the co-operation by getting access to new improved technology (mobile phones) which maybe would not have penetrated the market if Sony and Ericsson had not co-operated. A patent pool can harm the market by bringing horizontal competitors together, and the risk is especially high

when the companies are competitors. Such a pool might lead to a horizontal merger, which could lead to monopoly prices in an otherwise competitive market. In the case of Sony and Ericsson both companies are owners of competing patents but the big difference is that the two companies are not the *only* horizontal competitors on the relevant market, big competitors like Nokia and Motorola are outside the agreement and the companies together do not posses a dominant position on the relevant market. The two companies claim to be aiming for a twelve percent market share in the short to medium term and when they have reached this level they probably could not have a negative effect on the relevant market.

While the discussion above was dealing with why the co-operation should be considered as a pro-competitive patent pool this part is trying to look at the negative aspects of a pooling agreement. An important issue that must be mentioned in this context is the fact that a patent arrangement should be limited to patents that are only useful for the new products under consideration. This is especially important if the agreement was concluded by two major competitors and in the absence of the agreement the two companies would have competed with one another. The Sony Ericsson collaboration is based on complementary technology and not on competing technology. Another important concern that must be analysed is the effect on innovation. The fact that a patent pool contains of essential patents necessary to achieve a certain product together with a grant back clause on future improvements means that a company's desire to invest in R&D could decrease because some members of the pool would get a "free ride" on an other members costs. This clause is not relevant in the Sony Ericsson arrangement because there are only two members and the companies have to share both old and new patents if they want to be competitive on the market.

Nevertheless, in my opinion, the collaboration between Sony Ericsson is a *full function joint venture* and *not a patent pool*. It cannot be regarded as a patent pool, because it lacks one important feature; "a patent pool is a agreement between two or more patent owners to license one or more of their patents to one another or to third parties"[103]. At the end of the day it is perhaps little more than a game of words: the co-operation between Sony and Ericsson *is an aggregation of a body of intellectual property rights*. Should the law be the one deciding what kind of agreement the companies should enter into? Shouldn't that be the companies' task?

[103] See footnote 5.

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