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INTELLECTUAL PROPERTY RIGHTS

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<p>The subject of this thesis is Intellectual Property Rights (IPR). The main objective is to present the basic knowledge of IPR, as well as to gather information about the different organizations and offices which operate with the IPR. The topic was limited to Europe and the United States of America, overlooking the IPR issues, for example, in Asia.</p> <p>The framework of the thesis is a theoretical approach to the world of Intellectual Property Rights. After the basic information of the IPR, the context focuses on Europe. The IPR issue in Europe is the most important subject in this thesis, because the information is gathered mainly for Kajaani University of Applied Sciences. The European part of the thesis includes knowledge of the European Patent Office, the Office for the Harmonization in the Internal Markets, patent application process, information about the European Unitary Patent, patent families, patents for software, and exporting the business within Europe. After the European part, the content of the thesis approaches the Intellectual Property Laws in the USA. This part contains the Office of Policy and External Affairs, patents, copyrights, and trademarks.</p> <p>Kajaani University of Applied Sciences commissioned this thesis project of Intellectual Property Rights. The main reason for this project was simple; the University of Applied Sciences does not have a specific plan for IPR situations. For example, whenever a student or a member of a staff creates something innovative and new, the university should have a proper plan how to proceed with the IPR issues. Therefore, gathering the basic knowledge of the IPR, especially how to apply for software patents in Europe, is essential for the university.</p> <p>The material was mainly gathered from official internet pages, such as the European Patent Office, and the United State Patent and Trademark Office.</p> <p>The conclusion of the thesis is that it does not have a specific theory, research, and solution. Instead, it is an informative work, which provides aid and support concerning the IPR issues, such as the patent application processes.</p>	
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PREFACE

Many thanks to:

Reetta, my parents, and Kirsi Sievers.

You are the reason I got this far.

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1 INTRODUCTION

The subject of this thesis was received from Malm Sami and Juntunen Hannu with the purpose to gather as much information as possible about Intellectual Property Rights in order to create a base for the future of Intellectual Property Rights program for the Kajaani University of Applied Sciences. Due to the gathered information of the Intellectual Property Rights, the University has the basic knowledge how to start and proceed with possible Intellectual Property Right cases. For example, Kajaani University of Applied Sciences has a degree programme of information technology for game designers with fast-paced growth, as well as the engineering degree programme with multiple specialization possibilities. All of these, as well as the other degree programmes the University has to offer, are able to create innovative products and forms of services that students are able to implement in the future work life. This is one of the main reasons why the subject was developed. The thesis alternative goal is to supply assistance for CEMIS - Centre for Measurement and Information Systems – company which requested for a thesis considering this subject. CEMIS approached the university with a challenge of software implemented in specific devices for measurement operations. The challenge required clarification about how the software patents work, and what is the process for applying a patent in Finland, as well as what kind of actions are required for deploying the patented software abroad.

The thesis process started at the end of February, 2013. After a brief conversation with Mr. Malm and Mr. Juntunen, the first part of the project was certainly clear. The idea for the first part was to gather the basic information about World Trade Organization, World Intellectual Property Organization and Trade-Related Aspects of Intellectual Property Rights. It was considered important to gather the basic information of the Organizations and Rights, because these facts create a solid base for the Intellectual Property Rights in Europe and the USA. After the basic information was gathered, a meeting with Mr. Malm and Mr. Juntunen was held including CEMIS personnel Oikari Risto and Natsheh Al Anas on 22nd of March 2013. The conversation gave a clear picture of how the thesis was going to be continued in future. A summary of this conversation was to gather information about patenting software in Europe, patent families and fees for the patent application process. Europe was requested to be the main focus of the thesis but it was pointed out that it will be important to gather necessary information about the USA to create a possible competitive point of view. The

future of the patenting process in Europe was also considered important, because the new European unitary patent process will start at the beginning of 2014.

The last part of the thesis was to draw up a questionnaire for two different universities in Finland. The questionnaire objective was to find out how the possible Intellectual Property Right processes are dealt in different universities. This was made to help the Kajaani University of Applied Sciences to come up with the Intellectual Property Right plan of its own. The sources used in this thesis were completely from the updated official internet pages of different Organizations. Unfortunately the universities did not answer to the questionnaire, most likely to keep their methods safe.

2 THE WORLD TRADE ORGANIZATION

The World Trade Organization (WTO) operates the rules of trade between countries. The WTO's goal is to give the aid the producers, importers and exporters need to manage their businesses. WTO agreements are the base ground for the organization. The agreements are negotiated by the parliaments of world's trading nations. (World Trade Organization 2013 a.)

WTO and the quantity of the organization's tasks are results of discussion made by Uruguay Round negotiations from the year 1986 to 1994. The General Agreement on Tariff and Trade has had the influence on the establishment of WTO likewise. WTO is located in Geneva, Switzerland with 640 staff members. WTO helps countries with their difficulties on trade issues against other nations. WTO carries out a trade rules system and governments are able to negotiate about trade agreements through the organization. The organization is not only about solving the marketing problems since the protection of consumers is also one of its important tasks. WTO's base is formed by documents of international trading laws created by the majority of world's trading nations. These documents are mainly contracts that nations are obliged to follow to keep trade policies in agreed constraints. (World Trade Organization 2013 c.)

The main object of WTO is to permit national and international trade to stream freely by removing the possible barriers. When unwanted effects of world trade are put aside, the economic development and well-being are able to grow. A free stream of global trade stands for stable policy in trades. Therefore, individuals, companies as well as governments are able to be confident with trade rules. WTO pursues the most balanced solutions based on WTO's written agreement when incongruities occur within trade relations. (World Trade Organization 2013 c.)

WTO has principles that make global trading possible around the world. I.e. **non-discrimination, more open, predictable and transparent, more competitive, more beneficial for less developed countries, and protect the environment. Non-discrimination** prevents a country to discriminate against trading partners or the country's own or partner's products, services and nationals. **The more open** -principle is for trade to be expanded superiorly by lowering barriers, such as tariffs and custom duties. By **predicta-**

ble and transparent principle WTO pursues to stabilize the trade barriers. This potentially leads to encouragement for foreign investors, governments and companies to invest internationally and employment rates rise. **The more competitive principle** targets for unfair trade which are made by demoralizing below cost export financial aids, as well as disposing products that are aiming to gain market shares. **The more beneficial for less developed countries principle** is pursued by adjustments, privileges, and flexibility. Over 75 percent of WTO countries are developing nations and countries that are transferring to market economies. WTO's agreements enable protecting the environment involving public, animal and plant health. The agreement obliges the protection for domestic and foreign environment. (World Trade Organization 2013 b.)

2.1 World Intellectual Property Organization

World Intellectual Property Organization (WIPO) was founded in 1970 as a resolution of WIPO Convention in 1967. The member states agreed upon cooperation among the nations and international organizations to enforce protection globally for intellectual properties. The promotion and utilization of Intellectual Property are results of versatile activities WIPO has dedicated for. (WIPO 2013 a.)

These activities of WIPO comprehend patronizing the evolution of intellectual property's international legal structure. Furthermore, WIPO pursues for more cost-effective and simplified procedures to gain protection for new inventions, designs, brands and various services worldwide. Additional activities of WIPO are assisting organizations and governments with intellectual properties by crafting infrastructures to exercise the potential of intellectual properties for economic progression, and cooperation with the UN and other various organizations. These coactions attempt to recognize intellectual property based solutions towards climate change, food security, public health, and additional worldwide challenges. (WIPO 2013 a.)

2.2 Trade-Related Aspects of Intellectual Property Rights Agreement

Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement stands for the most integrated miscellaneous agreement on intellectual property. The agreement became valid on 1st of January in 1995 and it consists of three main features: Standards, Enforcement and Dispute settlement. Each member country provides standards of protection of intellectual properties throughout the TRIPS Agreement. The standards of protection's main elements are determined as protection for subjects and matters, granted rights with possibilities for legit exceptions, and minimum time durability of protection. (World Trade Organization 2013 d.)

The Agreement settles general principles for domestic enforcement procedures for intellectual property rights. Moreover, the Agreement participates in civil and administrative acts against criminal and violation procedures to enforce holder's rights. Dispute settlement procedures of WTO are compelled for WTO member countries to respect the TRIPS liabilities. (World Trade Organization 2013 d.).

2.3 Paris Convention

The Paris Convention was concluded in 1883, and the Convention has been revised six times around the world: in 1900 at Brussels, at Washington in 1911, at The Hague in 1925, at London in 1934, at Lisbon in 1958 and at Stockholm in 1967. The Paris convention was amended in 1979. The Paris Convention is unlimited for every State. Documents of consolidation or accession are deposited with the Director General of WIPO. (WIPO 2013 b.)

The Paris Convention has established The Paris Union including Assembly and an Executive Committee. Members of the Assembly are the Member States of the Union which has attached to administrative regulations of the Stockholm Act (1967). The executive Committee members are elected from the members of the Paris Union. (WIPO 2013 b.)

The Paris Convention includes wide range of industrial properties: patents, marks, industrial designs, utility models, trade names, geographical indications and the repression of unfair competition. The essential regulations of the Paris Convention are divided into three main categories: national treatment, right of priority, and common rules. (WIPO 2013 b.)

2.3.1 National treatment

The Paris Convention demands requirements for every contracting State under regulations on national treatment. The requirements consider the protection of industrial protection, as the contracting State must grant equal protection to nationals of the other contracting States as granted to nationals of the own State. If a national is from a country that is non-contracting State, the national is still entitled to national treatment under the Convention, as long as the national has residence or possesses a real and efficient industrial or commercial establishment in a contracting State. (WIPO 2013 b.)

2.3.2 Right of priority

Patents, utility models, marks and industrial designs are supplied with right of priority by the Paris Convention. The right of priority represents a possibility for a patent applicant to file an application in one contracting State, and within a certain period of time, apply for protection of the other contracting States. The time periods are 12 months for patents and utility models, and 6 months for industrial designs and marks. The right of priority enables an application to be considered as it would have been filed on the same day as the first application. “These later applications will have priority (hence the expression “right of priority”) over applications which may have been filed during the said period of time by other persons for the same invention, utility model, mark or industrial design.” (WIPO 2013 b.)

In addition, applications made afterward, based on the first application, will not be affected by the events occurred during the interval, for example, publications of the invention or sale of articles concerning the mark or incorporating the industrial design. (WIPO 2013 b.)

The main advantage an applicant receives of the right of priority is the possibility of selection. When an applicant desires protection in various countries, the applicant is not required

to present applications concurrently. The applicant is granted with 6 to 12 months' time period to choose in which countries the applicant desires protection and to organize with due care the steps of protection. (WIPO 2013 b.)

2.3.3 Common rules

Contracting States are demanded to follow certain common rules made by the Paris Convention. The most important rules are listed at the official World Intellectual Property Organization internet pages as follows:

- Patents for the same invention that have been granted in multiple contracting States are independent of each other. If a patent is granted in one contracting State, the other contracting States are not required to grant the patent. At the same time any contracting State cannot refuse, annul or terminate a patent using an argument that the same patent has been refused, annulled, or terminated in other contracting State.
- An inventor possesses the right to be named after the patent.
- Restrictions or limitations in the domestic law based on the sale of the patented product or of a product obtained by means of the patented process resulting in the target contracting State cannot be the reason to refuse the grant of a patent or invalidate a patent.
- There are certain limitations for the contracting States to proceed with legislative measures acquiring for the grant of compulsory licenses to preclude the abuses resulting from the exclusive rights issued by a patent. A compulsory license represents a license that is not granted by the patent owner but by a public authority of the State concerned. Consequently a compulsory license "based on failure to work the patented invention may only be granted pursuant to a request filed after three or four years of failure to work or insufficient working of the patented invention and it must be refused if the patentee gives legitimate reasons to justify his inaction." (WIPO 2013 b.)

Confiscation of a patent can be conducted only in cases where the grant of a compulsory license is not qualified to prevent the abuse. For example proceeding for confiscation of a patent may be executed after the expiration of two years from the grant of the first compulsory license.

- Defined conditions for the filing and registration of marks are determined in each contracting State by the domestic law. The Paris Convention does not regulate these conditions. Therefore, contracting State cannot refuse a mark application for the registration filed by a national of a contracting State, nor may a registration be canceled, on the ground that registration, filing or renewal has not been efficient in the country of origin. Once a contracting State approves the registration of a mark, it becomes independent of its registration possibilities in any other country. The applicant is necessary to remember that if the application in another country is going to be refused, the applicant is still able to continue approaching other contracting States.
- When a mark is registered successfully in its country of origin, the applicant has the right to demand the mark to be accepted for filing and protection in its original form in other contracting States. However, there are possibilities for other contracting States to refuse the original form of the registered mark, for example, when the mark would infringe acquired rights of third parties. These cases are rare, but necessary if a registered mark is contrary to morality or public order.
- Registration of marks must be refused and prohibited in each contracting State in cases that constitute a reproduction, imitation or translation, liable to create confusion. Competent authority of contracting State considers a mark to be well known in the State, comprehend the mark of a person entitled to the benefits of the Paris Convention and used for identical or similar goods.
- Contracting States must refuse the registrations that have not been communicating through the International Bureau of WIPO.
- Contracting states are obliged to grant protection for industrial designs. The protection cannot be refused on the ground that the articles incorporating the industrial design are manufactured in another State.
- Trade names gain protection in every contracting State without the filing or registration.

- Each contracting State is obliged to provide effective protection against unfair competition. (WIPO 2013 b.)

3 INTELLECTUAL PROPERTY RIGHTS

Once a new product, an invention or a skill is brought to markets, it requires an exclusive author protection against infringement actions towards the matter. Consequently a protection named Intellectual Property Rights (IPR) was conducted. (European Commission, B). Intellectual Property Rights sections are durable for a limited time period. Each university, research institute, and Business Company has a different process to handle with IPR challenges and issues. These organizations have personal Intellectual Property Rights guidelines. Finlex services provide the information of IPR legislation in Finland. Finlex services can be found from the following address: <http://www.finlex.fi/en/> (Euraxess 2013)

3.1 Intellectual Property Right Sections

IPR includes each section which a product, an invention, or a skill requires for protection. These sections are patents, trademarks, design rights, copyrights, and utility models. (European Commission 2013 b.)

Every section contains various details to be taken into consideration. In literary works the journal articles and books for previous publishing contracts are required to be taken into consideration, for example the publisher's or host's maintained rights. One of the rights is the allowance of re-publishing the owner's text elsewhere. Other concerned details are patents and applications. An owner or contribute of a patented product is recommended to clarify the decision rights holder of the patent. These options are the owner alone, owner's previous research team, a university, or a company. Universities and companies may not be participated with the invention in any way, but still maintain the rights for the patent via contracts or law or other legislative rules.

(Euraxess 2013)

3.2 Patents

A patent is a legit protection title for an invention representing a new innovation, including a creative step and readiness for an industrial process. With the legit protection, the owner of a patent has a right to interfere with infringement actions towards the invention; for example unauthorized creation, usage or selling of the invention. Patents secure the investment for innovative research by encouraging the companies to allocate resources to development departments. (European Commission 2013 a.) A patent guarantees exclusive rights for an invention's creation, and sale, as well as patented procedures. Patents are valid for a temporary time. (Papula-Nevinpat 2010)

In IPR legislation an important factor requires to be considered before a patent owner desires to either move abroad or to home country, or move from one organization to another. The ownership to the rights of the patent must be undisputed. To have the rights cleared out, the agreement of the rights on a valid patent needs to be agreed between the inventor and the institution. In patenting section various details are recommended to take into account. For example, securing the ownership and the secrecy of an invention are extremely important before the patent application is filed to European Patent Office. Another detail of a patent process is the variation of a patent registration process in each country. A research plan made in a group of researches ought to include common rights and obligations of the members involved. (Euraxess 2013)

3.3 Trademarks

A registered trademark enables enterprises to differentiate from competitors with their products. Generally a trademark signifies for appearance, color, melody or logos and figures. The registered trademark is valid for ten years. (Papula-Nevinpat 2010)

A trademark represents a symbol that separates a company's products and services from different companies with mutual products and services. The trademark registration application is required for the protection of the trademark. By registering a trademark the applicant receives the unique symbolic protection for products and services. Without the registration the

trademark holder cannot use the trademark in their business and the holder is not able to restrict rivals from using the trademark or a similar mark with their business. (PRH 2013 c.)

3.4 Design rights

Design rights guarantee exclusive rights for appearance of a product, for example, a single detail in a product. A design right applies for devices, as well as graphic figures and fonts. (Papula-Nevinpat 2010)

Products are commonly dependent on the looks to become successful with competitive markets. Therefore investments towards design of the products have greatly expanded. Today consumers are more prone to concentrate on the design over a price or details of a product. The design rights are obtained by registering the design. With the registration a design owner will receive an efficient method of operate against imitating acts. The protection for designs includes daily products such as groceries, furniture and packages. The main object of the design rights is to encourage investments to be increased towards new models and designers to create new innovative styles. (PRH 2013 a.)

3.5 Copyrights

Instead of patents, trademarks, and design rights protection towards materialistic products, copyrights guarantee exclusive rights for artistic and literary works. One of the main criteria for applying a copyright is to ensure that the work is original and independent, instead of a copy or an imitation. A copyright can be applied for computer software, a movie, music or a theatrical act. In modern times copyrights are far more important, as computer software has become more popular way of business. Copyrights however do not restrict anyone to use same concept of a work for example in movie plots. (Papula-Nevinpat 2010)

3.6 Utility models

A utility model contains similar rights to exclude as patents. The right privileges the model holder to defend against rivals from commercial utilization of the utility model invention. Commercial utilization forms contain creation, selling, usage, and importing of a product by a utility model. A utility model right holder is required to be aware of the fact that the area of right to exclude is limited. The utility model right is effective in the countries where a utility model application has been granted. In Finland utility models are granted by The National Board of Patents and Registration (NBPR). Time limitation for the granted utility models in Finland last commonly up to ten years. Utility models have a possibility to be sold or licensed. (PRH 2013 d.)

4 INTELLECTUAL PROPERTY RIGHTS EUROPE

The competitiveness of European Union has been estimated as greatly vulnerable in international markets due to a fact that European competitiveness is based on inventions, innovations and value added products. Therefore the importance of Intellectual Property Rights presents a great value. Intellectual Property Right (IPR) serves protection and supports actions against piracy and infringement. In addition Intellectual Property Right protects European healthiness against counterfeit products, for example, products targeted to infants such as toys and clothes. (European Commission 2013 b.)

European product protection is connected with various international organizations, such as WTO (World Trade Organization) and WIPO (World Intellectual Property Organization). These organizations operate also actively worldwide in America and Asia. European IPR consists of two abutments called EPO (European Patent Office) and the OHIM (the Office for Harmonization in the Internal Market). These Offices are connected to community's patent system which aim is to pursue for minor expenses and legally efficient customs to defend successfully against piracy, counterfeits, and illegal business. (Europa 2013)

4.1 The European Patent Office

European Patent Organization is built on the basis of European Patent Office in association with the Administrative Council. Currently there are 38 countries in the organization and the Administrative Council operates the supervising section on Office's activities. (European Patent Office 2013 b.)

The European Patent Office (the EPO) conducts patent applications within Europe and international patent applications archived under the Patent Cooperation Treaty. The Office operates through searches and substantial examinations of European patent applications. Furthermore the Office examines possible oppositions filed confronting European patents. Appeals against decisions of the examining, receiving, and opposition divisions of the European Patent Office are decided by the boards of appeal. The boards of appeal deliberate predicated breaches of the Rules of Professional Conduct for professional deputies of the

Office. The decisions made by the boards of appeal are determined exclusively and independently according to the European Patent Convention. More information about boards of appeal can be received from the official European Patent Office internet pages:

<http://www.epo.org/about-us/boards-of-appeal.html> (European Patent Office 2013 a.)

4.2 The Organization for the Harmonization in the Internal Market

The Organization for the Harmonization in the Internal Market (OHIM) is an official office of trademarks and designs in European Union. Industries which the Organization registers are Community Trade Mark (CTM) and Registered Community Design (RCD). By the registrations, the Organization attempts to create a protection for 27 member states and nearly 500 million people in European Union. National and international Intellectual Property offices and the European Commission are cooperating with the Organization. The Organization with the IP offices and the European Commission operate by managing with the issues affected the owners and users of intellectual property rights. (OHIM 2013)

A strategic plan for the OHIM is based on commitment to high quality deliverance to the zones the Organization operates in. According to António Campinos, the president of the Organization: "Our first and most important priority is to transform OHIM into a true organization of excellence, complying with modern and recognized standards and renowned as such, by its staff, by national offices, by international organizations and users." (OHIM 2013)

4.3 Patent application process in the European Union

Progress of applying for a patent in Europe includes various stages. The first step is to ensure the originality of a product and it must be concerned as industrially applicable, as well as the product is required to indicate creativity. Before applying for a patent it is considered important to execute a patent search from various internet databases to ensure the originality of the product. (European Patent Office 2013 c.)

4.3.1 The Application

When an organization desires to apply a patent for a product, the organization needs to know whether the product is going to get for international markets. In case of entering to international markets, the application is required to be made for European Patent Convention and Patent Cooperation Treaty. The application can be found from European Patent Office. Content of the application includes the following phases; request for a permission, description of a product, possible demands, a sketch if possible, and a summary. (European Patent Office 2013 c.)

4.3.2 Inspection and archive process

The first step for European Patent Office is to inspect all the necessary information about an applicant and a product the patent is applied for. Once all the necessary information has been inspected, the Office will run its databases to ensure the originality of the product to avoid infringement. After the inspections are made and the application corresponds to the criteria of the European Patent Convention, the application and the inspection report will be sent back to the applicant, either rejected or approved and they will be archived into European Patent Office database. In case the application is approved, the applicant is given time period of six months to make a decision whether to pursue with the application process or not. Expenses of the process for the applicant are adequate label costs and possible prolongation costs. (European Patent Office 2013 c.)

4.3.3 Conclusion for the application process

After the decision of continuation of the process and the payment of all the required fees, European Patent Office will verify the product. Once verified, the patent will be published in the European patent handout. After the publication the Office's concerned nations will approve the patent independently, and the patent will be named as a European Patent. The third-party reclamations can be made after nine months from publication of the patent, for

example possible rivals are able to proceed with complains actions. (European Patent Office 2013 c.)

4.3.4 European Patent Office fees for a patent application

An Applicant is required to be acknowledged of possible fees the application may cost. The official European Patent Office internet pages have all the required information and guides an applicant needs. For example the internet pages have a specific schedule of fees containing a precise search engine. The schedule can be found from:

<http://www.epoline.org/portal/portal/default/epoline.Scheduleoffees/PublicScheduleOffeesWindow?action=2&feespageSize=40&feespageNum=0>

All the information needed concerning the fees can be found from:

<http://www.epo.org/applying/forms-fees.html> (European Patent Office 2013 b.)

An overview of these fees is based on what the applicant requires for patenting the product. For example factors such as translation of application, and the length of the application form will influence to the fees of the application process. (European Patent Office 2013 b.)

Application price lists for a patent made in Finland are available in National Board of Patents and Registration of Finland internet pages:

<http://www.prh.fi/en/patentit/pathakmaks.html>

These payments are based on the charged services of National Board of Patents and Registration of Finland Ministry which the Ministry of Employment and the Economy has taken into consideration. In addition to these chargeable of services, the subsequent amendments contain specific fees. (PRH 2013 b.)

4.4 European unitary patent

European competitiveness ministers held a conference in Brussels in 10.-11th of December 2012. The main goal of the conference was to achieve a new solid patenting system with

more reliable and efficient process. The new patenting system was named as European unitary patent. (Virtanen 2012)

The new European unitary patent will come into effect in the beginning of year 2014. The European unitary patent has been under conversations for three times during the last forty years. The main reason for a negative acceptance towards the patent system has been the language differences. For example the minor enterprises have considered the translation fees excessively high; therefore refunding acts towards translation fees was highlighted at the conference in 2012. (Holmberg 2012)

The process of application for a European patent will encounter changes with the final part of the process. The application and examination processes are similar for the patent, including the criteria and rules of the European Patent Convention. After a European patent is granted by the European Patent Office, the owner of the patent is able to request the patent to gain a unitary patent effect. A unitary effect grants a patent with a unitary territorial protection within member states of the EPO. On a contrary of a patent with a unitary territorial protection, an owner of a granted patent is able to choose a European patent with limited territory for the individual protection within determined countries. The third option for an owner of a European patent is the combination of the plans. The combination includes a unitary patent for the European Patent Office countries which administered the unitary patent system, and a European patent for the EPO member states outside the enhanced cooperation scheme. (European Patent Office 2013 f.)

The following figure illustrates the process of the European unitary patent application. As the figure indicates, the unitary patent replaces the individual effects of the European patent in the 25 participating states.

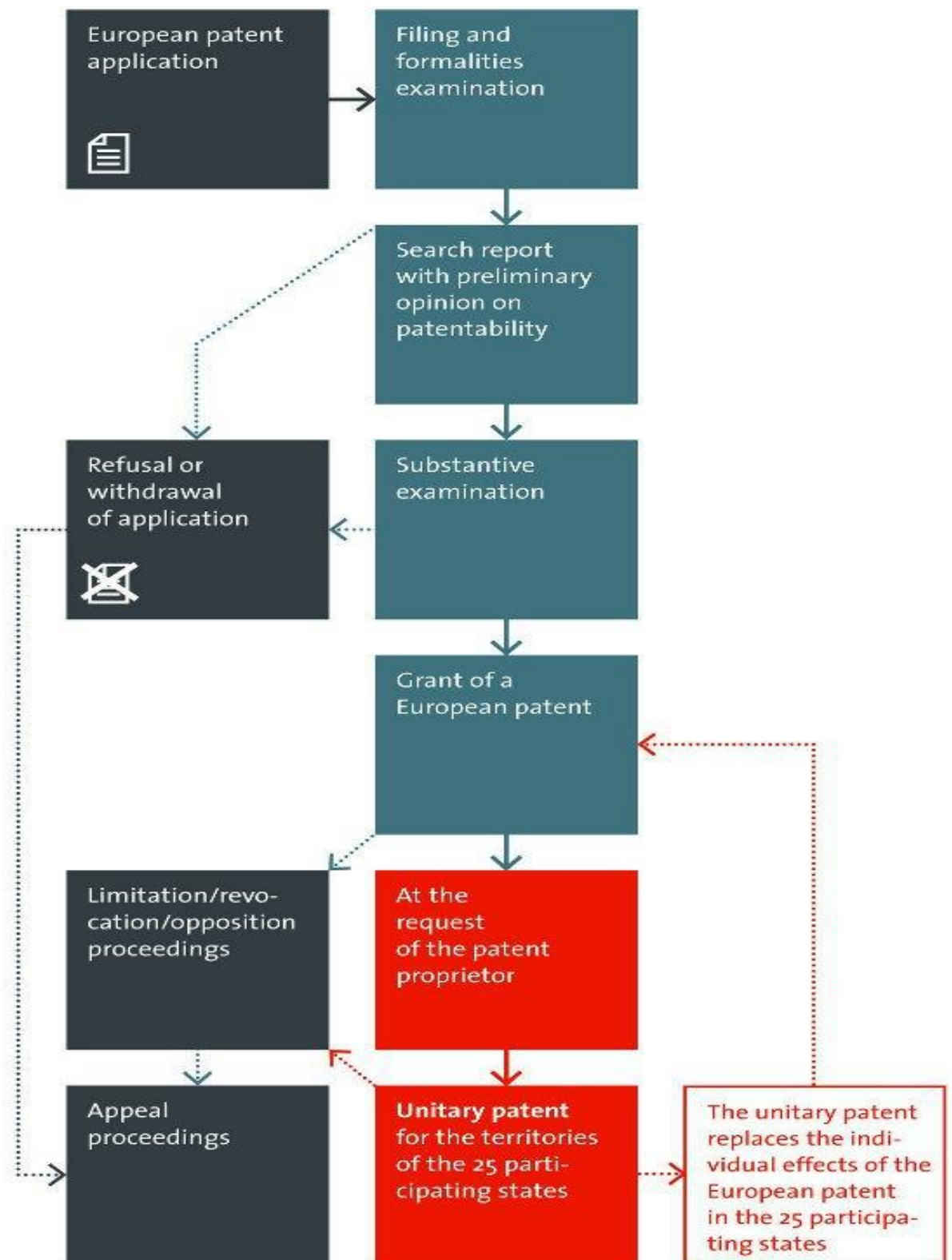


Figure 1. The process of European unitary patent. (European Patent Office 2013 f.)

4.4.1 Benefits

A European unitary patent will be more inexpensive and cost-effective process for the member states' small and medium enterprises. In addition, the European Patent Office will continue processing the patent applications; consequently the commendable level of criterion and quality will remain in the future. The new patent process will be also considerably simplified. For example the EPO member states are not required to approve a new patent separately, but the patent will come into effect in every member state system. A European unitary patent will be far more cost-effective than the current patent system. The system's annual patent cost for enterprise will cover nearly every EU member states, meanwhile the same amount of fee in current system covers a patent only six to eight different member states. The main goal for a European unitary patent is to improve the competitiveness situation of European Union in the international markets. The improvement is pursued to increase investments in European Union. (Suominen 2012)

4.4.2 Disadvantages

A European unitary patent may cause disadvantages. For example the diversity is one of the main hindrances. The nations which do not include to the European Union patenting system, will encounter various difficulties with patenting processes. The European unitary patent will not protect the entire internal market area, but the patent system will be more effective and inexpensive for those nations that belong to the European patent system. (Hilty 2012)

The Unitary Patent Package is concerned leading to four different overlapping levels of protection for a patent in Europe. These four levels are listed as follows: nationally granted national patents, the European Patent Office granted national patents inside the system of the Unitary Patent Court, patents granted by the European Patent Office excluding the subordination of the UPC (due to transitional opt out, refusal of the Member States, or for countries excluding EU.), and European patents with unitary effect. These levels of the Unitary Patent Package are possible to exist jointly with each other. (Hilty 2012)

4.5 Patent families

A patent family is created when a set of patent applications or publications is made to protect mutual inventor's invention in several countries. As a priority, the application will only be made by one country in the beginning, and after wards it will expand to multiple offices. Patent families are categorized into three different families. These are Espacenet patent family, an INPADOC patent family, and Thomson Scientific World Patents Index (European Patent Office 2013 g.)

Espacenet patent family has entirely the same priority or priorities, defined as a simple family. If more specific analysis is made of these patent documents, the priorities might appear as a non-active. Briefly, constructions of simple families ignore specific priorities. (European Patent Office 2013 h.)

An INPADOC patent family forms the sharing process of documents, at least one priority directly or indirectly, by a third document. The sharing process contains the submitted patent documents of a patent application to a patent office. During the priority year the same application documents will be filed into another patent office in a different country. (European Patent Office 2013 j.)

Thomson Scientific World Patents Index covers patents selected together for the same patent. The relationship of these patents is determined by priority, or by claiming the patents documents' application particulars. In practice, a new document claiming for an exquisite priority is determined as a basic of a new patent family in Thomson Scientific WPI. Thomson Scientific WPI considers the basic document appeared in the Index as the first member of a patent family. Therefore, the document first to be published for the invention, for example, in EPO may not necessarily be the first member of the Index. The first documents appearing in the Thomson Scientific WPI will become the basic; hence the patenting authorities are an affecting author with the speed of data supplement for the Index. (European Patent Office 2013 i.)

4.6 Patents for software

Computer-Implemented Invention (CII) has become well-known at the present time. Granting software patents in European countries differs from other countries. In Europe the software developers are required to prove the ability to create contribute with their invention in a technical field. Computers and gadgets such as smart phones and tablets with high performance software are developing constantly. Therefore the numbers of patent applications for new inventions are rising steadily. According to European Patent Office, computer-based patent applications for inventions have the highest growth rate presented to the EPO when compared to the rest of the patent categories over the past few years. (European Patent Office 2013 e.)

4.6.1 Software patent application

A software application process is thoroughly examined. The main objective for the preciseness is to separate real technological innovations from simple variations on existing models. The process ensures the maintenance of novelty and the high level of ingenuity of computer-implemented inventions (CII). A CII is qualified as an invention that operates by using a computer or computer networks and other programmable equipment. A computer-implemented invention is expected to fulfill the same line of basic requirements as inventions in all other fields. One of the CII requirements is that the invention possesses one or more features executed by the aid of a computer program. (European Patent Office 2013 e.)

More specific requirements are listed in the European Patent Convention (EPC), found from the official European Patent Office internet pages:

[http://documents.epo.org/projects/babylon/eponet.nsf/0/7bacb229e032863dc12577ec004ada98/\\$FILE/EPC_14th_edition.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/7bacb229e032863dc12577ec004ada98/$FILE/EPC_14th_edition.pdf)

4.6.2 The EPO restrictions on computer-implemented inventions

Accordingly to the EPC, a CII is able to be patented if the invention contains technical character and the invention solves a technical problem. A CII is required to include an in-

ventive technical support to the prior work, and the invention has to be new. The European Patent Office has a very restrictive stance towards the patenting process of CII. A new technical solution as an emphasized requirement limits the amount of approved patents. Therefore, the main complexity to gain a patent for a computer program in Europe is the lack of solution for a technical problem. According to the European patent law: "a program for a computer is not patentable if it does not have the potential to cause a "further technical effect" which must go beyond the inherent technical interactions between hardware and software" (European Patent Office 2013 e.)

A CII, which is able to answer to a further technical effect, can be patented, assuming the invention responds to other requirements of a patent, for example, a novelty and an inventive step. The European Patent Office provides a CII legislation example: Computer program included inventions cannot be patented that are a developing business process, instead of a technical process. For example, an invention of the Internet auction system provided business development for the users of the auction system, but the system used previously established technology and networks. The patent application was denied, due to a factor the system made no inventive technical contribution to the current level of technology. Another example includes the technical problem of the strength of mobile phone signals. The problem of signal strengths is solved by upgrading the phones software instead of hardware. A solving invention to the problem is able to obtain a patent featuring novelty and inventive contribution. According to the European Patent Office:" the granting practice of the EPO differs significantly from that of the United States Patent and Trademark Office (USPTO), where patent protection for software is granted, even if it does not solve a technical problem." (European Patent Office 2013 e.)

4.6.3 Debates on computer-implemented inventions

The European Patent Office has received major amount of criticism in public by the opponents. Arguments have emerged such as any computer program should be moved to non-patentable list of inventions. Contrariwise other arguments are based on the difficulties of gaining a patent for software in Europe. Complains towards the EPO restrictive process for

patenting software has led to claims of impossibility to gain patent protection for software in Europe. (European Patent Office 2013 e.)

The Computer-implemented inventions have been under debates since June 1999. The EPO member states held a conference in Paris to discuss mainly about eliminating ambiguity towards patents of software based inventions. The conference approached with a solution of a revision of Article 52(2) of the EPC, excluding computer programs from being patented. However some member countries demanded on granting the possibility for computer programs to be patentable in the Article 52(2). (European Patent Office 2013 e.)

4.7 Exporting the business

Companies with a potential of becoming successful in international markets are commonly encountering the first problems in the planning phase of an export plan. The correct export channel requires consideration and a clear vision of a plan to export the business to a foreign country. There are multiple export channels to approach the new markets with a product in Europe. Choices are listed as **indirect export, subcontractor activity, export through an intermediary, direct export, and export ring.** (Yrityssuomi 2013)

4.7.1 Export channels

Indirect export is approached when a Finnish company with a plan to export products and services decides to utilize a local export agent or another Finnish company. An indirect export is a proper channel for small and medium-sized companies for its domestic cooperation. In domestic cooperation risks and efforts are divided into several parties. This gives a certain advantage for the companies with the effect of the limited resources to become magnified. (Yrityssuomi 2013)

Subcontractor activity is considered when a foreign partner is dealt with a Finnish company operating as a subcontractor. This export channel limits the part of the Finnish company with its product or services, because the foreign party is promoted with the rights to manage

with the sale and marketing of products and services. The foreign party cannot steal the product for its own due to an obligation of including the products or parts manufactured by the Finnish company in their offering. (Yrityssuomi 2013)

Export through an intermediary is an export channel where sales channel is designed by the internationalizing company. The sales channel is created for deliverance of market products and services to consumers in the target country. The creation of a sales channel requires multifaceted cooperation with the partners within the operation. It is considered highly important to make the right choices when selecting the foreign and domestic partners that are joint in the export channel. The right choices of partners lead to the successful export operations. (Yrityssuomi 2013)

Direct export is targeted for the companies that are able to conduct their businesses in foreign markets by themselves. A foreign party in this export channel is nevertheless important for the exporting company. The foreign party is employed to the part it is well intimate in: managing the markets, distribution and sales of the products, and services in its own country. These fields of employment are the foreign party's strengths, due to the familiar market surroundings with the local conditions and practices possessing immediate concept of the local market. (Yrityssuomi 2013)

An export ring is an export channel to manage with the risks of internationalization. The risks are divided with other small and medium-sized companies that are exporting into new markets. The companies in the export ring are underneath a shared export ring manager. (Yrityssuomi 2013)

4.7.2 Alternative export methods

Companies are not always required to export the products if the expansion to international markets is planned. Expansion to international markets can be accomplished by manufacturing the product in Finland without moving abroad physically. The Finnish company is able to create contracts and licenses that grant permissions for the foreign party to offer products, ideas, and services that are developed by the Finnish company using their domestic re-

sources. These alternatives are listed into three categories: **Licensing, Franchising** and **Contract manufacture**. (Yrityssuomi 2013)

Licensing permits a foreign partner to utilize a Finnish trademark, patent, design right, or copyright. The intellectual property rights are not granted for the foreign partner but the permission to manufacture and sell the product on the local market is permitted. The Finnish company gains refunds for granting the license from a license fee known as royalty. The license fees are agreed with the contract made between the Finnish company and the foreign partner. (Yrityssuomi 2013)

Franchising is considered as a next level of the licensing. In franchising a service or an entire business idea is licensed. A foreign partner is granted with the rights to use a Finnish company's name and trademark, and the partner is issued by the instructions on conducting the operations in exchange for a fee or a provision. Franchising is not common for Finnish companies: there are some franchising business ideas operating around the Baltic countries. Franchising companies are more commonly international business ideas that have entered to Finnish markets. (Yrityssuomi 2013)

Contract manufacture is an operation where a Finnish company outsources the product manufacturing to a foreign partner. This manufacturer is accorded for the instructions and the trademark, and the Finnish company manages marketing and sales in the target countries. Contract manufacture has financial advantages for Finnish companies. For example a company can save on transportation costs. Lower work costs are gained by utilizing the workforce in the target countries. With the lower costs the Finnish company can manage the sales and is able to market more efficiently when the company has more assets to focus on the exportation. To have a successful operating model by contract manufacture, the Finnish company is required to gather constantly major amount of information on the target market. (Yrityssuomi 2013)

5 INTELLECTUAL PROPERTY LAW USA

The United States of America has been a member nation of the World Trade Organization since 1995. Intellectual property laws are required to be conducted within a line of effect with minimum standards. The USA differs from other countries in various fields; therefore demands for few major differences in the laws of Intellectual Property are necessitate. (NI-BUSINESSINFO 2013 a.)

The United States Patent and Trademark Office's (the USPTO) mission is to reinforce and innovate the domestic and international property protection. Furthermore, the USPTO is sharing advices for the Secretary of Commerce, the President of the United States, and the Administration on patent, trademark, copyright, and copyright protection. (USPTO 2013 a.) “The passage of the American Inventors Protection Act of 1999 (AIPA) set the stage for the USPTO to advice the President, through the Secretary of Commerce, and all Federal agencies, on national and international IP policy issues, including IP protection in other countries.” (USPTO, Office of Policy)

By the authorization of the AIPA, USPTO is granted to supply advices and help, manage programs and studies, and relate with IP offices and intergovernmental organization on an international scale. The international interactions are commonly based on the protection of intellectual properties. The AIPA has authorized the USPTO to establish Office of IP Policy and Enforcement especially for these functions. (USPTO 2013 a.)

5.1 The Office of Policy and External Affairs

The Office of Policy and External Affairs contributes help to the Under Secretary of Commerce for Intellectual Property, and Director of the U.S. Patent and Trademark Office. The help contributed for the Under Secretary and the Director is intended to advice the President of the United States. The advices are given via the Secretary of Commerce, Federal agencies on domestic and international Intellectual Property issues, and the United States

treaty obligations. The protection of the Intellectual Property rights is reinforced and improved by formalizing the U.S domestic and international policy. (USPTO 2013 a.)

The Office of Policy and External Affairs enhance the development of domestic and international intellectual property systems. By supporting the improvements, and more efficient protection and enforcement means, develops the intellectual property rights for the United States nationals to operate prosperously in the United States, and on the global scale. The Office is cooperating actively with foreign governments and United States Government agencies by consulting with these governments and agencies “on the substantive technical analysis of intellectual property rights enforcement laws, legal and juridical regimes, civil and criminal procedures, border measures, and administrative regulations relating to the enforcement of intellectual property laws.” (USPTO 2013 a.)

The Office of the U.S Trade Representative (USTR), Department of State and other U.S. Government agencies are supported by the Office of Policy and External Affairs concerning consultations and negotiations internationally. Drafting, reviewing, and execution of intellectual property obligations in bilateral and multilateral treaties and trade agreements are assisted by the Office. In addition the Office concentrates on technical assistance and capacity-building programs and conferences. The targets of the concentration are foreign governments that are potential to develop with their intellectual property laws and regulations; “and to improve the level of expertise of those responsible for intellectual property rights enforcement and the overall environment for enforcement.” (USPTO 2013 a.)

5.2 Patents

In the USA the patent law differs in certain ways from the European patent law. The US patent law is based on the First to invent system. In practice, the system means that if an application for a patent is approved and the applicant is recognized for ownership of the patent, it will not necessarily be the final decision. If anyone with proper evidence is able to prove the creation of the invention before the current patent owner, the patent is awarded to the one with competent evidence, instead of the one who first filed the patent. Another main difference in the US patent law compared to the European patent law is a one-year

grace period. An inventor is granted with a one-year grace period after the public revelation of the invention to register the patent by the US law. (NIBUSINESSINFO 2013 b.)

Patenting in the USA is possible to be distributed in three different kinds of patents by the United States Patent and Trademark Office (USPTO). These patents are Utility patent, Design patent and Plant patent. Utility patents are designated for technological advances and innovations and they are valid for minimum of 20 years from the date of application. Design patent covers the original and new designs such as appearance for items. Design patent is valid for 14-years. In case of inventing or discovering new plant varieties by grafting without manipulation of seeds, there is a patent named Plant patent. This patent is valid for 20 years. (NIBUSINESSINFO 2013 a.)

5.2.1 Patent group of the Office of Policy and External Affairs

The Office of Policy and External Affairs includes a patent group. This group has specialized in domestic and in international policy, and reinforcement subjects concerning patents. International treaty obligations are verified to be conducted by the patent group. The patent group advises ongoing bargaining and negotiations, and monitor patent and trade issues related on enforcements of treaty provisions. Technical assistance supplies and training related on patents, are provided by the patent group for the US and the foreign officials. “For example, the patent group has been involved with the development, negotiation, and monitoring of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Patent Cooperation Treaty (PCT), and the Patent Law Treaty (PLT).” (USPTO 2013 b.)

5.2.2 The Patent Cooperation Treaty

The Patent Cooperation Treaty (PCT) was founded by the Executive Committee of the Paris Convention for the Protection of Intellectual Property in 1966. The main objective was to gather information for patent applicants and patent offices to strive towards for reductions of the duplication of effort involved in filing and obtaining patent applications for the same invention in different countries. The treaty was signed in Washington, D.C., in 1970, and implemented into use in 1978. Due to a treaty with a simplified filing process, several small

businesses and individuals have encouraged to seek patent protections abroad; the PCT assists innovators in obtaining global patent protection. “Under this WIPO-administered treaty, nationals or residents of a contracting state file a single patent application, called “international” application, with their national patent office or with WIPO as a receiving office.” (USPTO 2013 c.)

Due to the Treaty, the applications are enrolled automatically for patent protection in the Contracting Parties of the PCT. As of June 2009, there are 141 Contracting Parties to the Patent Cooperation Treaty. In addition to the simplified process for the applicant, the Treaty provides a 30 month time period where an applicant is able to gain freedom of expenses of translation, national filing fees, and prosecution in the countries the applicant wishes to gain protection in. After the 30 months, the applicant must become committed to undertake for these expenses. The extended time limit provides the applicant with possibility to gain the experience and knowledge for their potential patent, and to determine marketing plans. Gaining the required knowledge and govern the marketing plan for the patent helps the applicant to be more selective towards the countries in which they are willing to file their patent. The time period provided by the Paris Convention for the applicants is a 12-month priority period. Therefore, the advantage of the improvement that an applicant gains from the Treaty is concerned crucial. (USPTO 2013 c.)

Patent Cooperation Treaty provides the “international application” published by the WIPO along with a nonbinding indication as to the potential of the patentable invention. The nonbinding indication designates as a preliminary search and/or examination by an “International Authority”. The “International Authority” represents one of the 15 patent offices’ meetings with the requirements of the Treaty designated by WIPO. These requirements are the Treaty's minimum staffing and documentation requirements. The nonbinding indication assists the applicants with their patents decisions whether to approach national or regional offices. The nonbinding indications provide benefits also for the patent offices “when deciding whether to grant national or regional patents based upon PCT applications. Earlier search reports identify relevant documents that help patent offices to conserve resources in the examination process and to improve the quality of examination.” (USPTO 2013 c.)

5.2.3 Patent Law Treaty

The Patent Law Treaty (PLT) was embraced by the WIPO in June 2000, and implemented in April 2005. The PLT was created due to several years of multilateral negotiations on harmonizing global patent system. The Patent Law Treaty's main objective is to harmonize specific patent application procedures. The harmonization reduces and deletes formalities, and the potential for loss of rights. The Patent Law Treaty does not include harmonizing substantive patent laws. Substantive patent law represents the laws of each country that has set forth specific conditions that are required to be met in order to a patent to be permitted in that country. 20 of the Contracting Parties have signed for the Patent Law Treaty since June 2009. Because of the simplifications and merging national and international formal requirements combined with applications and patents, the patent applicants and the owners of the patents have experienced more effortless to obtain and maintain patents globally. The Patent Law duties and actions are listed at the official USPTO web pages as follows:

- “Simplifies and minimizes patent applications requirements to obtain a filing date;
- Imposes a limit on the formal requirements that Contracting Parties may impose;
- Eases representation requirements for formal matters;
- Provides a basis for the electronic filing of applications;
- Provides relief with respect to time limits may be imposed by the Office of a Contracting Party and reinstatement of rights where an applicant or owner has failed to comply with a time limit and that failure has the direct consequence of causing a loss of rights; and
- Provides for correction or addition of priority claims and restoration of priority rights.” (USPTO 2013 d.)

5.2.4 Patent application process in the USA

The process of a legit protection for an invention in the USA occurs by registering an invention with the United States Patent and Trademark Office (USPTO). The process is recom-

mended to be handled with a patent attorney because of the complexity of the process. The patent attorney is able to aid with various phases, such as finding out whether the invention is already registered. The patent attorney provides help with completing the application for a patent. A search for a patent attorney can be made by the patent attorney and agent search at the USPTO internet pages: <https://oedci.uspto.gov/OEDCI/query.jsp> (NIBUSINESS-INFO 2013 b.)

5.2.5 The United States Patent and Trademark Office fees for a patent application

Patent application fees are based on the application, and the process for approving an application may linger to grand period of time. A registration of a patent has a possibility to include discounts on official fees. For example, small companies, non-profit organizations, and universities have a possibility for a 50 per cent discount for registering a patent. In case of an approved application for a patent, certain maintenance fees are required to be paid in each country where the patent is granted. A specific fee schedule can be found from official USPTO internet pages: <http://www.uspto.gov/web/offices/ac/qs/ope/fee031913.htm> (NIBUSINESSINFO 2013 b.)

5.3 Copyrights

A copyright in the United States of America protects the concrete content of the original work. For example, the content of an advertisement is protected by the copyrights, but the style of the advertisement can be copied by another company. A work created in 1978 or after with a copyright is protected for the life time of the author and additional 70 years after, in case of the author is a person. In other case, if the author is a corporation, or a other entity, the protection of a work is protected for 95 years from release or 120 years from the production, depending which is shorter period of time. (NIBUSINESSINFO 2013 a.)

The Copyright registration in the United States is more of a legal formality than a demanded process. The copyright registration creates a public record of the basic facts for a specific copyright. Albeit the registration is not required, the copyright law provides advantages intending to encourage the copyright owners to proceed with the registration process. The

advantages which the copyright law offers are listed in the official United States Copyright Office as follows:

- A public record of the copyright claim is established by the registration of the copyright.
- Registration is required for a violation suit to be filed in court (works of U.S. origin)
- Registration creates a "prima facie" evidence of the copyright. This is required when the origins and the validity of the copyright are stated in the court. The prima facie can be acquired for the copyright before, or during the five years of publication.
- Registration enables the copyright owner for statutory damages and attorney's fees to be available in court actions. Without the registration the owner is only aware of actual damages, and profits that are available. This advantage requires a registration made within three months after publication of the work, or prior to a violation of the work.
- Recording the registration with the U.S. Customs Services will protect against importation of infringing copies.

Registration of the copyright can be implemented within the time a copyright is active.

(Copyright U.S. 2012)

5.4 Trademarks

Trademarks are based on 'First to Use' method. Trademarks require registering to USPTO to gain protection, and the ownership of the trademark is generated by the person to use it first in commerce. As the registration process for trademarks is not required, a time limit of a trademark does not exist. The trademark is possible to maintain active by continued usage. (NIBUSINESSINFO 2013 a.)

When an applicant requires a trademark for a product or a service, it is considered important to know exactly what the applicant wants. For example, the first step is to understand what the differences between trademarks, patents, and copyrights are. This is the way to ensure

that the applicant is going to proceed with the proper filing decision. The official USPTO web pages recommend the applicant to hire a trademark attorney or get other help, because the application process is considered complex. For example, a private attorney who is not associated with the USPTO, is able to offer the help required to avoid possible pitfalls in the registration process. (USPTO 2013 e.)

The USPTO associated attorneys are able to help the applicant with the registration process, but they are not allowed to give legal advices. A private trademark attorney on the other hand is able to help the applicant in the whole process of registration, including enforcing and policing trademark registration that may issue. An applicant is not required to hire an attorney, but it is strongly recommended because of the possible expensive legal problems. A private attorney can help the applicant by executing a comprehensive search of federal registrations, state registrations, and “common law” unregistered trademarks for the applicant before the filing of the application. The comprehensive searches are crucial due to a possibility of another trademark owner possessing similar trademark legal right protections that are not federally registered. When the protected legal rights in trademarks are not federally registered, concerned trademarks will not appear in the USPTO's Trademark Electronic Search System (TESS) database. The concerned rights are still able to prevent a new applicant gaining a right to use the trademark. (USPTO 2013 f.)

The private attorneys are able to help the application process with other various problems that impact on trademark rights. For example, determination of the most efficient way to set the applicant's goods and services, and preparations for responses of refusals that is made by an examining attorney. A private attorney assists with policing and enforcement of the applicant's trademark rights. As synopsis the USPTO's only task is to register trademarks, the trademark owners are responsible for the possible enforcements. (USPTO 2013 f.)

6 CONCLUSION

The process of applying protection for inventions and services is a complex project. The applicant needs to be aware of the basic facts, such as the organizations and offices which are operating with the Intellectual Property Rights (IPR). For example, The World Trade Organization (WTO) is mainly securing the trade relations between countries, but it also co-operates with the World Intellectual Property Organization (WIPO) to encourage inventors to create new inventions all over the world.

The basic pattern for the application process is specific and it requires studying. Therefore, the IPR process is a lot easier to begin when the applicant has got a clear picture of the whole operation. Whether the applicant requires a patent, copyright, trademark, design right, or a utility model protection, the official Intellectual Property Rights internet pages provide all the necessary information. For example, in Finland the IPR issues and services are handled by Finlex.

The application process begins with the confirmation of the applicant, that the product or service he or she is applying protection for, is not found from any of the IPR databases on the internet. After securing the originality of the product or service, the applicant can find a form of application from European Patent Office. This form involves phases, such as request for permission, description of a product, possible demands, a sketch if possible, and a summary. When the European Patent Office process and approves the application form, it is the applicant's choice whether to proceed with the application or not.

Software protection issues are considered very difficult for applicants in Europe. European Patent Office requires the software program to be new and innovative, without any external programs, and it must provide help or solutions for problems. For example, when the European Patent Office's opinions are compared to the USA's policy towards the software intellectual protection, the United States Patent and Trademark Office (USPTO) takes the applications into consideration, as long as the innovation is not an attempt of infringement copy action.

Guides, fees, information, and everything required for the IPR issues are found from official IPR internet pages, for example, European Patent Office, World Intellectual Property Organizations, and Finlex.

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