

# **Employee-made inventions and related legislation in the selected countries**

**How employers' entitlement to the invention made by employee is regulated in the selected countries?**

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## Tiivistelmä

Tässä työssä tutkittiin valikoitujen maiden lainsäädäntöä tarkoituksesta selvitää, miten työnantajan tulisi menetellä, jotta oikeudet työntekijän tekemään keksintöön voidaan validisti hankkia ja/tai siirtää työnantajalle. Lisäksi työssä haluttiin selvittää, vaatiiko oikeuksien saaminen työnantajalta erityisiä toimenpiteitä ennen keksinnön luomista, kuten etukäteissiirtokirjaa tai oikeuksien luovutus-klausuulin merkitsemistä työntekijän työsopimukseen. Saksa, Iso-Britannia, Singapore, Ruotsi, Norja, Kiina, Italia, Yhdysvallat ja Japani valikoituivat raportin kohdemaiksi.

Kahdeksan maata yhdeksästä oli ottanut jonkinlaisen työsuhdekeksintöjärjestelmän käyttöön joko säätämällä työsuhdekeksintölain tai integroimalla työsuhdekeksintöpykälän patentti- tai IP-lainsäädäntöönsä. Saksassa, Ruotsissa ja Norjassa oli raportin kirjoittamisen aikaan voimassa työsuhdekeksintölaki, joka tarjosi systemaattisen protokollan ja melko tiukat ehdot työnantajille oikeuksien saamiseksi keksintöön. Iso-Britannia, Singapore, Kiina, Italia ja Japani sen sijaan olivat integroineet työsuhdekeksinnöt osaksi patentti- tai IP-lainsäädäntöään. Näissä maissa työnantaja saa automaattisesti oikeudet keksintöön, mikäli tietyt ehdot keksinnön suhteen täytyvät. Japanin osalta suositeltavaa on, että työnantajalla ja työntekijällä erillinen etukäteissopimus menettelytavoista keksintöjen oikeuksiin liittyen, sillä Japanin lainsäädännön mukaan työsuhdekeksintö kuuluu keksijälle, mikäli muuta ei ole sovittu. Japanissa, Kiinassa ja Italiassa työntekijä on oikeutettu korvaukseen tiettyjen työsuhdekeksintöjen osalta, mutta Iso-Britanniassa ja Singaporessa työnantaja on vain harvoin velvoitetu maksemaan erillistä korvausta työsuhdekeksinnöstä. Yhdysvalloissa ei ollut raportin kirjoitushetkellä liitovelation kattavaa työsuhdekeksintölainsäädäntöä, vaan työsuhdekeksintöasiat ovat sopimuksellisia asioita, joista keksijä ja työnantaja voivat keskenään sopia.

Maissa, joissa työsuhdekeksinnöillä on lainsäädännöllinen status, työnantajan etukäteistoimenpiteitä, kuten etukäteissiirtokirjaa tai työsuhdeklausuilin kirjaamista työsopimukseen ei tarvita, jotta työnantajalla olisi oikeus keksintöön. Yhdysvalloissa ja Japanissa työnantajan ja työntekijön on suositeltavaa käsitellä mahdolliset keksinnön oikeuksiin liittyvät asiat etukäteen esimerkiksi työsopimukseen kirjattavan klausuulin avulla.

## Abstract

This report examined employee invention legislation in the selected set of countries. The report aimed to answer how employer should act in order to duly acquire/assign rights to the inventions made by employee. Furthermore, the report explored whether a pre-assignment (e.g. specific assignment clause in the employment contracts) is needed in these countries in order to employer be entitled to inventions made by employee. Germany, United Kingdom, Singapore, Norway, Sweden, China, Italy, United States and Japan were selected as countries of interest and short overviews of the employee invention legislation systems were conducted.

It was identified that eight out of nine countries were so called statutory regimes, having either specific employee invention laws or employee invention sections in their respective patent laws or intellectual property codes. Germany, Sweden and Norway had employee invention laws which include systematic procedure and set of actions which employers must follow in order to duly acquire and assign rights from employee to employer. United Kingdom, Singapore, China, Italy and Japan had integrated employee invention provisions to their respective patent laws or intellectual property codes. The employer automatically gains rights to the invention in these countries if a certain set of conditions is met. In China, Italy and Japan, the employer is obligated to compensate inventors, while in United Kingdom and Singapore the compensation is usually not paid. United States did not have employee invention legislation and assignment of rights and invention remuneration were contractual matters between employee and employer.

In statutory countries excluding Japan employer does not need pre-assignment agreements or clauses to be able to claim the rights to the invention. In Japan, it is recommended that employer and employee contractually agree in advance about employer's entitlement to invention. Same shall be apply to United States.

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# 1 Introduction

Multinational companies increasingly often operate in a complex legal framework wherein the operation of the company is not stipulated only by one domestic law but in fact several national laws in other countries where company has its operations. In innovation management context this kind of situation may appear for example if company has a distributed network of research and development (R&D) units spread in various countries. As inventions are hoped outcome of R&D activities, it is necessary that company's intellectual property team is aware of patent legislation in the countries where the company has its R&D units in order to secure rightful entitlement to invention made by employees.

The report examines the legislation related inventions made by employee in the selected countries and aims to answer how employer should act in order to duly acquire/assign rights to the inventions made by employee. Furthermore, the report explores whether a specific assignment clause is needed in the employment contracts in order to employer be entitled to inventions made by employee or not. The report is structured as following: chapter 2 provides a short overview of national legislation of selected countries and chapter 3 provides discussion and conclusions and answers to the research questions. The countries examined in this study are Germany, United Kingdom, Singapore, Norway, Sweden, China, Italy, USA and Japan.

## 2 Employee invention regulation systems in the selected countries

### 2.1 Germany

Germany has probably the most well-known employee invention law in the world. Employee inventions are stipulated in German Employee Inventions Act (In German *Ge-setz über Arbeitnehmererfindungen, ArbErfG*). The German law defines two types of employee inventions. *Service Inventions* are types of inventions that are made during the employment and result a) from the mandatory activities or tasks of the employee or; b) are made by utilizing substantially the experiences of the activities of the company (ArbErfG 4§; Lummevuo 2020, p. 102). *Free Inventions* are inventions made by employees that do not fulfil the criteria of *service invention*. Term *employee* is defined in labour law as a person who carries out tasks to which he is contractually obliged within the framework of a work organisation by a third party. Freelancers, retired persons and commercial agents are not considered as employees according to the law.

When an invention has been made the employee is obliged to immediately send a written invention report to the employer. Correspondingly the employer must immediately confirm in text form that the report has been received. The employer is entitled to gain all rights to service inventions and is entitled to acquire under reasonable terms, a non-exclusive right (licence) to *free invention* if *free invention* falls within the range within the existing or prepared work area

of the employer's company at the time of the offer (ARbErfG 6§, 19.1§). Peculiarity of German Employee Inventions Act compared to other countries with similar laws is that employer is not allowed to claim partial rights to the service invention.

In Germany, the law assumes by default that the employer always wants to gain rights to the invention made by employee. Thus, the employer who do not wish to gain rights to the service invention should explicitly release the invention in time in order to avoid automatic claim of rights. Section 6 of *ArbErfG* specifies that the declaration of release needs to do in written format within four months of receiving the invention disclosure. If no declaration of release is delivered to the inventor, the employer is deemed to have been claimed the rights to the invention and as a result the following obligations are triggered.

After claiming the invention, the employer is obliged to file a German patent application or in certain cases, a German utility model as soon as possible. Additionally, employer may apply for a patent in any other country. The employer shall keep the employee informed of the progress of application process. If the employer is not exercising the right to apply for a patent, he should release this right to the employee at employee's request. The release shall take place early enough within priority year so that the employee has de facto a chance to apply for a patent abroad. The employer may reserve a non-exclusive right to use the invention with a reasonable compensation in foreign countries when the invention has been released. (ARbErfG 13§, Bardehle 2013)

When an invention is claimed, the employee is entitled for "reasonable compensation" from the employer according to ArbErfG. The payment shall be completed due three

months after the employer has started to use the invention and no later than three months after a patent or utility model has been granted. Employer and inventor should mutually agree on remuneration and in case of several employees are involved, each agreement should be done separately. Precise statutory guidelines on calculating the reasonable amount can be find in the Guidelines for the *Compensation of the Inventions of Employed Inventors*. When assessing the appropriate remuneration, the economic usability of the invention and inventor's tasks and position shall be taken into consideration as section 12 stipulates. In practice companies tend to utilize so called incentive systems wherein the employer offers the inventor a payment of lump sum for the disclosed invention. (ARbErfG 9 & 12§, Hoppe 2018.)

## 2.2 United Kingdom

United Kingdom (UK) is a primary example of common law country where employee inventions are legislated by patent law (Patents Act 1978, 39-43§). According to Kivi-Koskinen and Lepistö (2019, pp. 35-38) the distinctive feature of Patents Act is its strict stance on the question of ownership of employee-made invention. It is noteworthy to mention that the owner of the invention reserves all rights to the invention, therefore being able to fully decide how to utilize invention. Partial rights nor any other type of intermediate forms do not exist in UK's Patents Act. According to 39§, the invention belongs to the employer if:

- a) *"it was made in the course of the normal duties of the employee or in the course of duties falling outside his normal duties, but specifically assigned to him, and the circumstances in either case were such that an invention might reasonably be expected to result from the carrying out of his duties; or*

b) *the invention was made in the course of the duties of the employee and, at the time of making the invention, because of the nature of his duties and the particular responsibilities arising from the nature of his duties he had a special obligation to further the interests of the employer's undertaking.*" (Patents Act 1977, 39§, p.31.)

Section 39 further defines that in any other case invention made by an employee shall belong to the employee.

As a thumb rule the employee is not entitled to compensation by reason of the ownership specification under section 39. An exception situation to the rule is specified in 40§ wherein it is stated that the employee may be entitled to compensation from the employer if the employee has made invention which has been granted a patent and the invention or the patent for it (or the combination of both) is of outstanding benefit to the employer.

### **2.3 Singapore**

As a Commonwealth country, Singapore's legal system is based on the English common law system and it seems that Singapore Patents Act is almost identical to United Kingdom Patents Act (Singapore Patents Act, 2019). Employee inventions are addressed in Patents Act, but only briefly by two sections (49-50§). Section 49 stipulates the right to employees' inventions (=ownership of the invention) and is identical to United Kingdom Patents Act's section 39. The employer automatically owns rights to the invention if the invention was made in the course of the normal duties of the employee or duties specifically assigned to him and invention might reasonably be expected to result from the carrying out of his duties or the invention was made (Singapore Patents Act 49.1a§). Other inventions made by an employee belong to employee by virtue of section 49.2§.

Compared to United Kingdom Patents Act, Singapore Patent Act does not contain any section stipulating compensation for employee. As Singapore Patents Act is largely based on UK law, it may be justified to assume that employer is not obliged to pay any additional compensation to employee from inventions, but the compensation is already included in normal wage.

## 2.4 Norway

Norwegian Employees' Inventions Act (Lov om retten til oppfinnelser som er gjort av arbeidstakere (arbeidstakeroppfinnelseloven)) applies to employees in public and private sectors who have made patentable invention in Norway. Furthermore, the act applies to post-employment relationships given that an application for a patent in respect of an employee's invention is filed within six months after termination of his/her employment. The law is declaratory meaning that majority of provisions can be superseded by an agreement, wherein the employer and employee may agree contrary to provisions of the act. Only the provisions stipulating employee's right to reasonable compensation are peremptory provisions and hence cannot be agreed otherwise.

According to section 4 of the Act, the employer's right to acquire the rights of the invention depends on employee's role within the organization, on the bond between employee's tasks and the invention and on whether the invention is within the organization's business area. All in all, three different categories are defined:

1. Category: If the employee is employed within research and development, and the invention can be defined as a part of the area of activity of the enterprise, the employer may claim ownership of the invention, completely or in part
2. Category: If the employee has invented an invention in connection with the service, but the inventor is not working

principally on research and development, and the invention falls within the area of activity of the organization, the employer may claim the right of use within its area of activity

3. Category: If an inventor has invented an invention outside the employment relationship, but the utilisation of invention falls within the area of activity of the organization, the employer has a priority right to enter into an agreement with the employee regarding the acquisition of the rights.

Regarding notification and acquisition duties, Norwegian Employee's Invention Act seems to follow other Northern European laws. The employee is obliged to disclose invention by sending a written notification to employer without undue delay. After the employee has disclosed the invention in written manner, the employer who wishes to acquire rights to the invention must inform the inventor within four months of receiving notification of the invention. The law does not directly indicate the consequences when failing to comply with notification provisions, but it is suggested that the failure may lead to vagueness and conflicts on who is entitled to the invention (Tekna, 2015).

Categorization has an impact on the amount of compensation that is be paid to the employee. According to section 6 of Employees' Inventions Act, acquiring rights to an employee invention triggers an obligation for the employer to pay a reasonable compensation to the employee. The amount of compensation depends on the value of the invention, the extent of the right that the employer has acquired, the employee's conditions of employment and the degree of contribution that the employee has contributed to the invention. The exception to this peremptory provision are cases where the employee has been hired to perform research or inventive work and the value of the right taken by the employer does not exceed the value of the services the employee may reasonably be expected to perform in return

for his remuneration and other benefits that may be associated with his employment.

## 2.5 Sweden

Sweden has a long tradition of specific employee invention legislation as Swedish Act on the right to employees' inventions (Lag om rätten till arbetstagares uppfinningar) was originally introduced in 1949. The act applies to all patentable inventions made by employees in public or private service. Furthermore, the act applies to the former employees if the former employee has made a patentable invention which falls within the former employee's main tasks and the invention has been made within six months after the employment was terminated. Like in any other patent legislation, the starting point for the act is that regardless of whether the employer has interest in the invention or not, the employee has the same right to apply for a patent to his inventions as any other inventor does (2§). The employee is however obligated to submit a notification without delay if the invention falls within the employer's area of activity and the employer is obligated to respond within four months from the time of receiving such invention notification (4-5§).

In addition to the obligation to respond, the employer is obliged to notify the scope of rights he wishes to exercise. The section 3 sets rather clear categories for defining the correct scope of rights. The first category is defined in 3.1§ where it is stated that the employer is entitled to own entirely or partially enter as the employee's right holder with respect to the invention if a) the research or inventor activity constitutes the employee's main task and if b) an invention has been added essentially as a result of this activity. The second paragraph defines a category for "mixed inventions" which are inventions that fall within the area of the employer's activity but are not fulfilling the criteria set for

employee's tasks in the previous paragraph. In mixed invention cases, the employer has the rights to acquire rights to utilize the invention in his business without impediment from the employee. Inventions that do not have any connection to the employment but whose use falls within the employer's area of activity form the third category and the employer has priority over another to acquire the desired right to the invention by agreement with the employee. (Lag om rätten till arbetstagares uppfinningar; Kivi-Koskinen and Lepistö 2019, pp. 30-34; Linde 2010, pp. 8-10.)

According to the Swedish law, employee inventors are entitled to reasonable compensation despite something else been agreed before the invention was made (Lag om rätten till arbetstagares uppfinningar; 6§). The law states that when determining reasonable compensation, special consideration should be paid to the total value of the invention and the scope of the right to the invention which the employer has taken over as well as to the significance the employment may have had for the creation of the invention. Kivi-Koskinen and Lepistö (2019 pp.32-33) notify that the criteria for determining reasonable compensation are somewhat ambiguous: if the total value of invention shall include all possible embodiments and applications in the world and the employer is not allowed to restrict employees right to monetize the invention, how should the compensation paid by employer be defined? To address this question, the legislation notes that employer shall pay the compensation only to the extent that the value of the right to the invention taken over by the employer. The employee can licence/sell the invention freely in all application areas and countries where the employer has not reserved the right to the invention. There are several analogies for the reasonable compensation, single payment being probably the most common.

## 2.6 China

China has implemented a patent law where employee made invention is defined and the compensation for inventors is regulated. Chinese patent law uses term *employment invention-creation* in article 6 wherein it is defined that employment invention-creation is an invention that 1) results from performing the duties of an employee or 2) has been accomplished mainly by using the material and technical conditions of employer.

*“An invention-creation that is accomplished in the course of performing the duties of an employee, or mainly by using the material and technical conditions of an employer shall be deemed an employment invention-creation. For an employment invention-creation, the employer has the right to apply for a patent. After such application is granted, the employer shall be the patentee.*

*For a non-employment invention-creation, the inventor or designer has the right to apply for a patent. After such application is granted, the said inventor or designer shall be the patentee.*

*For an invention-creation that is accomplished by using the material and technical conditions of an employer, if the employer has concluded a contract with the inventor or designer providing the ownership of the right to apply for the patent or the ownership of the patent right, such provision shall prevail.” (Art. 6.)*

It should be highlighted that the rights to the service inventions automatically belong to the employer unless something else has been agreed on (Feng, 2016). Separate assignment forms nor specific employment agreement clauses are not needed (Che and Yu, 2020).

Chinese patent law also defines post-employment inventions made within one year from termination of employment as employment inventions if the invention relates to employee's duties or other entrusted tasks. This post-employment feature is specified in Rule 12 of Implementing Regulations of the Patent Law as following:

*Rule 12 of Implementing Regulations of the Patent Law*

*"A service invention-creation made by a person in the execution of tasks of the entity to which he belongs" referred to in Article 6 of the Patent Law means any invention-creation made:*

...

*(3) within one year after the retirement, transfer from the entity to which he originally belongs or the labor and personnel relationship being terminated, where the invention-creation relates to his own duty or the other task entrusted to him by the entity to which he previously belonged.*

The compensation for inventors can be divided into two sections according to Lummevuo (2020 p. 166). Firstly, inventors are entitled to reward when a patent for invention is granted. This reward shall be minimum 3000 RMB for one invention patent and 1000 RMB for utility model and shall be paid by entity to which patent is granted within 3 months from the announcement of granting the patent. It should be noted that these are minimum requirements and may be agreed on differently in benefit of employee. The typical case may be that the inventor and employer indirectly agree on higher reward e.g. in company's internal invention guidelines.

The second set of compensation for inventor is so called *remuneration* which shall be paid to the inventor when granted patent is utilized. Utilization in this context refers

to either use of patent in company's own products or production methods, or out licencing the patent for others (Lummevuo, 2020 p. 170).

Remuneration is specified in Rule 78 as following:

*Rule 78 (Incorporating original Rule 75 and Rule 78)*

*“Where the entity to which a patent right is granted fails to agree with the inventor or the designer, or to specify in its legally enacted company rules the way and amount of reward and remuneration specified in Article 16 of the Patent Law, the entity shall, after exploiting the patent for invention-creation within the term of the patent right, pay the inventor or designer remuneration at a percentage of not less than 2% each year from the profits generated from the exploitation of the invention or utility model patent, or at a percentage of not less than 0.2% from the profits gained from the exploitation of the design, or pay the inventor or creator a lump sum of remuneration by reference to the above percentages; where the entity to which a patent right is granted authorise other entity or individual to exploit its patent, it shall reward the inventor or designer at a percentage no less than 10% from the royalty fee.”*

It should be highlighted that Rule 78 specifies minimum level of remuneration unless something else has been agreed on between the inventor and employer. Remuneration is dependent on the profits generated from the exploitation of the invention or utility model patent and can be paid on yearly basis over the lifetime of the exploited patent (max. 20 years from patent application filing date) or as a lump sum. Lummevuo (2020, p. 170) rightfully notifies the complexity of determining a lump sum remuneration payment as in practice it is difficult to estimate the future cash flows related to patent-including products.

## 2.7 Italy

Italy does not have a specific employee invention law, by contrast employee inventions are included in article 64 of Italian Intellectual Property Code. The code is rather strict from employee's perspective as in most cases the employer automatically gains rights to employee invention.

Employee made inventions are divided into three different categories. First category covers job-related inventions, which derive from employment relationship or similar contract whereby inventive activity is deemed to be an outcome of the employment relationship or contract and is paid accordingly and distinctly.

*“When the industrial invention is made in the execution or fulfilment of a contract or an employment or employment relationship, in which the inventive activity is envisaged as the object of the contract or relationship and to such paid purpose, the rights deriving from the invention itself belong to the employer, except for the right of the inventor to be recognized as the author.” (Art 64.1.)*

The rights to such invention belong to the employer, but inventor has the right to be recognised as the inventor. The inventor is not entitled to remuneration as he/she is already regularly paid for inventive activity on basis of the employment relationship or contract, however such a payment should be properly identified in the paycheck ([GLP, 2019](#))

The second category is so called workplace invention which are disclosed in the Article 64.2. Article 64.2 specifies that if an invention is made in the performance or fulfilment of an employment relationship or contract, but inventor is not paid regularly for inventive activity, the inventor is entitled to a “fair bonus” and shall be recognised as the inventor, while the rights to the invention belong to the employer. Article 64.2 states as following:

*“If remuneration is not provided for and set as compensation for the inventive activity, and the invention is made in the performance or fulfillment of a contract or work or employment relationship, the rights deriving from the invention belong to the employer, but the inventor, without prejudice to the right to be acknowledged as the author, shall, if the employer and its successors in title obtain the patent or use the invention under industrial confidentiality, have the right to a reasonable reward, the calculation of which must take into account the importance of the invention, the duties carried out and the remuneration received by the inventor, as well as the contribution that he received from the employer's organization. In order to ensure the prompt conclusion of the procedure for obtaining the patent and the consequent attribution of the reasonable reward to the inventor, and on request from the relevant employer's organization, an advance examination of the application aimed at obtaining a patent may be allowed.”*

The third category of inventions may be described as “free inventions”. These inventions may occur if the conditions identified in the Article 64.1 or 64.2 are not fulfilled but the invention falls within the field of activity of the company where inventor is employed. In these cases, the employer has precedence right for exclusive or non-exclusive use of the invention or for the purchase of the patent. Furthermore, the employer has a right to apply for a patent in foreign countries or to purchase those patents that have already been granted abroad. Employer is obligated to exercise the precedence right to the invention within three months of the filing of the patent application if the employer wishes to claim rights to the invention. (Linde, 2010 pp. 12 – 13.)

## 2.8 United States

United States is probably the most well-known example of contractual regimes wherein the issue of rights to the invention, in general, is a contractual matter between inventor and employer that can be freely agreed upon. As a general note however it should be mentioned that United States is a federal state and laws may differ significantly between states. Eleven states including California, Delaware, Minnesota and Washington have adopted more detailed, European style statutes governing employee inventions into their state laws to improve the position of employee (Practical Law, 2020). Many of these states have enacted almost identical rules, assignment of rights to employee inventions being emphasised (Simmons, 2018) in the legislation.

Concerning employee-originated inventions in the USA, it seems that vast majority of attention has been drawn into the question of ownership. The premise is that unless there is an agreement addressing the rights to the invention, the rights to the invention and to possible IPR belong to the inventor. Employers therefore tend to include a provision concerning the rights to employee inventions in the employment contracts in order to avoid future disputes. If no contract concerning rights to the invention has been made, employer may still be entitled to the invention. Linde (2010, p.14) notes that as a common law country the US courts have established highly developed default rules for addressing different ownership questions despite federal law only stating that initially the rights of the invention and patent belong to the inventor. According to Lummevuo (2020, pp. 124 – 127) two possible alternatives may be applied when assessing employer's right to the invention in the non-agreement circumstances. First alternative is so called "employed to invent" doctrine, according to which the employer owns the invention if he or she has hired the inventor to invent. In the second alternative employer is entitled to

so called “shop right” which refers to a non-exclusive right to use the invention. Shop right shall apply in cases when an employee has made an invention using resources (e.g. facilities, information, tools etc.) from the employer, but the employee was not hired to invent or was not given any particular instructions in relation to the invention.

United States does not have a specific statutory related to employee remuneration in federal level. Yet again, the compensation is a contractual matter and whether employee is shall receive a remuneration on his or her efforts depends on what has been agreed on. Generally, in the USA the regular salary is considered to be enough, although according to Lummevuo (2020, p.161) some scholars have argued that regular salary may not be the most efficient way for increasing technical innovation as lack of incentive may decrease employees’ motivation to innovate.

## 2.9 Japan

In Japan, the employee invention legislation differs from the European counterparts as it is much more linked to the question of ownership of a patented invention rather than the ownership of employee inventions as such. Japanese employee invention system experienced a major change in 2017 when an amendment, which enabled employers to select in advance whether the right to obtain a patent for an employee invention belongs to the employer or employee when the invention is made, came into force. The previous employee invention system assumed that the right to obtain a patent for the employee invention belonged to the employee, which, from employers’ perspective at least, increased instability around the ownership of patent rights as the change of ownership depended on inventor’s willingness to transfer the rights to his or her employer. (Abe and Kazama 2016; Onda 2020.)

The amended Patent Act aims to remove the ownership dilemma. Employee inventions are addressed in Patent Act's Article 35 which further consists of seven paragraphs. The first paragraph (art.35.1) defines the term *employee invention* and stipulates employer's right to obtain rights to the patented invention in situations where no agreement on the ownership of the patent right has been agreed in advance. According to the law, *employee invention* means "*an invention which falls within the scope of business of the employer and was achieved by an act(s) categorized as a present or past duty of the said employee, etc. performed for the employer*" (Japanese Patent Act, Art. 35.1). In cases where there was no advance contract, the employee owns the patent, but the employer has the right to a non-exclusive license.

If an advance agreement concerning the right to obtain a patent for an employee invention exists, article 35.3 shall apply. This article specifies that if any agreement, employment regulation or any other stipulation that provides in advance the right for employer to obtain a patent for employee invention, the right will belong to the employer when the right is granted and an employee is entitled to remuneration from the employer.

Employee's right to remuneration is stipulated in the articles 35.4 – 35.7. If the right to patent has been transferred from employee to employer, the employer shall offer employee "*reasonable amount of money or other economic benefit*". Onda (2020) suggests that this formation of words benefits both counterparties, as it protects the benefits of the inventor while providing additional flexibility for the employer when planning appropriate incentive strategy. According to 35.5, the remuneration is generally accepted as reasonable by Japanese courts if it is set by a contractual agreement or similar and at the time of which the criterion

was set, negotiations have taken place, criteria for defining remuneration have been disclosed to the employee and the views of the employee have been taken into consideration when the remuneration amount was set. If no agreement has been set or the reasonable remuneration has been deemed unreasonable, article 35.7 shall prevail and the reasonable amount is decided by a court decision. The court will consider *inter alia* the amount of profit the employer receives from the invention, treatment of the employee and extent of employer's contribution to the invention and other relevant circumstances.

## 3 Conclusions

### **3.1 RQ 1: How employer should act in order to duly acquire/assign rights to the inventions made by employee**

Lummevuo (2020 pp. 94 - 198) categorized countries into two categories based on how their national legislation approaches the issue of ownership related to inventions made by employee. Countries which have adopted normative approach on ownership of inventions are called statutory regimes. Statutory regimes are characterized by variety rules and requirements that employer must comply with in order to duly acquire rights to the invention (Lummevuo 2020, p. 97). As a contradiction to statutory regimes, contractual regimes refer to countries wherein the issue of rights to invention fall to within a general contractual freedom and no strict requirements for company procedures are set by legislation. All the examined countries excluding United States were to some extend statutory regimes wherein the employer's right to the invention was stipulated at least by one peremptory provision.

Germany, Sweden and Norway had implemented specific employee invention laws already several decades ago and these laws included strict and detailed protocols on how the employer shall act in order to claim the rights to employee invention. In these countries, inventions were categorized in order to define the scope of rights to which the employer is entitled to. Depending on invention the employer may be entitled to entire or partial rights. Furthermore, the employer must, unless something else has been agreed with the inventor, respond to employee in written format within four months from receiving the invention disclosure whether he or she wishes to exercise his right to claim the invention. If no reply has been sent within the set time limit, Norwegian and Swedish laws assume that the employer does not wish to exercise his or her right to the invention, resulting a loss of rights from employer's perspective. German law acts exactly the opposite as employer shall explicitly express his unwillingness to claim the rights to invention or otherwise the rights are automatically claimed. A claim of rights triggers in all

## Conclusions

three countries an obligation to provide a reasonable compensation to the employee as a result of loss of ownership. German peculiarity is that in addition to providing reasonable compensation to the employee, the employer is obligated to file, without undue delay, a patent application in Germany or via international routes with Germany as a designated member state.

United Kingdom, Singapore, China, Italy and Japan do not have specific employee invention laws, instead these countries had integrated employee invention sections into their patent laws or Intellectual Property codes. Compared to German, Swedish and Norwegian systems, the fundamental difference in employee invention systems of United Kingdom, Singapore, China and Italy seemed to be that by law the rights to the employee invention automatically belong to employer if certain characteristics are fulfilled. No specific actions are needed to assign rights from the employee to the employers. In Japan, the employer always has a right to non-exclusive license, but assignment of further rights needs to be contractually agreed on e.g. via employment contract or other agreement. All five countries have provisions that force employer to provide compensation to the inventor if certain conditions are met, although in United Kingdom and Singapore (which has implemented United Kingdom's patent act as it is) the employer is generally not obligated to pay any compensation unless the invention provides exceptional benefits to the employer.

At the time of writing this report, United States did not have a statewide employee invention law or employee invention provisions in its patent law. Some states had implemented stipulating provisions into their state laws, but in the countrywide perspective assignment is a contractual matter and by default the rights to the invention belong to the inventor. The employer should always address and agree on procedures related to possible inventions before the invention is made, e.g. by including an invention assignment clause in employment contract. In absence of an assignment agreement US courts may provide certain backdoors (i.e. *employed to invent* and *shop right*) for employer to claim some sort of right to the employee invention, but these are case-specific, hence the employer should not rely that the court decision is positive.

**3.2 RQ 2: Are specific assignment clauses needed in the employment contracts in order to employer be entitled to inventions made by employee in the selected countries?**

In statutory countries employers do not need specific pre-invention assignment contracts nor assignment clauses in employment contracts as rights to the invention cannot be assigned before the invention has been invented. The employer has by virtue of law either a right to acquire the rights to the invention or the rights to the invention are automatically assigned to him or her if certain set of conditions is met. Japan seemed to be the only exception among the examined statutory states as the Japanese employee invention system requires that the issue of ownership should be addressed beforehand by a contract if the employer wishes to take rights to employee invention. Apparently, a contract in Japanese context includes employment contract, hence it may be useful to include an assignment clause in an employment contract when hiring employees in Japan.

In United States, specific pre-assignment agreements are highly recommended to avoid disputes related to the ownership of future inventions. The pre-assignment can be done by including an assignment clause in the employment contract when hiring an employee.

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