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REASONABLE COMPENSATION FOR INVENTIONS MADE BY EMPLOYEES

Master thesis

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LIST OF ABBREVIATIONS

ArbnErfG - Arbeitnehmererfindungsgesetz (Employee Inventions Act)

CPI - Code de la Propriété Intellectuelle (French Intellectual Property Code)

e.g. - for example

EPC - European Patent Convention

EU - European Union

IP - intellectual property

IPR - intellectual property rights

PatG - Patentgesetz (German Patent Act)

USA - United States of America

WIPO - World Intellectual Property Organization

INTRODUCTION

Relevance of the master thesis. Modern life is rapidly changing in many directions, significantly influenced by the fast development of scientific and technological progress. Constantly, in various areas of existence and activity of society, new inventions are created, designed to facilitate the existence of mankind, simplify current processes, or complement and enhance them.

Increasing the efficiency and effectiveness of scientific and technological progress and promoting its improvement is one of the decisive directions of economic development and, perhaps, the major condition for the intensification of social production.

Therefore, the activation of inventive activity, intensification of development and introduction into production of new highly efficient equipment and technologies, as well as reducing the duration of the innovation cycle from invention to its production, are gaining great importance. And these issues, in turn, cannot be effectively resolved in the absence of appropriate legislative regulations in this area.

Among others, in particular, it is necessary to clearly enshrine in the legislation the provisions relating to the employees' inventions and fair remuneration for them.

The criteria that determine the reasonableness of compensation for inventions made by employees vary in the legislation of different countries. This once again emphasises the necessity of unification and harmonisation of legislative norms in this field.

On the one hand, it is worth noting that the employee in labour relations usually has a weaker and less secure position, so his creative activity and inventive work are not always fairly assessed. Thus the implementation of a unified reasonable compensation scheme for employed inventors would be a kind of protective mechanism and an additional guarantee for the employee against abuse of his rights by the employer.

On the other hand, for the employer, the presence of such clear criteria for calculating fair remuneration for the employee's invention can serve as a kind of reference point for calculating the approximate costs associated with the creation and use of inventions already at the initial stages of its development.

That is why the existence of a precise and proper regulation of the employee invention's remuneration will both create favourable conditions for the effective use of the invention by the employer and stimulate the employee's inventive activity.

The scientific research problem. Due to the worldwide discrepancy in views on the definition of determining reasonable remuneration for employee inventions, many disputes arise between employees and employers on this issue.

Thus, the scientific research problem is the lack of coherent scientific approaches to determining the criteria of the reasonableness of compensation for employee-made inventions, as well as possible ways of their unification.

Scientific novelty and overview of the research on the selected topic. Researchers have previously considered the concept of reasonable remuneration for inventions devised by employees. Scholars' positions on the analysed concept differ in various views.

For instance, Carsten Burhop and Thorsten Lübbers explore compensation for employee inventions as a tool for equitable distribution of the significant benefits from innovations between employers and employees and, simultaneously, as a source of incentives for the latter¹.

While Australian scientists Chris Dent, Colin Fenwick, and Kirsten Newitt consider the concept of the reasonableness of compensation from the point of view of the economic and fairness approach, pointing out the dependence between the peculiarities of the legal system and the approach to regulation of the analysed concept². Such views are also supported in the scientific works of Peter Hall and David Soskice³. At the same time, the above-mentioned Australian scholars offer their own approach to this issue, based on the fact that the definition of this concept should take into account the interests and motivations of both the employee and the employer, while monetary motivation is just one of the incentives for employee-inventors.

Although such scientific positions deserve consideration, they do not always reflect the current state of things regarding compensation for employee inventions. This means that despite the fact that this problem has been widely explored and discussed by scholars around the world, it still remains unsolved and needs further research, in particular in the context of analysis of reasonable compensation criteria for the purpose of their unification, that will be carried out in this study.

¹ Carsten Burhop and Thorsten Lübbers, "Incentives and innovation? R&D management in Germany's chemical and electrical engineering industries around 1900," *Explorations in Economic History* 47, 1 (2010): 103, <https://www.sciencedirect.com/science/article/abs/pii/S0014498309000369?via%3Dihub>.

² Chris Dent and Colin Fenwick and Kirsten Newitt, "Legal Incentives to Promote Innovation at Work: A Critical Analysis," *Economic and Labour Relations Review* 21, 2 (2010): 3, <https://ssrn.com/abstract=1762946>.

³ Peter Hall and David Soskice, *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, (Oxford: Oxford University Press, 2001), 72.

Significance of research. From a practical point of view, the current research could be useful both for scholars and practitioners. The comprehensive analysis presented in the master's thesis will be relevant for further research since the study provides an extensive discovery of the peculiarities of six separate legal systems, which differ significantly in their approaches to understanding the analysed concepts. Moreover, different scientific views and current research on this issue are considered.

Taking into account the ***originality*** of the proposed way of solving the problem of inconsistency of criteria for calculating reasonable compensation for employee inventions, which implies their unification based on the introduction of a common approach at the level of soft law, this study can be used for further development and implementation by legislators of the necessary tools to regulate this issue.

The aim of the research. The research aims to comprehensively analyse the concept of reasonable compensation for inventions made by employees, its basic criteria and possible ways of their unification.

The objectives of the research. In order to achieve the set aim of the research, the following tasks must be carried out:

- 1) To disclose and discover the legal nature of the concept of inventions made by employees and its components.
- 2) To analyse criteria of reasonable compensation for employee-made inventions in the legislation of different jurisdictions.
- 3) Relying on the legal analysis carried out in this master thesis to provide a proposal for unification of calculating reasonable remuneration for employee-devised inventions.

Research methodology. The following research methods were used in the process of writing the master's thesis:

1. ***Data collection and data analysis method.*** The study covers a wide range of relevant sources, including the legislation of the European Union and national legislation of individual states, supranational legal acts, case law, research papers and analytical articles. The systematisation and structuring of processed data create a complete and comprehensive overview of the concept of fair compensation for employees' inventions.
2. ***Comparative analysis.*** The research compares the peculiarities of regulation of the procedure for determining reasonable compensation for employees' inventions in the national legislation of different countries, as well as analyses of the advantages and disadvantages of each of them.

3. *Linguistic method.* In connection with the comparison of the relevant legislative provisions of different countries related to the topic of the study, the linguistic method is used in work, aimed at a complete and proper understanding of the chosen issue and the terms related to it, as well as avoiding confusion or misinterpretation of the relevant concepts.

4. *Logical method.* Due to the application of the logical method in the master thesis, scientific views and opinions on the subject of research are summarised, and relevant conclusions and recommendations are formulated on their basis. At the same time, this method helps to build the research itself in a logical order to make it more understandable and easy to perceive.

Structure of research. The master thesis is divided into three separate parts.

Due to the fact that the determination of the criteria of the reasonableness of compensation for employee inventions is impossible without a comprehensive understanding of the conceptual framework of this concept, the first Chapter of this study is devoted to the general understanding of this issue. In particular, the first subchapter of the master's thesis is focused on the theoretical analysis of the concept of "employee inventions", and its legal framework, which is mainly based on the provisions of the national legislation of each country. The second subsection of the first chapter is aimed at the analysis of theoretical and scientific approaches to determining the criteria of reasonable compensation.

The second Chapter of the study is devoted to the analysis of existing legislative regulations in different jurisdictions. The comprehensive study of legal norms of different countries presented in the master's thesis is aimed to identify common and distinctive features in approaches to the regulation of this issue, as well as to take into account positive and negative practices. The regulation of the issue of employee inventions in the Federal Republic of Germany, analysed in the first subchapter, gives an idea of the functioning of the most comprehensive and detailed system of legislation on this topic. The slightly different French legal framework is discovered in the second subchapter. The third subchapter is devoted to the review of the relevant provisions of the legislation of Switzerland - the most innovative economy in the world. While the fourth and fifth subchapters examine the legal norms on employee inventions in the United Kingdom and the United States of America, respectively. Finally, the last sixth subsection of the second Chapter focuses on the legal regulation of analysed issues in Ukrainian legislation.

The last Chapter of the master's thesis is devoted to the analysis of whether it is possible to unify approaches to determining the reasonableness of compensation for employee

inventions, and what format of such harmonisation is the most acceptable, taking into account the peculiarities of legislative systems in the global dimension.

Defence statements.

1. The concept of inventions made by an employee is regulated by the national legislation of each country, which causes many disagreements and misunderstandings on this matter.

2. The problem of legal regulation of reasonable compensation for employee-made inventions should be considered as a search for an optimal combination of unified criteria for its determination at the level of soft law.

1. GENERAL OVERVIEW OF THE CONCEPT OF INVENTIONS MADE BY EMPLOYEES AND COMPENSATION FOR THEM

1.1. The notion of employee invention in theoretical and legislative dimensions

Considering the dynamic development of economic relations, globalisation and modernisation of manufacturing processes, the science intensity of production nowadays depends primarily on the efficiency of the creation and implementation of inventions. And since, according to statistics, the majority of inventions are created by employees⁴, the topic of legal regulation of these issues requires special attention.

A mandatory employee invention compensation is one of the incentives that is commonly used in order to encourage inventive activities. In order to establish whether it is possible to determine the optimal unified formula for calculating the amount of compensation for inventions made by employees, it is necessary to conduct a comprehensive analysis of the legal concepts underlying the analysed issue.

Taking into account the fact that the concept of employee inventions is regulated by the national legislation of each country, there is no single determination of the terminology, but it is possible to define it on the basis of the analysis and synthesis of the characteristic features of these concepts.

To begin with, employee invention could be defined as an invention made by an employee at any time in the course of his employment with his employer⁵.

Legislation of different countries regulates this concept differently, considering it through the prism of their own legal systems. For example, the Japanese Patent Law states employee inventions are those that fall within the field of the employer's business and those invented during the course of his or her employment⁶.

Quite similar, but the slightly broader interpretation of the concept of inventions made by an employee can be found in German legislation. According to the German Employee

⁴ Steven Cherenksy, "A Penny for Their Thoughts: Employee-Inventors, Preinvention Assignment Agreements, Property, and Personhood," *California Law Review* 81, 2 (1993): 599, https://www.jstor.org/stable/pdf/3480758.pdf?refreqid=excelsior%3A0d0b7373bbb0c6f3701c2a548c598e58&a_b_segments=&origin=&acceptTC=1.

⁵ Pavel Svacina, "Rewarding employee inventions in corporations," *European Journal of Innovation Management* 24, 2 (2021): 259, <https://www-emerald-com.skaitykla.mruni.eu/insight/content/doi/10.1108/EJIM-06-2019-0178/full/pdf?title=rewarding-employee-inventions-in-corporations-designing-a-framework-to-evaluate-adequacy-of-remuneration-and-offering-an-optimal-remuneration-system>.

⁶ Iwao Yamaguchi, *Theory and Practice of Employees' Invention* (Japan Patent Office, 2006), 3, https://www.jpo.go.jp/e/news/kokusai/developing/training/textbook/document/index/theory_and_practice_of_employees_invention_2006.pdf.

Inventions Act, this concept includes inventions “made by employees in private employment, by employees in public service, by civil servants and by members of the armed forces”⁷, which may be the subject of a patent. The peculiarities of this concept's characteristics and its constituent parts, which include the payment of reasonable compensation, will be considered in more detail in the second section of this scientific work.

It is worth noting that depending on the approaches enshrined in the laws of each country, the criteria for determining whether a certain invention can be recognised as one having been created by an employee differ. In this case, as a rule, it does not matter if the invention was created during working hours or at the workplace, as well as it is not always necessary that it is fixed in material form. Usually, more attention is paid to whether the invention was made in the course of the employee’s employment and to the degree to which it is related to the activities of the employer, along with the fact whether and to what extent the resources or assistance of the latter were involved.

The issue of employee inventions and payment of reasonable compensation for them is actually at the intersection of labour and intellectual property law. The main problem in this context is that certain contradictions arise when comparing the provisions of labour and patent law, which creates conflicts of interest for both parties - employee and employer.

While according to the provisions of labour law, the ownership of an invention created by an employee most often in the majority of jurisdictions passes to the employer, the situation is slightly different when it comes to patent law. Under the principles of the latter employee, as an inventor, is the rightful owner, therefore, he holds all rights to the invention, including the right to profit from it.

In general, in most national legal systems, the regulation of the topic of employee inventions is designed to harmonise the previously mentioned contradictions between the provisions of labour and patent law. This issue is solved in varying ways, not always really effectively, but this will be described in more depth later in this master’s thesis.

Pursuant to the provisions of Article 60 of the European Patent Convention (hereinafter - EPC), “the right to a European patent shall belong to the inventor or his successor in title”⁸. Moreover, in case several persons created the invention independently of each other, “the right to a European patent, therefore, shall belong to the person whose European patent

⁷ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Art. 7 of the Act of 31 July 2009”, Federal Law Gazette. I p. 2521, accessed 21 December 2022, https://www.dpma.de/docs/dpma/schiedsstelle/employee_inventions_act.pdf.

⁸ “European Patent Convention, 17th edition, 2020,” EPO, accessed 21 December 2022, <https://www.epo.org/law-practice/legal-texts/epc.html>.

application has the earliest date of filing, provided that this first application has been published”⁹. Thus, the EPC provisions regulating the analysed concept are based on the so-called “first-to-file” principle. According to the USA legislative changes made in 2011, the same principle is to be applied in the American legal system.

Speaking about inventions made by employees, the EPC specifies the provisions on them as follows: “If the inventor is an employee, the right to a European patent shall be determined in accordance with the law of the State in which the employee is mainly employed; if the State in which the employee is mainly employed cannot be determined, the law to be applied shall be that of the State in which the employer has the place of business to which the employee is attached”¹⁰. Thus, if, in accordance with the provisions of relevant national legislation, it is established that the invention made by the employee belongs to the employer, such legal norms prevail over the regulations established in Article 60 EPC. Besides, not only the law of the contracting states but also the law of any relevant country worldwide may apply.

In this context, it is important to distinguish between the procedural law of patent granting and European patent law as substantive law. While the former law is harmonised in the EPC, all attempts to harmonise the latter one have unfortunately failed.

In some countries, such as Germany, Poland, Sweden, Denmark, and Finland, the issue of employee inventions is regulated by a separate law. While in most countries only certain provisions in the patent laws are devoted to this issue. These countries, in particular, include the United Kingdom, the Netherlands, France, Ukraine, etc. Meanwhile, in the legislation of countries such as the United States of America and Switzerland, the relevant topic is enshrined very indirectly.

Finally, to sum up, glancing at various legislative systems across the globe, it may be seen that regulations pertaining to employee inventions vary widely. Given the peculiarities of each legal system, their uniqueness and the difference in the approaches of the legislation of different countries to the definition of the concept of employee inventions, it seems that the formulation of a unified notion of this concept is not necessary and in general, it is unlikely that it is possible.

⁹ “European Patent Convention, 17th edition, 2020,” *supra note*, 8.

¹⁰ *Ibid.*

1.2. The concept of “reasonableness” of compensation for employee inventions: scientific and theoretical approach

Taking into consideration the fact that the concept of compensation for inventions made by an employee is regulated by the domestic law of each country, the approaches to defining its criteria differ, as well as the concept of “reasonability” is interpreted variously.

From a scientific and theoretical point of view, there are diverse approaches that determine the criteria for establishing the fairness of compensation for inventions made by employees. Scholars representing multiple theories consider the relevant issue from different angles, however, each of the positions deserves attention.

To begin with, the labour theory is based on a broad interpretation of the concept of compensation for inventions made by employees. According to this approach, such remuneration is considered to be proper compensation for the added value received by the employer, that was created by the employee in the course of his or her employment¹¹.

At the same time, according to the essence of personhood theory, remuneration, especially if it is expressed in the form of royalties, is inherently intended to reflect the autonomy of the inventor as a creator. Moreover, the remuneration is also aimed at ensuring that the employee-inventor is able to receive compensation for the transfer of his rights to the invention created by him or her to the employer. Therefore, the main criteria for determining the reasonableness of compensation under this theory is the correspondence of its size to the exceptionality of the invention created due to the special characteristics of the creator’s personality, and his creative input into the creation process.

Opponents of personhood theory argue about its absence in patent law since for technological inventions it is much more important to perform the intended functions, which can often contradict the artistic vision of the creator¹². That indicates a rather low level of personality reflection in most patented works. As Justin Hughes noted, “patentable inventions usually embody strongly utilitarian solutions to very specific needs¹³”, and therefore it is difficult to trace the manifestation of the individual’s personality in them: “In inventing the light bulb, Edison searched for the filament material that would burn the longest, not a filament

¹¹ Shlomit Yanisky-Ravid, “Intellectual Property in the Workplace: Theoretical and Comparative Perspectives,” in *Intellectual Property in the Workplace* (Nevo, 2012), 26, <https://ssrn.com/abstract=2132677>.

¹² Roberta Rosenthal Kwall, *The Soul of Creativity: Forging a Moral Rights Law for the United States* (Stanford University Press, 2010), 37-52, <https://doi.org/10.2307/j.ctvqsf2w1>.

¹³ Justin Hughes, “The Philosophy of Intellectual Property”, *Georgetown University Law Center and Georgetown Law Journal*, 77 GEO. L.J. (1988): 287, <http://justinhughes.net/docs/a-ip01.pdf>.

that would reflect his personality. Marconi chose to use a particular wavelength for his radio because that wavelength could travel much farther than waves slightly longer, not because that wavelength was his preferred form of expression¹⁴.

At the same time, personhood theorists insist on their point, arguing that the inventor uses his special genius to create significant scientific and technical works. According to Keith Aoki “patent law confers rights on inventors that have employed a particular brand of creative genius¹⁵”.

Confirming reflection of this opinion can be found in the laws of many countries, where the personal characteristics of the inventor, the level of his creativity and ingenuity, and his own creative contribution to the process of creating an invention are taken into account when calculating the amount of fair compensation.

Finally, another theory that deserves attention in the context of determining fair compensation for employee-made inventions is the economic theory. It is, which is quite logical, even considering the name, based on numerical indicators. At the heart of this approach is the belief that the compensation model should be seen primarily as an incentive for the employee-inventor to create inventions and disclose them to the employer in order to maximise the economic benefits for all interested parties involved in this process. The so-called “enlarge the pie” concept, beneficial for both the employee and the employer, should be at the core of determining the fairness of compensation for an invention created by an employee, according to economic theory¹⁶.

From a practical point of view, different rules for determining employee invention compensation have different impacts on market participants. Above all, the purpose of legislative regulation of inventive activity and the development of the patent system itself is to help inventors to make a profit by commercialising their inventions or obtaining appropriate compensation for them from employers in the case where the latter acquires ownership rights to them, thus maintaining the motivation to innovate.

Speaking generally, employers, as well as employee-inventors, have a strong interest in the property rights to inventions created in the course of employment. For employee-inventors, the main interest may be tied to the investments they have made related to personal capital, such as personality, education, outstanding effort, and creativity. While the interest of

¹⁴ Hughes, *supra note*, 13: 287.

¹⁵ Keith Aoki, *Authors, Inventors and Trademark Owners: Private Intellectual Property and the Public Domain*, (Madison:University of Wisconsin, 1993), 213-216.

¹⁶ Shlomit, *supra note*, 11: 26.

employers may be determined by the financial investments made in the creation of a working environment that is necessary for inventive activity¹⁷.

In practice, there are ambiguous approaches to resolving the issues of remuneration paid to the creators of employee-made inventions. Some scholars, in the context of the analysis of this issue, highlight two aspects that should be taken into account: the labour law aspect (remuneration for the creation of such objects) and the patent law aspect (remuneration for their use). Whereas a number of scientists believe that the remuneration for the use of an invention includes the remuneration for its creation since its creation is covered by the labour function of the employee. Others believe that the employee's salary is paid for the performance of labour duties on the creation of an invention but not for its use.

The inventor of an intellectual property object uses his creative abilities to create a new invention for the purpose of its use in the future, which may bring additional profit to the employer. Therefore, the inventor is also entitled to remuneration for use. Thus, both aspects should be taken into account when determining the amount of fair compensation for inventions made by an employee.

Problems related to the rights to employee-devised inventions arise due to the opposite approaches of patent and labour law mentioned before. For patent law, the main thing is the result - the created service invention, and labour law regulates the process of creating an intellectual property object on the instructions or on behalf of the employer, the result of which should belong to the latter. It is the lack of understanding of the specifics of the subject of legal regulation of these branches of law that leads to conflicts. For example, an employee believes that the employer must pay extra for the creation of an invention, and the latter is convinced that he has already paid the necessary amount to the employee, as it was included in a salary.

On the one hand, the inventor is the employee, and in this status, he has indisputable rights to it as the inventor. On the other hand, the invention was created during working hours, paid for by the employer, and as a product of labour should belong to the employer.

As a result, the question arises whether patent or labour law should be taken into account when determining the amount of fair compensation. Thus, from a conceptual point of view, reasonable remuneration can be seen as a tool to reconcile the contradictions between these legal principles.

There are no uniform methods or an exhaustive list of criteria that allow identifying compensation for employee inventions as reasonable since the approaches to defining this

¹⁷ Cherensky, *supra note*, 4: 599.

concept vary depending on the legislation of different countries, as well as taking into account the specifics of each individual example.

For instance, in countries with a common law tradition, such as the United States or Australia, the regulation of compensation is entirely left to the market and competition between employers¹⁸. Meanwhile, in countries with a civil law system, this issue is regulated by the law. The exception in this context is the United Kingdom, which belongs to the case law system countries, but at the same time, has legal regulation of remuneration for inventions with outstanding benefits. Thus, the correlation between the legal tradition and conceptual approaches to understanding the “reasonableness” of compensation can be traced.

In this respect, there are interesting views of Australian scientists who approach the concept of reasonable remuneration from two perspectives: “economic” and “fairness”¹⁹.

To begin with, the economic approach is based on the notion that the issue of employee incentives in general, and compensation as their component in particular, should be left to the market discretion, as their main purpose is to encourage investment in innovations from the side of the business, not to attract employees. In turn, it is employers who will create the necessary incentives to increase the creativity of individuals²⁰.

At the same time, the “fairness approach” concentrates more on meeting the foreseeable needs of employees. According to this approach, the prerequisite for a high level of development of inventive activity can be achieved only if the employment relationship is based on trust, cooperation and mutual benefit of the employee and the employer²¹.

The distinction between the two approaches can be correlated with the differences in the tradition of common law, which does not provide for statutory remuneration, and civil law, in which statutory remuneration is fixed²².

This position finds its reflection in the views of Peter Hall and David Soskice, who believe that the first group can be defined as a “liberal market economy”, in which the main regulator of activity is “hierarchies and competitive market arrangements²³”, while for the second group of so-called “coordinated market economies” a greater role is played by “more reliance on collaborative, as opposed to competitive, relationships²⁴.”

¹⁸ Svacina, *supra note*, 5: 261.

¹⁹ Chris Dent and Colin Fenwick and Kirsten Newitt, *supra note*, 1:3.

²⁰ *Ibid.*

²¹ *Ibid.*

²² Svacina, *op.cit.*

²³ Hall and Soskice, *supra note*, 2: 72.

²⁴ Hall and Soskice, *supra note*, 2: 72.

Thus, while determining the criteria for the reasonableness of remuneration for inventions made by an employee, it is necessary to take into account the peculiarities of the legal traditions of the common and civil law systems, as well as the specifics of the market environment within which the determination of such criteria is made, as all this has a decisive influence on the formulation of approaches to legal enshrining the relevant provisions. Furthermore, it is important to take this into account since, depending on the peculiarities of a particular legal tradition, the procedure for adapting the relevant legislative changes will be different. While it is impossible to effectively introduce into the legal system provisions that will contradict its essence.

To summarise the above, the analysis of theoretical and scientific dimension of determining the criteria for the reasonableness of compensation shows that the approaches to the definition of this concept among scientists are characterised by their variability and, in general, deserves attention due to a sufficiently clear and understandable argumentation. Meanwhile, the interpretation of the fairness of compensation in the legislative dimension is enshrined in provisions that are slightly different, which will be discussed in more detail in the next chapter.

2. CRITERIA FOR DETERMINING REASONABLE COMPENSATION FOR EMPLOYEE INVENTIONS IN DIFFERENT JURISDICTIONS

2.1. Employee inventions in the Federal Republic of Germany

The Federal Republic of Germany has, perhaps, the best-developed and regulated system of legal norms for inventions made by employees.

The German legal approach to the consideration of the analysed concept adopts the personhood theory, thus promoting legislative mechanisms that grant employees rights to intellectual property products, despite the existence of an employer-employee relationship²⁵.

Historically, the key problem of legislative regulation of employee inventions in Germany was the legal contradictions between the key principles of patent law and labour law.

On the one hand, if an employee creates an invention at the workplace that can be used by the employer and provide him with economic advantages, the general principle of labour law applies first, according to which all the results of the employee's work belong to the employer in return for his remuneration. This is contrary, on another hand, to the principles of patent law. The latter protects the inventor as the intellectual author of the protected invention and transfers the rights of use to him. In particular, as stipulated in Section 6 of the German Patent Act (*Patentgesetz, PatG*), “the right to a patent shall belong to the inventor or his successor in title²⁶”.

In order to eliminate this contradiction between the employer's right to use an invention made by an employee and the patent protection of the inventor, the Employee Inventions Act (*Gesetz über Arbeitnehmererfindungen, ArbnerfG*) of 25 July 1957²⁷ was drawn up. With the changes introduced by the Patent Law Modernization Act, which entered into force on October 1, 2009, the Employee Inventions Act establishes a comprehensive set of rules, which regulates the proprietary rights of use associated with the invention and intellectual property rights arising from them, while leaving unchanged the personal rights of the inventor, including his right to be named as an inventor in patents²⁸.

²⁵ Shlomit, *supra note*, 11: 26.

²⁶ “Patent Act, as published on 16 December 1980, as last amended by Article 4 of the Act of 8 October 2017”, Federal Law Gazette, accessed 21 December 2022, https://www.gesetze-im-internet.de/englisch_patg/englisch_patg.html.

²⁷ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009”, Federal Law Gazette, accessed 21 December 2022, https://www.dpma.de/docs/dpma/schiedsstelle/employee_inventions_act.pdf.

²⁸ Bardehle Pagenberg Partnerschaft mbB, “Employee Inventions Law,” 2013, https://www.bardehle.com/uploads/files/Employee_Inventions_en.pdf.

First of all, what is important, Section 2 of the ArbNErfG defines the term “inventions” as “only those which may be the subject of a patent or of a utility model”²⁹. Therefore it is possible to constitute that the material scope of application of the abovementioned act covers only technical inventions, leaving out such kinds of employee inventions as designs and artistic creations.

Simultaneously, the ArbNErfG, which applies to both inventions and technical improvements made by employees, provides a clear distinction between them. The latter, unlike inventions, are not subject to compensation, since they may not be the subject of a patent or of a utility model³⁰. At the same time, according to Section 20 of the aforementioned act, there is still a possibility for an employee to receive reasonable remuneration from the employer for technical improvement proposals if they confer to the employer “an advantaged position similar to that obtained from an industrial property right³¹.”

While considering the applicability of the ArbNErfG to individuals, it should be noted that the definition of “an employee” enshrined in the act is the same as the generally accepted definition in German labour law³². Therefore, an employee is a person who undertakes tasks or provides services to which he or she is contractually obliged within a work organisational framework defined by an employer (this includes, in particular, provisions on the content, duration, time and place of performance of tasks or provision of services, etc).

At the same time, the scope of the concept of “an employee” in the meaning of the ArbNErfG doesn’t include the employer and persons holding employer-like positions in the company, along with legal representatives of the legal entities³³. Freelancers, commercial agents or retired persons can also not be covered by ArbNErfG as employees. The rights to inventions made by these people should be agreed upon separately in the contract concluded between the parties.

Taking into account the territorial scope of application of the ArbNErfG, it is noteworthy that it applies in the Federal Republic of Germany and, in cross-border cases, it

²⁹ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009,” *supra note*, 27.

³⁰ *Ibid.*

³¹ *Ibid.*

³² “Federal Supreme Court, X ZR 58/88,” DEJURE, accessed 21 December 2022, <https://dejure.org/dienste/vernetzung/rechtsprechung?Gericht=BGH&Datum=24.10.1989&Aktenzeichen=X%20ZR%2058/88>.

³³ “Federal Supreme Court, X ZR 165/04,” DEJURE, accessed 21 December 2022, <https://dejure.org/dienste/vernetzung/rechtsprechung?Gericht=BGH&Datum=21.12.2005&Aktenzeichen=X%20ZR%20165/04>.

covers employment relations that fall under the regulation of German law in accordance with the principles of private international law.

Thus if an employee habitually performs his official duties and carries out his work in another country, the legal norms of the respective country usually will apply to the relevant invention made by him. This creates a kind of pool for circumventing the provisions of the ArbNErfG that are not particularly beneficial for employers, including the payment of reasonable compensation for inventions made by employees.

The provisions of each individual employment contract are decisive in each case. If the parties have additionally stipulated in the employment contract the application of German law for the regulation of the relations under such contract, the relevant provisions of the ArbNErfG will apply. This is, for example, the case when both parties are not German citizens, but the employee works in Germany. In this case, it is not even necessary that the invention was made in Germany since German law applies to the employee-employer relationship³⁴.

However, the choice-of-law clause in an employment contract also has its limitations. In particular, it is not possible to avoid the application of the ArbNErfG by agreeing to the applicability of the foreign law to an employment contract that has its closest ties to Germany if this would lead to changes to the detriment of the employee since such provisions would contradict Section 22 of the ArbNErfG³⁵.

Speaking about the concept of “employer” in the meaning of the ArbNErfG, it is fixed, as well as the definition of employee, due to the general definitions of German labour law. The ArbNErfG also applies in cases where the employer is a legal entity that operates in Germany but is under foreign capital investment or management. The abovementioned act also covers cases, for example, when the invention is made in a German subsidiary of a foreign company which is a legal entity under German law³⁶.

Returning to the topic of inventions, the ArbNErfG distinguishes between two types of inventions: “service inventions” (also called “tied inventions”) and “free inventions” (Section 4 (1) ArbNErfG)³⁷.

³⁴ Meier, Schubert and Jaenichen, “Employees’ Invention Remuneration—Money (f)or Nothing?” https://www.vossiusandpartner.com/pdf/pdf_58.pdf.

³⁵ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009,” *supra note*, 27.

³⁶ Meier et.al, *supra note*, 34.

³⁷ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009,” *op.cit.*

Moreover, according to Section 4 (2) of the abovementioned act, service inventions can be divided into two subcategories: they are either “resulted from the employee’s tasks” in the company due to the employment contract or “are essentially based upon the experience or activities” of this company³⁸. The first subcategory of service inventions is directly related to the employee's work duties, primarily connected to the performance of research and development activities, which finally lead to the creation of an invention. While for the latter, it is crucial that the employee has access to the employer's experience or activities, which, through an obvious causal link, contributed to the inventive activity. At the same time, it does not matter whether the idea for the invention arose at the workplace during working hours or at home during a holiday. As soon as the above-mentioned aspects apply, the invention is considered a service invention.

All inventions made by employees during the term of employment that do not comply with the points mentioned before are free inventions (Section 4 (3) ArbNErfG)³⁹. For instance, an engineer in the automotive industry is engaged in developing engines and makes an invention in the field of clothing, e.g. a new type of ultralight sports shoes. This invention does not belong to the technology sector in which this employer is active, it did not arise from the engineer's tasks at his workplace, and it is not based on the engineer's experience gained in his employer's enterprise.

Depending on the type of invention, the rights and obligations of the employee and the employer differ, as well as the actions that each of them must take.

First of all, once an employee has completed a service invention, he has a duty to immediately notify the employer about this fact. In accordance with the requirements of Section 5 of the Act, the following notice should be made “in text form indicating that said writing constitutes the report of an invention⁴⁰”. This report should contain a description of the technical problem and its solution, together with attached notes that are necessary for an understanding of the invention. Besides, the report shall have “the service instructions and directions received by the employee, the experience and activities in the enterprise of which use was made, the employee's co-workers and the nature and extent of their contribution, and the report should underline the contribution which the employee making the report considers

³⁸ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009,” *supra note*, 27.

³⁹ *Ibid.*

⁴⁰ *Ibid.*

to be his own⁴¹". Confirmation of receipt of the invention report from the employee, the employer also carries out in text form without delay.

Timely notification of the employer about the invention, as well as a properly executed report, are extremely important, as they are, above all, a prerequisite for the employer to determine whether he will release the invention or claim it.

If the employer decides to claim the invention, he is required within 4 months after receiving an employee's proper report of the invention in text form not unequivocally waive his right to the invention. Since, due to Section 6 of the ArbNErfG, "the claiming of the invention shall be deemed to have been declared unless the employer expressly releases the service invention by making a statement in text form addressed to the employee, within four months after receipt of the due report"⁴². This is contrary to the concept that previously held, according to which the employee had ownership of the service invention and the employer was obliged to claim the invention's rights officially, which created an unnecessary bureaucratic burden and complicated an already complicated procedure.

At the same time, it is possible for the employer to declare claiming of the invention before the end of the four-month period. Then from that moment, the employer becomes the full owner of the invention.

The majority of service inventions are typically explicitly or implicitly claimed by the employer since such a claim is the only way for the employer to fully seize an invention and avoid leaving the inventor any rights that would allow him to use the invention on his own. The invention becomes free if the employer "releases it by making a statement in text form" within the aforementioned four-month period⁴³. In this case, such an invention still belongs exclusively to the employee, so he is free to sell it or license the invention.

As soon as the employer has acquired ownership of an invention made by an employee, he is obliged "to apply for a domestic industrial property right for a service invention reported to him"⁴⁴. If "the invention is capable for patent protection"⁴⁵, it could be done by filing a German or European patent application "unless, on an evaluation of the industrial applicability of the service invention, protection as a utility model appears more appropriate

⁴¹ "Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009," *supra note*, 27.

⁴² *Ibid.*

⁴³ *Ibid.*

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

⁴⁶”. The employer is required to notify the inventor of all application-related information and to keep him updated on the application's progress.

In addition, the employer has the possibility of applying for industrial property protection abroad. Due to Section 14 of the ArbNErfG and provisions of the Paris Convention for the Protection of Industrial Property⁴⁷, the employer must notify the inventor of the countries of filing a foreign application for registration of an invention by the end of the priority year, allowing the inventor to submit his own foreign applications in other countries within the above mentioned period in his own name and at his own expense. In such a scenario, the employer is permitted to reserve a non-exclusive right to use the invention in the concerned foreign countries. The employee cannot compel the employer to give up these rights unless the inventor can demonstrate that doing so would be an unreasonable burden and hinder him from successfully using his invention in this country.

Especially decisive in this context is the so-called “*Hafteticket*” court decision of the Federal Supreme Court of Germany⁴⁸. In this judgement, the court recognised that an employer might be held liable for damages caused to an employee in a case if the employer used an invention without registering it as a patent or utility model in a foreign country, which resulted in the employee's inability to register such invention in this country.

A former employee of a sticky labels-producing company created a natural rubber glue during his employment period. The employer patented an invention in Germany and foreign countries and then used the invention in the production of labels in some of these countries, as well as in Australia, where the patent for this invention was not registered. Later, production was halted. Nevertheless, since the former employer used the employee's invention in Australia without registration, the latter could not patent it there. He successfully sued for reimbursement.

The court held that due to the provisions of employment law, an employer was not required to patent an employee's invention. Nevertheless, he must tell the employee in which countries it is not registered. This commitment is grounded on an employer's broad duty to act in his employees' interests and former employees' as well.

⁴⁶ “Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009;” *supra note*, 27.

⁴⁷ “Paris Convention for the Protection of Industrial Property (as amended on September 28, 1979),” WIPO Lex, accessed 21 December 2022, <https://wipo.lex.wipo.int/en/text/287556>.

⁴⁸ “Federal Supreme Court, X ZR 155/03” JURIS, accessed 21 December 2022, <https://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&Datum=2006-4&Seite=7&nr=36486&pos=211&anz=215&Blank=1.pdf>.

Considering the subject of this master's thesis, the provision of Section 9 of the ArbNErfG demands particular consideration. Following the above-mentioned provisions, an employee obtains the right to receive reasonable compensation for service invention after the employer has claimed it.

The highly important document that complements the legislative framework governing inventors' rights to compensation is the Guidelines for the Compensation of the Inventions of Employed Inventors (*Richtlinien für die Vergütung von Arbeitnehmererfindungen im privaten Dienst*, further - the Guidelines)⁴⁹, published by the Federal Ministry of Economics and Labor on 20 July 1959. These Guidelines regulate the issue of reasonable remuneration by giving different practical tools for consideration.

Section 12(1) of the ArbNErfG permits the conclusion of individual agreements concerning the type and amount of remuneration⁵⁰. These agreements should be made within a reasonable time, and only once the service invention has been disclosed to the employer. It is possible for either party to request a review of such an agreement, for instance, in situations with severe inequality. As stipulated in Section 23 of the ArbNErfG, both the employee and the employer have the right to invoke the inequity of compensation settlement or agreement within six months after the employment contract has been terminated and must do so in the form of a written statement that is addressed to the other party⁵¹. In addition, if there are major modifications that are required and call for a new evaluation, both parties have the right to demand an adjustment in the remuneration from the other party.

In the event that the employee and the employer are unable to reach an agreement within a reasonable amount of time about the terms and conditions of the employee's compensation, the employer is required to calculate the level of compensation in a written statement that provides his reasons. This statement must be submitted within three months after the issuance of the patent. After that, within the two months period, an employee who does not agree with the terms of the settlement has the opportunity to object to it by submitting the corresponding statement in written form⁵².

⁴⁹ "Guidelines for the Compensation of the Inventions of Employed Inventors of 20 July 1959, as last amended by the Guidelines of 01 September 1983," Federal Law Gazette., accessed 21 December 2022, <https://www.dpma.de/docs/dpma/richtlinienfuerdieverguetungvonarbeitnehmererfindungen.pdf>.

⁵⁰ "Employee Inventions Act of 25 July 1957, as last amended by the Act of 24 June 1994, last amended by Article 7 of the Act of 31 July 2009," *supra note*, 27.

⁵¹ *Ibid.*

⁵² *Ibid.*

Furthermore, the employee may submit a claim with the German Patent and Trademark Office's Board of Arbitration if he disagrees with the amount of compensation. The Board of Arbitration may provide a nonbinding proposal to resolve the matter. If the parties cannot agree on an amount, they may ask the court to do so ⁵³.

However, in the majority of situations, companies, as well as courts, and arbitrators use the Guidelines' rules to determine the amount of reasonable compensation.

To calculate remuneration for an invention made by an employee, special consideration should be given to four aspects:

- 1) the invention's value,
- 2) the task,
- 3) the solution of the task,
- 4) the employee's position within the company⁵⁴.

First of all, it is necessary to calculate the value of the invention. For this purpose, the Guidelines offer several ways of calculation, but in practice, the most popular is "license analogy". After determining the invention's value, the other three aforementioned components are evaluated to calculate the employee's "share factor". The formula takes into account all of these factors when determining the amount of compensation.

Due to paragraph 29 of Section 3 of the Guidelines, the so-called "licence analogy" method suggests that the remuneration for inventors may be calculated by using the following formula:

$$V = A \times E,$$

whereas:

V = compensation/remuneration,

A = employee "share factor",

E = value of an invention⁵⁵.

Returning to the calculation of the value of the invention, it should be noted that this process includes two important components.

First aspect is to ascertain what would be considered an appropriate royalty in the relevant sector of industry. Section 1a of the Guidelines indicates the approximate size of such

⁵³ Meier et.al, *supra note*, 34.

⁵⁴ Alain Strowel, "Employee's rights to compensation for inventions - a European perspective," in *Practical Law Company, PLC Cross-border Life Sciences Handbook* 2009/10, Practical Law Company 2010, 68, <http://hdl.handle.net/2078.3/137>.

⁵⁵ "Guidelines for the Compensation of the Inventions of Employed Inventors of 20 July 1959, as last amended by the Guidelines of 01 September 1983," *supra note*, 49.

royalty rates for different sectors⁵⁶. Furthermore, it is stated that their amount depends on the coherence of the characteristics of the invention, in particular, its parameters, requirements for operation, the question of whether the invention can easily be integrated into ongoing production, etc. Simultaneously, additional attention should be paid to the extent to which the subject matter of the invention is protected by the property right that has been given to it, as well as the question of whether or not ownership of the property right has an impact, both technically and monetarily, on the operation.

The second aspect that has to be taken into consideration in order to accurately calculate the value of the invention is the digression of turnover in the scenario that the invention is highly successful economically. In accordance with the provisions of paragraph 11 of Section 1a of the Guidelines, in the case the turnover exceeds the predetermined limitations, the royalty rate will be proportionately and gradually decreased. However, the application of such restrictions is contingent upon the prevalence of this practice within the respective sector of industry. The analysis of the pertinent court practice provides grounds to assert that the amount of turnover exceeding, which is the basis for reducing the royalty rate, differs from case to case.

At the same time, it should be noted that not only the employer's annual turnover but also his worldwide cumulative profit ever since he started using the invention should be considered, especially the situations when high turnover is caused by the employer's ability to use the monopoly position due to the invention⁵⁷.

Overall, in order to calculate reasonable compensation for an employee's invention, in addition to determining the value of the invention, it is also necessary to calculate the share factor. Due to paragraph 30 of Section 2 of the Guidelines, the latter is to be determined by combining three characteristics: setting the task, solving the task and considering the position of the employee in the company⁵⁸.

First of all, it must be established to what degree the employee's own initiative was contributing to the creation of the invention made on the completion of the task. The number of points that an employee can receive according to this component varies from 1 to 6. The inventor will receive the lowest amount of the points on the scale if the employer has set him a

⁵⁶ *Ibid.*

⁵⁷ Heinz Goddar, "Employees' Inventions and Model Agreements for Industry-Research Collaboration," paper presented at 9th INPRO Dialogue Forum "International Collaboration on Innovations towards Globally Sustainable Nuclear Energy", IAEA, Vienna, November 18-21, 2014.

⁵⁸ "Guidelines for the Compensation of the Inventions of Employed Inventors of 20 July 1959, as last amended by the Guidelines of 01 September 1983," *supra note*, 49.

specific task, as well as provided specific instructions and tools for its implementation, explained the algorithm and principles of solving the problem. At the same time, if the employee, guided by his own initiative, independently created an invention that went beyond his standard professional activities, without receiving additional help and assistance from the employer, he will receive the highest number of points.

That is, the employee’s level of initiative and autonomy throughout the inventive process is directly correlated with the financial reward he receives as compensation for his invention.

Secondly, another factor that must be considered in the process of compensation calculation is the degree to which the employee relies on the employer’s resources to resolve the task. If the solution was made because of the inventor’s professional job-related skills, using the company’s specific knowledge and technical tools, the inventor will receive only 1 out of 6 points for this component. In other words, the less is the involvement of the company in the creation of the invention, the greater will be the remuneration of the employee-inventor.

Finally, particular attention should be paid on the employee’s duties and his position within the company. The more an employee’s job responsibilities and role in the workplace require him to be engaged in inventive activity, the less points he will receive according to this component. Employees who basically had no prior competent qualification or training for the activities performed in the company, such as untrained workers or trainees, will receive the highest point out of 8 possible. While employees whose primary job tasks include the exact performance of innovative activity, such as, for example, heads of the development department, are likely to obtain the lowest number of points possible.

In accordance with paragraph 37 of Section 2 of the Guidelines, the points awarded for of the three criteria mentioned above are added together and their sum is then used to determine the percentage share of A in the invention due to the following table⁵⁹:

a + b + c	=	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	(20)
A (%)	=	2	4	7	10	13	15	18	21	25	32	39	47	55	63	72	81	90	(100)

Additionally, it should be noted that in the case of co-invention, the amount of compensation should be distributed among all inventors, taking into account their involvement in the creation of the relevant invention.

⁵⁹ “Guidelines for the Compensation of the Inventions of Employed Inventors of 20 July 1959, as last amended by the Guidelines of 01 September 1983,” *supra note*, 49.

It is also important to note that the amount of compensation payable to an employee-inventor may also be calculated in other ways. In particular, according to the Guidelines' provisions, a certain percentage of benefits to the company from reduced internal costs due to the invention might be used as one basis for calculating the employee's remuneration. This method is best suited for inventions that are related to improving the company's functioning rather than final products, as it is impossible to calculate their direct impact on the company's turnover. Finally, another possible method of calculating could be presented for scenarios involving cross-licensing that do not include any royalty income to be evaluated.

Furthermore, the form of payment for the compensation may be chosen by the parties. Due to the Guidelines it can be either an ongoing payment or a lump sum. As a general rule, payment of compensation is made once per year and is calculated based on the employer's total commercial turnover made in the prior year. But the parties can also agree on the payment of remuneration in the form of a one-time payment. The amount and procedure for calculating such remuneration may be determined on the basis of company's guidelines, and must be additionally agreed by the employee.

The ArbNErfG provides the employer's broad right to acquire and use the innovation. While the employee-inventor receives fair compensation in return both as payment for his unique contributions and as an incentive for more inventiveness and creativity in the future.

German legislation covering the issue of reasonable compensation for inventions made by an employee represents a clearly systematised and detailed structure. Such a comprehensive system, on the one hand, is supposed to minimise the risks associated with improper and unfair determination of compensation for employee inventions. However, on the other hand, a rather complicated calculation process itself, constitutes too bureaucratic structure, which is also quite costly. This fact is considered a detriment to the investment attractiveness of Germany on the world arena. Some of the elements of this complex system need to be simplified.

2.2. Employee inventions in the French Republic

Another European country that deserves particular attention in the context of the analysis of employee-devised inventions is the French Republic. This EU Member State is considered to be one of the leading countries in inventive activity⁶⁰. Its approach to legislative

⁶⁰ "How France ramped up its capacity to innovate," Nature, accessed 21 December 2022, <https://www.nature.com/articles/d41586-022-01803-y>.

regulation of employee inventions is different, especially in comparison with German legal norms analysed earlier.

The main legislative act containing the key legal principles regarding the ownership of inventions created by employees, as well as payments related to them, is the French Intellectual Property Code (*Code de la Propriété Intellectuelle*) No. 92–597 of July 1, 1992 (hereinafter - CPI)⁶¹. In particular, Article L. 611–7 of the above-mentioned Code determines who will be the owner of the invention created by an employee in the course of employment.

As a general rule, if the invention was devised “by a salaried person in the execution of a work contract comprising an inventive mission corresponding to his effective functions or of studies and research which have been explicitly entrusted to him⁶²”, this so-called “*invention de mission attribuable*” should belong to the employer.

This provision of French law differs from the corresponding norms of German legislation regarding the moment of the employer’s acquisition of ownership rights to the invention, as the transfer of rights from the employee is immediate and automatic.

Along with that, the employer is required to notify the employee who created an invention assigned to the employer whenever this invention “is subject to an application for an industrial property title and upon the issuance, if applicable, of this title⁶³.” Despite the lack of a concrete sanction in the Article for an employer’s breach of duty to inform an employee of the status of patent registration, any violation of this obligation may have an effect on the determination of the timeline of application of the appropriate statute of limitations for payment of additional compensation.

In the case specified in part one of the Article L.611–7 of the CPI, whereas the employer obtains ownership rights of the invention, the employee who created such an invention receives additional remuneration (“*rémunération supplémentaire*”). The amount of such remuneration may be stipulated by the collective agreements, usually developed for a certain industrial sector in general, or company agreements, created within the company and applicable to all its workers, as well as determined by individual employment contracts⁶⁴.

In practice, the most common way to define the amount and procedural peculiarities of paying compensation for employee-made inventions is the enshrining of the relevant

⁶¹ “Code de la Propriété Intellectuelle (version consolidée au 22 mai 2020),” WIPO, accessed 21 December 2022, <https://wipolex.wipo.int/en/text/569956>.

⁶² *Ibid.*

⁶³ *Ibid.*

⁶⁴ “Code de la Propriété Intellectuelle (version consolidée au 22 mai 2020),” *supra note*, 61.

provisions on a contractual basis. At the same time, there are cases when the size of remuneration specified in the contracts are appealed and the court awards much higher compensation. For example, in the decision of the French Supreme Court an employee was awarded an additional remuneration of 830 000 USD as compensation for the use of a patent for a prostatecancers pharmaceutical treatment⁶⁵. However, such court decisions are rather rare than widespread practice. In any case, the terms of agreements on remuneration cannot be less favourable for the employee than those established by law.

Since there are no clear criteria for determining the amount of additional remuneration in the French legislation itself, when resolving this issue in court, case law relates on its own definition of such criteria, taking into account the specifics of each case. Generally, the court considers many factors, including the employee's personal contribution, the invention's commercial importance, the research's overall context, and the invention's difficulty and complexity⁶⁶.

Previously, the judicial practice was common, in which the employee's salary was taken as the basis for calculations, however, with the recent court decisions, the courts have moved away from this practice.

If the employee believes that the employer who obtained the ownership of the invention did not pay him additional compensation in the proper amount, he can file a claim for additional compensation under Article L.3245-1 of the French Labour Code (*Code du travail*)⁶⁷. In this case, such claims of employees are subject to a statute of limitations of three years "from the day the holder of a right knew or should have known the facts enabling him to exercise his right⁶⁸". At the same time, there is a significant space for interpretation of when the employee found about such violation and, therefore, when the statute of limitation should begin to run.

Relevant in this regard is a court decision of Paris Civil Court of March 23, 2018⁶⁹,

⁶⁵ "Cour de Cassation, Chambre commerciale, du 21 novembre 2000, 98-11.900, Publié au bulletin," Legifrance, accessed 21 December 2022, <https://www.legifrance.gouv.fr/juri/id/JURITEXT000007043272/>.

⁶⁶ "Cour d'appel de Paris, Pôle 5 chambre 2, 9 mars 2018, n° 16/24260," Doctrine, accessed 21 December 2022, <https://www.doctrine.fr/d/CA/Paris/2018/INPIM20180111>.

⁶⁷ "Code du travail," Legifrance, accessed 21 December 2022, https://www.legifrance.gouv.fr/codes/section_lc/LEGITEXT000006072050/LEGISCTA000006178030/#LEGISCTA000006178030.

⁶⁸ *Ibid.*

⁶⁹ "Tribunal de grande instance de Paris, 3e chambre 2e section, 23 mars 2018, N° RG : 15/00961," Doctrine, accessed 21 December 2022, https://www.doctrine.fr/inscription?redirect_to=%2Fd%2FTGI%2FParis%2F2016%2FFR2923EA9985AE54D55751&require_login=false&sourcePage=Decision&kind=decisions.

which established that the statute of limitation for an inventor-employee's claim for additional remuneration starts to run when the employer provides and makes available to the employee explicit rules on the system of this remuneration⁷⁰. Meanwhile, it is the employer who bears the burden of proof regarding the proper notification of the employee about these rules.

If such rules were not properly published by the employer, due to the court's opinion, "one should concretely assess, with respect to the facts of this case and in particular the employee's duties in the company or those duties he performed after his departure related or not related to the invention he claims or the employee's access to the information necessary to bring his claim for payment, the date on which he had or should have had knowledge of this information⁷¹."

All other inventions that do not fall within the scope of the part one of the Article L.611–7 of the CPI shall belong to the employee⁷². However, the point to be considered in this regard is the exception enshrined in the the part 2 of the Article L. 611–7 of the CPI, due to which in the case if the invention was made "by a salaried person during the execution of his functions or in the field of activity of the company or by reason of knowledge or use of technologies or specific means of the company or of data acquired by the company⁷³" the employer under certain conditions, established by the Council of State, has the right to assign to him "the ownership or enjoyment of all or some of the rights in the patent protecting his employee's invention⁷⁴". In other words, in such a case, the invention made by the employee belongs to him until the employer claims it.

At the same time, the employee-inventor in this situation has the right to "obtain a fair price which, failing agreement between the parties, shall be stipulated by the joint conciliation board⁷⁵" or court. During calculation of the size of compensation for so-called "*inventions hors mission attribuables*" it is necessary to "take into consideration all elements which may be supplied, in particular by the employer and by the employee, to compute the fair price as a function of both the initial contributions of either of them and the industrial and commercial utility of the invention⁷⁶." The amount of such a fair price is usually higher than the additional

⁷⁰ *Ibid.*

⁷¹ "Tribunal de grande instance de Paris, 3e chambre 2e section, 23 mars 2018, N° RG : 15/00961," *supra note*, 69.

⁷² "Code de la Propriété Intellectuelle (version consolidée au 22 mai 2020)," *supra note*, 61.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ *Ibid.*

⁷⁶ *Ibid.*

remuneration that the employee receives in case of the creation of the invention, in accordance with part one of the Article L. 611-7 of the CPI.

As a result, the employees are more interested in having their invention classified under the second part of Article L. 611-7 of the CPI and receiving a fair price for it, while the employer's position in such a situation is different.

In order to resolve contradictions in this regard, it is necessary to consider whether the invention was made by the employee in order to fulfil the "inventive mission" enshrined in the employment contract or entrusted in instructions. In this context, according to the position of the Supreme Court, the inventive mission lies in "finding a solution to a technical problem" and conducting research and testing to achieve this goal⁷⁷. At the same time, the mere presence of an "inventive mission clause" in the contract is not sufficient evidence for the court until the essence of the contract does not determine that the effective mission entrusted to the employee was the mission of creating inventions⁷⁸. For this issue's correct resolution, a detailed analysis of the specific situation and particular employment contract is required. The circumstances to be determined are much easier to establish if the relevant provisions have been clearly set out in the employee's job description. But this is not always the case, so this issue is usually referred to the court.

After resolving this question, the courts need to establish the amount to be paid to the employee for his invention. The system of remuneration can be divided into three types: a lump sum, an exploitation-related sum, or a combination of both⁷⁹. The type of payment and its procedural specifics are fixed on a contractual basis.

Finally, among the inventions made by employees, the third category "*inventions hors mission non attribuables*" can be distinguished. Such inventions usually take place in the case when the invention is not related to the employer and is beyond his interest.

The mutual information shared by both parties is necessary for the accurate classification of an invention into one of three categories mentioned before. The regulatory rules provide a notification mechanism, which consists of an employee filling out a declaration form with information pertaining to the purpose of the invention, the conditions of its creation, and the categorisation that he offers. In cases where classification suggests that the employer has a right of attribution, the declaration needs to be accompanied by a description that reveals

⁷⁷ Didier Intes and Sophie Losfeld, "Calculating inventor compensation," *Patent World Issue* 212 (2009): 17, https://www.bdl-ip.com/wp-content/uploads/2020/01/COMPENSATING_patentworld0509.pdf.

⁷⁸ *Ibid.*

⁷⁹ *Ibid.*

the problem that the employee was trying to solve as well as, if at all possible, the current state of the art, the solution that was offered, and at least one example of a possible embodiment, along with drawings, if there are any⁸⁰. After receiving of the employee's declaration by the employer, the latter must agree on the categorisation of the invention provided by the employee within 2 months, otherwise, the employer's consent to the classification provided by the employee is presumed.

Finally, it is worth noting that the French legislation in the field of employee inventions is undergoing constant changes. Some of these changes simplify the existing processes, and some increase the procedures' complexity. For instance, one of the favourable changes in the perspective of employer's positions was recently introduced by the Ordinance n°2021-1658 of 15 December 2021⁸¹. In accordance with these amendments, the scope of the automatic assignment regime was extended to individuals that do not belong to the list of employees, in particular doctoral students, interns, etc. Basically, it means that both private and public legal entities that carry out inventive activities received the opportunity to benefit from the transfer of intellectual property rights to inventions from employees as well as self-employed inventors involved in the process of creating an invention if the notification requirement described above is met⁸².

Summarising all of the above, the analysis of the court practice on the application of the criteria for calculating fair compensation for inventions made by an employee shows that there is a wide range of approaches to such calculation, and therefore there is uncertainty in assessing its amount and disputes between the employee and the employer on this issue.

2.3. Employee inventions in Switzerland

In the context of comparing the legal provisions on employee inventions in different jurisdictions, Switzerland deserves special attention.

⁸⁰ Didier, *supra note*, 77: 18.

⁸¹ "Ordonnance n° 2021-1658 du 15 décembre 2021 relative à la dévolution des droits de propriété intellectuelle sur les actifs obtenus par des auteurs de logiciels ou inventeurs non-salariés ni agents publics accueillis par une personne morale réalisant de la recherche," Legifrance, accessed 21 December 2022, <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000044501327>.

⁸² "French IP law update – the delicate balance between employers and inventors: a French revolution?" K&L Gates, accessed 21 December 2022, <https://www.klgates.com/French-IP-Law-Update-The-Delicate-Balance-between-Employers-and-Inventors-A-French-Revolution-1-20-2022>.

First of all, this small European country was recognised as the most innovative economy in the world, due to the Global Innovation Index 2022 rankings⁸³, published on 29 September 2022 by the World Intellectual Property Organization (WIPO).

Switzerland has been consistently at the top of this ranking for many years. And as noted by Investment Monitor chief economist Glenn Barklie, innovation is the key factor for the stable growth of the Swiss economy⁸⁴, while most inventions there are created by employees.

Moreover, according to Switzerland's Federal Statistics Office, foreign workers accounted for 32.2% of the country's workforce in 2021⁸⁵, which indicates quite favourable conditions for the employment of workers in Switzerland.

Secondly, Switzerland is not a member of the EU, so it is free from many mandatory legal regulations that are binding on EU member states.

As in most countries, the applicant or priority principle also applies in Switzerland. According to Article 3 of the Federal Act on Patents for Inventions (*Patentgesetz, PatG*), if several inventors have created an invention at the same time but independently of each other, "the person who makes the earlier application or whose application has the earliest priority date has this right⁸⁶."

The issue of employee-created inventions is regulated in Article 332 of the Swiss Code of Obligations (*Obligationenrecht*)⁸⁷. Under Swiss law, inventions made by employees can be divided into three categories: the "service invention" (*Diensterfindung*), the "occasional invention" (*Gelegenheitsfindung*) and the "free invention" (*Freie Erfindung*)⁸⁸.

"Inventions and designs produced by the employee alone or in collaboration with others in the course of his work for the employer and in performance of his contractual

⁸³ "World Intellectual Property Organization (WIPO) (2022). Global Innovation Index 2022: What is the future of innovation-driven growth?" WIPO, accessed 21 December 2022, <https://tind.wipo.int/record/46596>.

⁸⁴ "Switzerland ranked as the most innovative country in the world," Investment Monitor, accessed 21 December 2022, <https://www.investmentmonitor.ai/news/switzerland-ranked-as-the-most-innovative-country-in-the-world#:~:text=Switzerland%20is%20the%20most%20innovative.positions%20two%20to%20five%2C%20respectively>.

⁸⁵ *Ibid.*

⁸⁶ "Bundesgesetz über die Erfindungspatente", Fedlex, accessed 21 December 2022, https://www.fedlex.admin.ch/eli/cc/1955/871_893_899/de.

⁸⁷ "Bundesgesetz vom 30. März 1911 betreffend die Ergänzung des Schweizerischen Zivilgesetzbuches, Fünfter Teil: Obligationenrecht", Fedlex, accessed 21 December 2022, https://www.fedlex.admin.ch/eli/cc/27/317_321_377/de#part_1/tit_1/sec_1.

⁸⁸ Sarah Henneberger-Sudjana / Fred Henneberger, "Gesonderte Honorierung von Diensterfindungen als Beitrag zur (besseren) wirtschaftlichen Entwicklung?" Nr. 128 der Reihe DISKUSSIONSPAPIERE des Forschungsinstituts für Arbeit und Arbeitsrecht an der Universität St. Gallen, St. Gallen, Oktober 2013.

obligations belong to the employer, whether or not they may be protected⁸⁹.” This means that if, in accordance with the position of the employee at the workplace, it can be at least expected that he will act in the direction related to the discovery of the invention and the subject matter of the invention is related to the employee's job description, this is sufficient to consider such an invention as so-called “service invention”.

Whether the invention was actually made in the course of the employee’s work and in fulfilment of his contractual obligations depends on each individual case. Relevant criteria in this context relate to the specification of duties in the employment contract, the salary received by the employee or whether the employee had the employer's working tools or technical means at his disposal. It is not mandatory that the invention is made at the workplace or during working hours. What is decisive is the factual connection to the employee's usual activity, as well as it is a necessary condition that the patentable creation was completed during the employment relationship.

If the invention is a “service invention”, the remuneration for the invention is included in the employee's salary and there is no additional obligation for the employer to pay additional compensation by law. From the employer’s point of view, it is therefore recommended to formulate the duties under the employment contract as comprehensively as possible and to include any creative activity⁹⁰.

As an example, we can consider the situation when a research team in the development department of a pharmaceutical company finds a new active substance. The invention made by the researchers, in this case, is a so-called “service invention” and belongs directly to the employer. The employer decides whether to patent it and exploit it commercially. The researchers are entitled to the honour of inventorship, i.e. the right to be named as inventors in the patent application. However, they do not receive any special remuneration for their work, as it is compensated with their salary.

In essence, the Swiss definition of a “service invention” also corresponds to the German definition. A clear difference, however, is the absence of rights for remuneration in Switzerland. Germany, on the other hand, states that the employee has this right in any case. The only prerequisite is the use of the invention by the employer. If this does not happen, the

⁸⁹ “Bundesgesetz vom 30. März 1911 betreffend die Ergänzung des Schweizerischen Zivilgesetzbuches, Fünfter Teil: Obligationenrecht”, *supra note*, 87.

⁹⁰ Simone Brauchbar Birkhäuser, Dr. Birgit Matl, “Geistiges Eigentum – Die Rechtslage im Arbeitsverhältnis,” *KMU-Magazin*, 9 (2016): 1, <https://www.kmu-magazin.ch/im-fokus/geistiges-eigentum-die-rechtslage-im-arbeitsverhaeltnis>.

employee has all rights to the invention. In any case, the employee-inventor in Germany does not go away empty-handed.

If an employee makes an invention while performing his official duties, but outside his assigned area of responsibility, this invention may be defined as an “occasional invention”. This is the case, for example, if an engineer working on the development of ultralight sports car components in the automobile manufacturing company comes across a biodegradable plastic that can be used for food packaging. This result cannot be assigned to the engineer’s actual area of responsibility and is, therefore, an “occasional invention”.

Although the “occasional invention” was not made in the performance of contractual duties, it is factually related to the performance of the employee’s official duties⁹¹. Here, too, it is not mandatory that the patentable creation took place at the workplace or during working hours. The rights to “occasional inventions” arise in the person of the employee.

However, the employer may secure the acquisition of such inventions or partial rights thereto by prior express written agreement. As stipulated in Article 332 of the Swiss Code of Obligations, “by written agreement, the employer may reserve the right to acquire inventions and designs produced by the employee in the course of his work for the employer but not in performance of his contractual obligations⁹².”

In this situation, the employee who made the invention “must notify the employer thereof in writing; the employer must inform the employee within six months if he wishes to acquire the invention or design or release it to the employee⁹³.” If employer claims the invention, the employee has an unconditional right to appropriate compensation in return. If he does not, he releases the invention to the employee.

“Where it is not released to the employee, the employer must pay him separate, appropriate remuneration to be determined with due regard to all pertinent circumstances and in particular the economic value of the invention or design, the degree to which the employer contributed, any reliance on other staff and on the employer’s facilities, the expenses incurred by the employee and his position in the company⁹⁴.”

Since the rights in the case of an “occasional invention” originate with the employee, a written transfer to the employer is also necessary.

⁹¹ “Intellectual Property Rights in Employment Relationships,” *Entrepreneur Law*, accessed 21 December 2022, <https://entrepreneur-law.blog/2022/12/12/intellectual-property-rights-in-employment-relationships/>.

⁹² “Bundesgesetz vom 30. März 1911 betreffend die Ergänzung des Schweizerischen Zivilgesetzbuches, Fünfter Teil: Obligationenrecht”, *supra note*, 87.

⁹³ *Ibid.*

⁹⁴ *Ibid.*

Returning to the example of the invention of biodegradable plastic made by an engineer during his official work on the development of ultralight parts for sports cars. This invention was made in the course of the engineer's work, but not in the performance of his contractual obligations since the engineer in the automobile manufacturing company is not engaged in the development of biodegradable plastic for product packaging.

If the automobile manufacturing company, where the engineer works, has reserved the right to such “occasional inventions” in writing in the employment contract with the engineer and uses this invention, the engineer is entitled to remuneration, which is to be assessed according to the criteria mentioned above. If such a right has not been stipulated, the engineer alone is entitled to the invention and can dispose of it freely. The automobile manufacturing company has no claims whatsoever.

For the sake of completeness, “free inventions” should also be mentioned. These are inventions that were made neither in the performance of official nor contractual duties of the employee. Consequently, the employee holds all rights associated with the invention and has the right to the grant of the patent ⁹⁵, as set forth in the Article 3 of the Federal Act on Patents for Inventions (Patentgesetz, PatG). Therefore, no claim for remuneration can be asserted against the employer.

For example, the engineer mentioned above developed a reusable notebook from fallen leaves with his wife in his free time. By law, such a “free invention” is neither subject to the acquisition of rights by the employer nor to an obligation to compensate. If the employer, in our example the automobile manufacturing company, also wants to acquire the rights to such an invention, he must expressly regulate this in the employment contract.

Unless otherwise stipulated in the contract, the prevailing view is that the legislative provisions on “occasional inventions” apply by analogy. Such regulation is permissible within the limits of the protection of the employee's privacy.

If there is no relevant clause in the employment contract, the employee is free to use the invention. Of course, the general non-compete clause in the employment contract remains in force during the employment relationship.

Compared to other European countries, the situation of the employer in Switzerland looks very comfortable. By appropriately structuring employment contracts, he can largely secure the rights to the results of work and not be afraid of any claims for compensation, at least in the case of “service inventions”. At the same time the employee is in a much weaker

⁹⁵ “Bundesgesetz über die Erfindungspatente”, *supra note*, 86.

and less protected position. Because in the case of creating a service invention, he does not even receive additional payment for his invention, but only a salary, while his employer can gain huge profits from the use of such an invention.

2.4. Employee inventions in Great Britain

The United Kingdom of Great Britain and Northern Ireland (hereinafter - UK) is another country whose interesting system for determining the appropriate remuneration for inventions made by employees is also worth exploring. On the one hand, this is due to the fact that this country is also European, but occupies a special position in Europe in various fields, especially in view of Brexit, and on the other hand, taking into account the fact that it belongs to the common law system.

UK is one of the outstanding examples of a highly developed country with a market economy. Going back in its historical development to the period of corporate capitalism, we come across the words of Lord Simonds, who said that: “it is implied term in the contract of service of any workman that what he produces by the strength of his arm or skill of his hand or the exercise of his inventive faculty shall become the property of his employer⁹⁶”.

This issue was regulated in favour of strengthening the role of the employer due to the fact that there were numerous cases when employees prohibited employers from using their inventions in business. That is why the previous regulation, according to which the invention could belong to the employee, even if it was made while working for the employer and using his tools, was changed taking into account the new challenges of modern times.

Further attempts to legislatively regulate the issue of employee inventions were aimed at finding an optimal balance between the interests of the employer and fair treatment of the employee.

Nowadays, the legal basis for employee inventions in UK legislation is reflected in the section 39 of the Patents Act 1977, due to which: “an invention made by an employee shall, as between him and his employer, be taken to belong to his 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

⁹⁶ William Cornish, *Intellectual property: Patents, Copyrights, Trade Marks and Allied Rights* (London: Sweet & Maxwell, 2007), 272-273.

(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 undertaking⁹⁷”.

For a better understanding of the above legal provisions, first of all, it is necessary to explain some of the terms used in them. Normal duties are to be understood as everything that is mentioned in the employment contract as a job description or in collective agreements and thus describes the tasks of the employee. If, for example, a scientist has been employed to invent, this is to be summarised under normal duties. It should also be noted that the invention must fall within the employer's field of work in order to be flanked as a service invention. At the same time, it is irrelevant whether the invention was made during working hours or free time⁹⁸.

The second aspect that needs to be considered in a more detailed way is the specifically assigned duties. This means nothing less than that in the course of working life the activity and the associated work duties can change or expand. These are additional work duties that are not explicitly mentioned as standardised points in the employment contract⁹⁹.

The last aspect to be clarified is the concept of the invention that should be reasonably expected. This means that an employee from a mechanical or non-creative area is not expected to make inventions, while the situation is different for an employee in a research department, for example¹⁰⁰.

Continuing the analysis of the above mentioned article, in particular its second part, it is notable to point out that the right to the invention is also granted to the employer if the employee-inventor has made the invention in the course of his work duties and has a particular obligation to promote the business interests of the employer due to the nature of his duties and special responsibility. This simply means employees in higher decision-making levels¹⁰¹.

The head of the branch office, for example, is more closely involved in the company's success by meeting predefined corporate targets, expressed in sales figures, and should be aware of this responsibility. This results in a special obligation to promote the interests of the

⁹⁷ “Patents Act 1977,” LegislationGovUK, accessed 21 December 2022, <https://www.legislation.gov.uk/ukpga/1977/37/section/39>.

⁹⁸ Hans-Christian Hausmann, *Das Arbeitnehmererfindungsrecht in Deutschland und Großbritannien – Eine Rechtsvergleichung*, (Hamburg: Verlag Dr. Kovač, 2011), 106-107.

⁹⁹ *Ibid.*

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*

employer, which can be reflected, for example, in a well-implemented management style. The relationship between employer and employee creates a basis of trust which would be disturbed if the employee wanted to claim an invention for himself.

Therefore, the legal provisions analysed above outline a description of the mandatory features according to which an invention must be recognized as belonging to the employer. According to the section 39 (2) of the Patents Act 1977, in all other cases, the invention is considered to belong to the employee¹⁰².

The general concept of characteristics that determine on what grounds an invention made by an employee will belong to the employer, as defined by British law, generally correlates quite strongly with the relevant provisions in German law, analysed in the master thesis earlier.

However, in the case of comparing these two legal systems, a significant difference can be noted, which is associated with the absence of the employer's obligation to patent the invention created by the employee in the UK, while such an obligation is enshrined in German law, as mentioned above. The reason for this is that the employer bears the entrepreneurial risk and does not want to register all inventions that he receives by law. This may include inventions of which he is not convinced. A registration would cause costs and thus increase the mentioned entrepreneurial risk¹⁰³.

For the employee, however, this can be disadvantageous. For example, the employee has no possibility to receive a claim to remuneration without an application for an intellectual property right. Even if the employer were not subject to this obligation, the employee has a greater chance of obtaining a claim to compensation under the German legal system, since an intellectual property rights application is not required in all cases, for example, in the case of technical improvements. While in the UK there are no relevant legal provisions that regulate this topic, and therefore the employee is in a more vulnerable position.

British law has much fewer legal requirements compared to countries with civil law systems, as freedom of contract has a higher priority.

Focusing on the issue of compensation for inventions made by employees in British legislation it is necessary to refer to section 40 of the Patents Act 1977¹⁰⁴. First of all, in the case enshrined in section 39 (1), in which the rights to the invention are vested in the employer

¹⁰² "Patents Act 1977," *supra note*, 97.

¹⁰³ Hausmann, *supra note*, 98: 287.

¹⁰⁴ *Ibid.*

by operation of law, the employee has a claim to remuneration if the following requirements are fulfilled:

(a) a patent must have been granted for the invention,

(b) taking into account the nature and size of the employer's enterprise, the invention must bring an outstanding benefit to the employer,

(c) evidence must be provided that declares remuneration to the employee to be just¹⁰⁵.

Focusing on the provisions of this section in more detail, some of the points should be explained in more detail.

First of all, the invention must have been registered at the patent office, whereupon the protective right was granted. Secondly, the employee must prove what share his invention has in the total benefit and whether this in turn is “outstanding”. This is again a very vague definition and requires individual consideration of each case and their respective overall consideration¹⁰⁶. Usually, the size and nature of the employer's business is taken into account in this context, for example, whether its competitors have alternatives in their use, so that the employer would not be able to obtain any significant benefits from such an invention¹⁰⁷.

Nevertheless, as is typical for a common law country, such ambiguous concepts are usually explained in more detail in court decisions and can be interpreted differently depending on the specific circumstances of the case.

The relatively recent judgement in the case *Shanks v Unilever Plc and others*¹⁰⁸ deserves special attention in the context of this issue.

Professor Shanks was employed by Unilever UK Central Resources Limited (CRL), a subsidiary of Unilever PLC. During his employment in the 1980s, he invented an electrochemical device for monitoring glucose levels in diabetics equipped with biosensors. Unilever obtained the rights to the invention and successfully patented it in a number of countries around the world, which ultimately brought the company more than £24m of revenue through licensing agreements. As Shanks argued, the patents obtained on the basis of his invention brought “outstanding benefit” to his employer, thereby entitling him to a fair share of the profits.

¹⁰⁵ “Patents Act 1977,” *supra note*, 97.

¹⁰⁶ Hausmann, *supra note*, 98: 153.

¹⁰⁷ Cornish, *supra note*, 96: 272.

¹⁰⁸ “*Shanks v Unilever Plc & Ors* [2019] UKSC 45 (23 October 2019),” BAILII, accessed 21 December 2022, <https://www.bailii.org/uk/cases/UKSC/2019/45.html>.

Court proceedings lasted 13 years and finally, the case reached the Supreme Court, which ruled in favour of Professor Shanks and held that Shanks' patents had in fact conferred a “substantial and significant” benefit on Unilever. In calculating this outstanding benefit, the court rejected Unilever’s argument that, given the company’s huge revenues, Shanks’ patents did not bring it significant benefit. In contrast, the Supreme Court found that the basis for comparing the amount of benefit should be “the benefits derived by the group from other patents for inventions arising from the research carried out by that company ¹⁰⁹”.

Defining Shanks’ patents as those that provided significant benefits to the company, the court also noted the presence of the employee’s own initiative in the process of creating the invention, as well as the high profitability of the invention combined with a low level of risk.

At the same time, the Supreme Court took into account that the professor was hired to carry out inventive activity, as well as the point that without the participation of Unilever, including in the negotiations on licences issues, Shanks’s patents would not have brought such a significant benefit.

Thus, considering all the above circumstances, the court determined the “fair share” of the outstanding benefit in the amount of 5% of £24 millions and, taking into account inflationary losses, amounted to £2 millions ¹¹⁰.

Thus, the aforementioned decision is of crucial importance in the context of determining the criteria that serve as the basis for establishing the amount of compensation for inventions made by employees. Although it is true to say that there is still a high threshold and exceptional circumstances under which an employee is entitled to receive such significant compensation.

Returning to the analysis of section 40 (1) of the Patents Act 1977, it is noticeable that the third requirement aims to exclude the situation when an employee-inventor receives remuneration for the invention several times. It is possible that he has already obtained bonuses for the invention and besides, a much more important point concerns the salary. This is because it is paid continuously, regardless of whether the employee invented something or not. This is the principle of special benefit on which the British legislation is based¹¹¹. By comparison, the weakened monopoly principle is applied in Germany, where the remuneration is justified by the fact that the employee provides the employer with a monopoly position on the market due to the invention and the subsequent patent. Weakened, therefore, because the right to

¹⁰⁹ *Ibid.*

¹¹⁰ “Shanks v Unilever Plc & Ors [2019] UKSC 45 (23 October 2019),” *supra note*, 108.

¹¹¹ Hausmann, *supra note*, 98: 46.

remuneration also exists if the invention is not patented, as is the case with technical improvement proposals, for example.

Summing up, whereas in German law, where if an employee invention exists and the employer subsequently claims it, the employee-inventor is entitled to remuneration, in British law the above three points must be fulfilled, which proves difficult in practice, not least because the burden of proof is on the employee. This also explains the situation that the claim for payment of remuneration in the UK is satisfied only in extreme cases.

Another prerequisite for the payment of compensation under section 40 of the Patents Act 1977 is the case enshrined in section 39 (2), according to which the invention belongs to the employee, unless it falls within the list of exceptional criteria specified in section 39 (1), however this does not exclude the possibility that the rights initially belonged to the employee were subsequently transferred to the employer by means of a legal transaction or granted him an exclusive licence. In this case, in order for an employee to receive remuneration for his invention, the following requirements stipulated by the section 39 (2) of the Patents Act 1977 must be met:

- (a) the invention belonging to the employee must be patented;
- (b) employee's rights in the invention have been assigned to the employer or the latter has received them under licence;
- (c) employee must prove that the benefits received from the assignment are insufficient in relation to the benefits received by the employer from the assignment;
- (d) as well as that additional remuneration besides the salary is justified¹¹².

Once again, only if all the above requirements are met, the employee gets the opportunity to receive compensation for the invention made by him. Thus, the employee may receive compensation from the employer when the remuneration paid by the latter to the inventor is not adequate in comparison with the benefit that the employer will receive as a result of patenting and use of the invention.

It should therefore be noted that the employee-inventor is in a much worse position under British law than under German law, in which the right to remuneration arises as soon as a service invention exists and is claimed by the employer. In the UK, on the other hand, further preconditions are necessary, so that it is very difficult to obtain such a claim to remuneration. In practice, in the UK, as in the USA, the main method is the use of bonus systems, most of

¹¹² "Patents Act 1977," *supra note*, 97.

which involve lump sum payments. Due to the very open freedom of contract, this can essentially be handled without barriers¹¹³.

In addition, employers are also aware of the incentive that a bonus can mean for the employee. A reward that is not granted in the long run would lead to innovation delays in the long run.

Meanwhile, the amount of remuneration is determined in accordance with the requirements of section 41 of the Patents Act 1977: “an award of compensation to an employee [...] shall be such as will secure for the employee a fair share (having regard to all the circumstances) of the benefit which the employer has derived, or may reasonably be expected to derive¹¹⁴”.

When it comes to inventions that belong to the employer by law (as stipulated in section 40 (1) of the Patents Act 1977), the amount of compensation that the employee may receive depends on the following four factors according to Section 41 (4) of the Patents Act 1977:

- (a) the nature of the employee’s duties, his remuneration and the other advantages he has derived from his employment or in relation to the invention;
- (b) the effort and skill that the employee put into creating the invention;
- (c) the effort and skill that any other person has put to the creation of the invention;
- (d) the employer’s contribution to the creation, development and use of the invention¹¹⁵.

Another scenario to consider when determining the amount of compensation is one where the invention has been transferred or licensed by the employee to the employer, in accordance with section 39 (2) of the Patents Act 1977. In this situation, the employee-inventor is only entitled to compensation if he has not received a fair share. In this regard, the following three criteria are enshrined in section 41 (5) of the Patent Acts 1977:

(a) licence conditions: the more favourable these are for the employee, the lower his entitlement to remuneration,

(b) third party participation: the more co-inventors there are, the smaller the employee’s own share is.

¹¹³ Hausmann, *supra note*, 98: 29.

¹¹⁴ Hausmann, *supra note*, 98: 30.

¹¹⁵ *Ibid.*

(c) employer participation: employer's contribution through provision of resources and commercial activities¹¹⁶.

To sum up the legislative provisions of the British law regulating the issue of compensation for employee inventions, it should be pointed out that this system of legislative provisions is much less clearly regulated than, for example, the German one, but at the same time, it is more specific in comparison with the Swiss one.

In the legislation of the UK, very open, non-exhaustive terms are often used, which can be attributed to the highly weighted freedom of contract. This can be critical, at the same time, for the employee, as they can easily be interpreted to his or her disadvantage. However, the regulation in this form was formulated in such a way, in view of the peculiarities of the UK legal system.

2.5. Employee inventions in the United States of America

It is interesting to discuss the legislative regulation of employee inventions and the compensation for them in the United States of America (the USA), especially considering the fact that this country consists of fifty separate states, each of which has its own laws in some legal areas and no general federal legal provisions.

First of all, it should be mentioned that in the USA, there is no single federal law specifically dealing with employee inventions, since the legal scope of this concept is interpreted differently in each state.

In accordance with Section 8 of the Constitution of the USA, "the Congress shall have power to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respect writings and discoveries"¹¹⁷.

The above clearly shows that the USA is committed to the advancement of scientific research and technological innovation as a component of its state policy.

Legal provisions governing the assignment of employee inventions have been the subject of legislation in several states of the USA. Aimed at protecting the employee, these laws impose certain contractual requirements, the absence of which limits an employer's ability to demand assignment of inventions made by employees through the conclusion of a written agreement. The abovementioned legal acts mainly regulate the extent to which service inventions are or are not eligible to assignment, as well as identify the obligatory

¹¹⁶ *Ibid.*

¹¹⁷ "The Constitution of the United States of America," United States Senate, accessed 21 December 2022, https://www.senate.gov/civics/constitution_item/constitution.htm.

requirements, such as written notice to the employee or disclosure of invention¹¹⁸.

As established by the provisions of the USA legislation, the title to an invention subject to patenting initially belongs to an individual inventor or group of inventors¹¹⁹. The determination of who owns the right to the invention is given in Title 35 of the United States Code §101: “whoever invents or discovers any new and useful process, the machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title¹²⁰”. At the same time, the legislation does not make any distinction between a freelance inventor and an employed inventor. The only requirement is that the inventor must be a natural person. Thus, any inventor who is a natural person has, in principle, the right to his invention. This provision is limited by four exceptions, which are explained below.

To begin with, the first exception could be defined as the direct enshrinement of the relevant provisions in the contract. Since in the USA most of the issues related to employee inventions and compensation for them are regulated by agreement between the parties, all relevant provisions can be set out in the contract.

Employees and employers in the USA are free to agree on the conditions under which inventors’ rights may or may not be transferred. Only deception, coercion, excessive duration or state law are supposed to be the barriers that restrict this free agreement. It is possible to assign the transfer in advance in the employment contract¹²¹. In practice, it is usually agreed in employment contracts in the USA that all intellectual property rights are transferred to the employer. This event can include intellectual property rights that arise after the termination of employment, limited to approximately one year after the termination of employment.

It should be noted that these provisions vary from state to state. There are clear trends in each individual state and the consequences of the restrictions that prevail there. The state of California, for example, does not conform to these previous employer-unfriendly provisions. There, the advance assignment clause is restricted and the post-contractual non-competition clause does not apply. The impact of these rules in California can be clearly seen in Silicon

¹¹⁸ “Assignment of Employee Inventions State Laws Chart: Overview,” Thomson Reuters Practical Law, accessed 21 December 2022, <https://uk.practicallaw.thomsonreuters.com/4-582-6485?comp=pluk&transitionType=Default&contextData=%28sc.Default%29>.

¹¹⁹ “Board of Trustees of the Leland Stanford Junior Univ. v. Roche Molecular Systems, Inc., 563 U.S. 776 (2011),” JUSTIA, accessed 21 December 2022, <https://supreme.justia.com/cases/federal/us/563/776/>.

¹²⁰ “United States Code,” Legal Information Insitute, accessed 21 December 2022, <https://www.law.cornell.edu/uscode/text/35/101>.

¹²¹ Lars Rüge, *Internationales Arbeitnehmerprivatrecht – Die Einzelerfindung und die Gemeinschaftserfindung von Arbeitnehmern im Internationalen Privatrecht Deutschlands, Europas und der Vereinigten Staaten von Amerika* (München: Herbert Utz Verlag GmbH, 2009).

Valley, which is the most important location for high-tech innovations worldwide. This is not least due to the legally favourable environment for employee inventors¹²².

When determining the ownership of a patent in the employment relationships on the basis of contractual arrangements, courts usually ground their decisions on the provisions of contract law at the state level. However, in the case where the provision on patent assignment in the employment contract determines whether it is an automatic assignment or an obligation to assign, the so-called “FilmTec rule” of the Federal Circuit should prevail under state law¹²³.

In this case, the employees who created the invention first concluded an assignment agreement with their former employer and, after that, entered into a conflicting assignment agreement with “FilmTec”. The court ruled that the employee-inventors who created inventions during their work for the previous employer, in view of the automatic assignment of the employee-inventors’ patent rights stipulated in the contract with the former employer, were no longer entitled to transfer their patent rights to “FilmTec”. The Federal Circuit held that the rights’ assignment to an invention that predates the invention's existence could be regarded as an expected interest that gives an equitable title to the assignee¹²⁴.

Moreover, it is important to take into account another relevant decision - Arachnid case, in which the Federal Circuit found that, since a contractual provision provided an employee’s obligation to assign patent rights in the future, the employer of the inventor's only had equitable title and not legal title to the employee’s patents¹²⁵. The court ruled that: “although an agreement to assign in the future inventions not yet developed may vest the promisee with equitable rights in those inventions once made, such an agreement does not by itself vest legal title to patents on the inventions in the promisee¹²⁶.”

Another exception to the general rule outlined in Title 35 of the United States Code is the case when the employer has hired the employee precisely to invent a particular technology or invention. This is so-called the “hired-to-invent” doctrine enshrined in the United States v. Dubilier Condenser Corporation case. In this decision, the Supreme Court found that: “one

¹²² *Ibid.*

¹²³ “DDB Technologies, L.L.C. v. MLB Advanced Media, L.P., 517 F.3d 1284 (2008),” accessed 21 December 2022, <https://cite.case.law/f3d/517/1284/>.

¹²⁴ “Employee Inventors and Patent Ownership: Whose Rights Are They Anyway?” American Bar Association, accessed 21 December 2022, https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2020-21/march-april/employee-inventors-patent-ownership-whose-rights-are-they-anyway/.

¹²⁵ “Arachnid, Inc. v. Merit Industries, Inc. 939 F.2d at 1580–81 (1991),” JUSTIA, accessed 21 December 2022, <https://law.justia.com/cases/federal/appellate-courts/F2/939/1574/31877/>.

¹²⁶ *Ibid.*

employed to make an invention, who succeeds, during his term of service, in accomplishing that task, is bound to assign to his employer any patent obtained ¹²⁷.”

Thereby, if the inventor was employed to carry out the inventive activity and the employment agreement between the parties is expressly subjected to the invention-creation, the employer receives the rights to the patents granted for the invention of the employee. Even more, in the *Teets v. Chromalloy Gas Turbine Corporation* case, the Federal Court ruled that an employee who did not have an employment contract was obliged to assign his patent rights to the employer at his own will because the latter specifically instructed the employee-inventor to develop a patentable invention for the customer¹²⁸. The court found that by assigning the employee-inventor to create a design task, remunerating the employee for his efforts, paying for the development of the process, and paying for patent protection, the employee had an implicit obligation to assign his patent rights to the employer¹²⁹. Thus, the court in decision concluded that: “even if hired for a general purpose, an employee with the specific task of developing a device or process may cede ownership of the invention from that task to the employer ¹³⁰.”

As follows, the hiring of an employee to create inventions that are subsequently patentable may create an obligation for the employee-inventor to assign his or her rights to the invention to the employer, provided that this obligation has not been denied in some way by the employee during the course of the employment.

One more case when the employer holds the rights to the invention may be if the invention was created through the employer’s technical and financial resources, during working hours, and if the patent falls within the employer’s area of work. If these conditions are met, the employer receives a so-called “shop right”¹³¹. This can be understood as a non-exclusive, non-transferable, royalty-free, already paid permission to use, i.e. in the sense of a licence¹³².

Due to the Supreme Court’s opinion, “shop right” exists when “a servant, during his hours of employment, working with his master’s materials and appliances, conceives and perfects an invention for which he obtains a patent ¹³³.”

¹²⁷ “*United States v. Dubilier Condenser Corporation*, 289 U.S. 178, 187–88 (1933),” JUSTIA, accessed 21 December 2022, <https://supreme.justia.com/cases/federal/us/289/178/>.

¹²⁸ “*Teets v. Chromalloy Gas Turbine Corporation*, 83 F.3d 403, 408 (1996),” CASETEXT, accessed 21 December 2022, <https://casetext.com/case/teets-v-chromalloy-gas-turbine-corporation/case-summaries>.

¹²⁹ *Ibid.*

¹³⁰ *Ibid.*

¹³¹ Rüge, *supra note*, 121: 164.

¹³² Rüge, *supra note*, 121: 165.

¹³³ “*United States v. Dubilier Condenser Corporation*, 289 U.S. 178, 187–88 (1933)”, *supra note*, 127.

While the Federal Circuit in another case found that “a ‘shop right’ is generally accepted as being a right that is created at common law, when the circumstances demand it, under principles of equity and fairness, entitling an employer to use without charge an invention patented by one or more of its employees without liability for infringement¹³⁴.” And hence, in light of these considerations, it is highly probable that an employer has a “shop right” to use an employee’s patented invention if the employee used the employer’s tools and resources to create this invention or agreed on the use of it by the employer, even if the employer had not recruited the employee to invent it and the employee was under no other duty to assign it to the employer.

It should be noted that the employee usually does not receive any remuneration in this case, as he is already compensated for his services through his salary¹³⁵. As can be found in numerous case law examples, the salary of the employee is considered by the courts as sufficient compensation for the invention made by him, and usually, after the successful use of the invention made by the employee, the employer increases his salary. Although the parties are free to agree on another procedure or amount of compensation in a contractual manner.

The last exception to be mentioned in the context of holding rights to the invention is the situation when the employee had a special duty of loyalty and care while developing the invention. This is attributed to the employee status, as is the case with board members or managing directors, for example. They represent the company and thus represent it in public. So they cannot assign rights to themselves either. In addition, these special employees have a duty not to compete with the employer¹³⁶. In this regard, there is no right of the employee to demand payment or compensation from the employer.

Analysing the relevant legislation of the USA, it is also worth considering, that with the adoption of the America Invents Act¹³⁷ in 2011, which became effective on 16 March 2013, there was a decisive change in the approach enshrined in the legislation of the USA which led to the transition to the first-to-file system, instead of the first-to-invent system that existed before. These modifications of legislative provisions simplified the patent application system by eliminating the mandatory requirement of an employee-inventor’s declaration or oath as a

¹³⁴ “*McElmurry v. Ark. Power & Light Co.*, 995 F.2d 1576, 1580 (1993),” CASETEXT, accessed 21 December 2022, <https://casetext.com/case/mcelmurry-v-arkansas-power-light-co>.

¹³⁵ “Employee Inventors and Patent Ownership: Whose Rights Are They Anyway?” *supra note*, 124.

¹³⁶ Rüge, *supra note*, 121: 166.

¹³⁷ “Leahy-Smith America Invents Act,” accessed 21 December 2022, https://www.uspto.gov/sites/default/files/aia_implementation/20110916-pub-1112-29.pdf.

prerequisite for filing such an application. These changes brought the provisions of the American legislation in line with the procedure that is common in most countries of the world.

With the new changes, the employer gained the right to apply on behalf of an employee who made an invention and who has transferred or is obliged to transfer the rights to the invention to the employer, or if the employer has another financial interest in the invention, without the obligatory approval of the application by the inventor. In the absence of an assignment in written form from the inventor, the employer is the rightful owner of any patents that are issued. These changes highlight the pro-corporate tendencies in reforming the legislation, which give preference to employers, justifying such changes by economic factors.

Meanwhile, the above changes did not affect the regulatory framework for compensation to employees for inventions created by them. As mentioned previously, under the provisions of American law, an employee-inventor is not necessarily entitled to compensation in addition to his salary for inventions made by him¹³⁸. Payment of remuneration to creators is not required by the government regulations, state laws do not demand companies to pay as well. Even so, since the private sector is aware that employee inventors may produce quantitatively and qualitatively better inventions through extrinsic motivation, most companies offer incentive and reward systems, e.g. in the form of lump-sum compensation systems. The level of compensation thus also varies, depending on the company's internal compensation guidelines. Meanwhile, it should be noted that this is not a statutory remuneration system, but rather the respective company-internal system.

By performing a comprehensive analysis of the legislation of the USA in the field of employee inventions and fair compensation for them, it is reasonable and important to take into account the peculiarities of the common law system, in which the lion's share of law interpretation and enforcement activities is assigned to the judicial branch. That is why the courts in each situation consider each individual case on the basis of individual facts. Among other things, the courts take into account the inventive capacity of the employee-inventor, what the employee was hired for, what exactly he actually did, what activities the employer is engaged in, and whether he produces, uses or sells¹³⁹. Based on the generalisation and analysis

¹³⁸ Shlomit Yanisky-Ravid, "Intellectual Property in the Workplace: Theoretical and Comparative Perspectives," in *Intellectual Property in the Workplace*, Shlomit Yanisky Ravid, Nevo, 2012. <http://dx.doi.org/10.2139/ssrn.2132677>.

¹³⁹ Dwight B. Cheever, "The Rights of Employer and Employee to Inventions Made by Either during the Relationship," *Michigan Law Review* 1, 5 (1903): 392, https://www.jstor.org/stable/pdf/1273607.pdf?refreqid=excelsior%3Ad13a211f7454f924b1f11ffc42fde5e&ab_segments=&origin=.

of the facts, the court determines who should own the rights to the invention and how the transfer of these rights from the employee to the employer correlates with the payment of fair compensation to the employee-inventor.

2.6. Employee inventions in Ukraine

It is interesting, finally, to consider an example of legislative regulation of the concept of employee inventions in Ukraine, a country that is not a member of the EU, but is in an active phase of approximation of its legislation to European standards. In Ukrainian legislation, the provisions concerning inventions made by employees are enshrined in several legal acts.

The question of the quantity and process for payment of remuneration for the creation and use of employee-made inventions is one of the most complex and undefined under the intellectual property law of Ukraine. The latter is limited to an indication of the contract, which should specify the amount and terms of payment of compensation to the employee, taking into account the economic value of the invention or other benefits that may be received by the employer.

Speaking in general about the concept of intellectual property rights (IPRs) to an object created in connection with the performance of an employment contract, it is necessary, first of all, to note the article 429 of the Civil Code of Ukraine¹⁴⁰ (hereinafter - Civil Code). Due to this article, personal non-property IPRs to an object created in connection with the performance of an employment contract belong to the employee who created this object. In cases stipulated by law, certain personal non-property IPRs to such objects may belong to a legal entity or an individual, where or with whom the employee works. At the same time, property rights of IPR to an object created in connection with the performance of an employment contract shall belong to the employee who created this object and to the legal entity or individual where or with whom he/she works, jointly, unless otherwise provided by Civil Code or the contract¹⁴¹.

Turning primarily to the definition of the main terms related to the analysed concepts, it is necessary to pay attention to the article 1 of the Law of Ukraine “On the Protection of Rights to Inventions and Utility Models”, which defines the concept of an “employee invention” as “an invention created by an employee:

¹⁴⁰ “Цивільний кодекс України від 16.01.2003 №435-IV,” Відомості Верховної Ради України (ВВР), accessed 21 December 2022, <https://zakon.rada.gov.ua/laws/show/435-15#n2291>.

¹⁴¹ *Ibid.*

1) in connection with the performance of official duties or due to the assignment of the employer, provided that the employment agreement (contract) does not provide otherwise

2) using experience, industrial knowledge, production secrets and equipment of the employer¹⁴².”

While, the term “official duties” of an employee used in the definition could be found in the same article: these are functional duties of an employee fixed in employment agreements (contracts), job descriptions, which provide for the performance of work that may lead to the creation of an invention¹⁴³. Whereas the “assignment of the employer” may be defined as a task issued to the employee in writing, which is directly related to the specifics of the enterprise or the employer's activities and may lead to the creation of an invention¹⁴⁴.

As a general rule, service intellectual property objects are created during working hours, at the workplace. In other words, intellectual property objects created by an employee on weekends, holidays and non-working days, after working hours, on vacation, etc. cannot be considered as service objects, except when the employer has expressly agreed on such action. This position is not typical for the legislation of other countries analysed earlier.

In general, reviewing the essence of the concept of “service invention” in accordance with the provisions of the Ukrainian legislation referred to above, we can distinguish three main characteristics of this notion:

1) the fact of the existence of an employment relationship between the employer and the employee-inventor;

2) the creation of this invention during a certain period (during the term of a duly executed employment contract);

3) the subject of this invention relates to the sphere of activity of the employer.

Due to the article 9 of the Law of Ukraine “On the Protection of Rights to Inventions and Utility Models”, the right to register an invention shall be vested in the employer of the inventor, unless otherwise provided by the contract¹⁴⁵.

¹⁴² “Закон України “Про охорону прав на винаходи і корисні моделі” від 15.12.1993 № 3687-ХІІ,” Відомості Верховної Ради України (ВВР), accessed 12 September 2022, <https://zakon.rada.gov.ua/laws/show/3687-12#Text>.

¹⁴³ “Закон України “Про охорону прав на винаходи і корисні моделі” від 15.12.1993 № 3687-ХІІ,” *supra note*, 142.

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

First of all, the inventor has the obligation to submit to the employer a written notice of the service invention created by him or her with a description that discloses the essence of the invention clearly and completely. And if the right to register the service invention belongs to the employer, he shall, within four months from the date of receipt of the notification from the inventor, file an application for state registration of the invention with the National Intellectual Property Authority or transfer the right to such registration to another person, or decide to keep the service invention as confidential information¹⁴⁶.

These provisions of Ukrainian legislation partially correlate with the relevant legal norms of German law. However, unlike German, Ukrainian legislation requires the employer to take active steps in order to acquire the ownership of such an invention created by the employee, while in Germany, it is enough for the employer not to object to the acquisition of such rights for 4 months.

At the same time, if the right to the registration of a service invention belongs to the employer and he fails to file an application for state registration of the invention within the established 4-months term, the right to registration of the service invention shall be transferred to the inventor or his successor. In this case, the employer shall retain the preemptive right to purchase the licence¹⁴⁷.

Pursuant to the aforementioned Law of Ukraine, within the same period of 4 months, the employer shall conclude a written agreement with the inventor on the amount and terms of payment of remuneration to him (his successor) in accordance with the economic value of the invention and (or) other benefits that may be received by the employer.

What is worth considering in this context is that the Ukrainian legislation does not provide any clear criteria for calculating this remuneration for inventions made by an employee, while the “economic value of the invention” as well as “benefits that may be received by the employer” are evaluative concepts and their subjective nature may lead to unfair determination of the amount of compensation to the inventor for his invention.

Before talking about remuneration for the creation of an employee invention, the employer conducts a preliminary assessment of the economic value of the invention. Economic efficiency is determined taking into account the effect that can be further achieved. The price of an industrial property object is its value expression, which is determined by means of expert analysis. The following indicators are taken into account when evaluating the invention:

¹⁴⁶ *Ibid.*

¹⁴⁷ “Закон України “Про охорону прав на винаходи і корисні моделі” від 15.12.1993 № 3687-XII,” *supra note*, 142.

innovativeness, technical characteristics of the object, the seriality of expected production, technical readiness, terms of manufacturing implementation of new products and other indicators¹⁴⁸.

There is an objective need to define at the legislative level the concepts of “remuneration for the created invention” and “economic value of the invention”, since today the lack of appropriate definitions allows interpreting certain provisions of the Law based on the subjective perception of the situation related to the creation and use of inventions¹⁴⁹.

However, from a practical point of view, it is very problematic to determine the economic value of an invention in advance. The analysis of judicial practice on disputes in the field of service invention shows that enterprises may have local regulations, according to which the economic value of inventions or utility models is calculated and the procedure for calculating and paying compensation is determined. At the same time, employers may, in violation of the terms of the agreement on the distribution of property rights to inventions between them and the employees who created such objects, not provide employees with information on the fact of their use and the amount of income received and, accordingly, avoid paying such employees the appropriate remuneration or deliberately reduce its amount.

When paying compensation, the employee has the right to get acquainted with the calculation of remuneration, the activities of the employer in connection with the use of the invention, the results of accounting calculations and reporting.

The most difficult aspect in the relations between the parties is the determination of the amount of remuneration, which is influenced by a number of factors: the technical value of the invention; research and development costs incurred by the employer in creating the invention; the amount of capital investment required for the organisation of production, etc. Determining the amount of compensation is one of the most important issues also because the real commercial value of the transferred technology can be established only in the process of production and sale of products.

Remuneration may be paid in the form of a royalty, a lump sum payment or a combination of both (combined payment).

¹⁴⁸ Ярошевська Т.В., “Право на службовий винахід” (дисертація на здобуття ступеня кандидата юридичних наук, Харківський національний університет внутрішніх справ, 2009), 135.

¹⁴⁹ Воронін Я.Г., “Цивільно-правова охорона винаходів в Україні”(автореферат дисертації кандидата юридичних наук, Інститут держави і права імені В. М. Корещького Національної академії наук України, 2009), 13.

Royalty is a type of payment that the employer pays periodically, for example, once a year during the entire term of the contract in the amount of a percentage of sales turnover or profit, as well as in the form of a fixed fee per unit of product manufactured using the invention.

The use of this type of payment allows the inventor to receive remuneration during the entire term of the contract and is beneficial for him in the case of successful implementation and marketing of the product, when the real profit can far exceed the calculated one. However, in case of disruption of production, or sharp deterioration of market conditions, the inventor may receive a much smaller amount of remuneration than he expected.

A lump sum payment provides for a one-time payment of a certain fixed amount in accordance with the estimated price for the industrial property object before the start of mass production. When a lump sum is paid, the obligation to pay remuneration is fulfilled immediately.

In general, in practice, it is considered appropriate to apply both royalties and lump-sum payment when paying royalties. In this case, after the object has been created and the employee has decided to transfer the property rights to the service invention to the employer, and the latter has accepted these rights, the employer performs the following actions:

- 1) evaluates this object;
- 2) concludes an agreement with the inventor on the assignment of property rights;
- 3) makes an initial payment for the invention in the form of a lump sum.

After receiving income from the use of this invention, the employer pays the inventor remuneration in the form of royalties during the term of the contract in proportion to the benefit (taking into account the licence fees that he may receive, including profits from granting licences abroad).

Disputes concerning the conditions of obtaining by the inventor of a service invention of remuneration and its amount shall be settled in court. Currently, in Ukraine, unfortunately, there is no generalised judicial practice related to the request of remuneration from the employer for the creation of inventions. This is not facilitated by the lack of clear rules in the national legislation, as well as the lack of necessary knowledge about the presence and possibilities of protecting their rights on this issue, as well as the unwillingness to bring the case to court.

The analysis of the relevant judicial practice on consideration of patent disputes on service inventions shows that the position of the employee-inventor in such disputes is less protected, as well as there are difficulties in classifying the invention as a service invention.

The lawsuit of Sterling Group Ukraine LLC against an employee on recognition of the patent void, filed in 2006 to the Court of Zaporizhzhia, could serve as an example. The plaintiff, as an employer, believed that he owned the exclusive right to the employee's work for hire on the basis of part 2 of Article 16 of the Law of Ukraine "On Copyright and Related Rights". However, in this case it should be noted that the invention is the object of not copyright but patent law. And accordingly, relations regarding the service invention are regulated by the Law of Ukraine "On Protection of Rights to Inventions and Utility Models"¹⁵⁰.

The defendant was an employee of the claimant who filed a patent for a device developed by a team of employees in the course of their official duties. The respondent objected to the claim, referring to the fact that although he was in an employment relationship with the plaintiff, he did not use the experience, manufacturing knowledge, or production secrets and equipment of the employer, but created the invention personally, using his own skills and experience¹⁵¹.

The court found that the mere fact that the inventor is in an employment relationship with the employer does not give grounds to conclude that the invention created by the inventor is a service one. Since in the case when the inventor is in an employment relationship with the employer and his official duties include the performance of relevant activities, but he creates an invention without using the experience of the employer, his industrial knowledge and secrets of production, as well as the employer's equipment, such an invention is not considered to be a service invention.

Ukrainian legislation lacks clear and detailed regulation of the procedure for payment of reasonable remuneration for employee-made inventions. Taking into account the descriptive nature of such provisions, their interpretation is usually carried out by the parties at their own discretion and in case of misunderstandings - submitted to the court. Relevant legal provisions require further improvement and proper organisation into a simple and unified structure.

¹⁵⁰ Андрощук Г.О. "Економіко-правовий аналіз регулювання відносин у сфері службового винахідництва," *Наука та інновації* 8, 1 (2012): 106, <https://scinn.org.ua/sites/default/files/pdf/2012/N1/Androshchuk.pdf>.

¹⁵¹ *Ibid.*

3. UNIFIED FORMULA FOR CALCULATION OF REASONABLE COMPENSATION FOR EMPLOYEE INVENTIONS: REALITY OR FICTION

Legislative regulation of the issue of fair compensation for employee inventions differs from country to country, depending on the specifics of national legal systems.

A correct and understandable mechanism for calculating remuneration is essential to stimulate inventive activity. That is why comprehensive regulation of this issue plays a key role. The need for complexity and systematic approach in this matter is due to a number of reasons.

From a legal theoretical point of view, there is a need to link two branches of law with opposite views on the assignment and use of the result of economic activity, expressed in the form of an invention, namely labour law and patent law. While labour law is based on the principle that work results belong to the employer. Patent law, on the other hand, assumes that the inventor has the right to the invention, which is granted the privilege to use it in the form of a monopoly right.

From an economic point of view, the need to properly enshrine reasonable compensation for inventions made by an employee is that inventive activity should be stimulated by legal norms since the implementation of inventions into production can lead to competitive advantages in the individual and national economy.

Finally, another reason underlining the need to establish clear rules for determining fair compensation is that finding a balance between the principle of appropriation of the employer under labour law and of the inventor under patent law leads to the necessary socially justified notion of justice and fairness. However, the question remains: what operational embodiment can be found for such a concept of fairness and whether it is possible at all? That is why the establishment of coherent areas for determining reasonable compensation is crucial in this context.

In addition, another problem arises in this regard. Given the world's rapid globalisation processes, teams of inventors often combine representatives from different countries with different legal norms on employee inventions. As a result, such inventors are treated differently in terms of remuneration due to different legal situations, leading to accusations of unequal treatment. This accusation does not contribute to social balance and does not promote cooperation. The effects described here also impair the desirable social function of invention remuneration from a theoretical point of view.

In addition, the efficiency of the process of calculation of reasonable compensation for inventions of employees is reduced by the fact that such estimation of remuneration, as well as the resolution of disputes regarding the correctness and appropriateness of the calculation of remuneration, consumes significant resources. The effort increases disproportionately with the number of inventors to be supervised due to the routinisation of a large number of administrative processes. In addition, this lack of clarity often leads to disputes between employees and employers, which can be costly and time-consuming to resolve.

Therefore, employers must have a clear policy on employee inventions, setting out how and when remuneration will be paid. This will help to avoid misunderstandings and ensure that employees are fairly compensated for their creativity.

The payment of reasonable compensation to the employee for the invention made by him or her is an extremely important issue since such remuneration has two types of incentive effect: on the one hand, for the employee to invest more effort in the inventive project, on the other hand, for the employer to make efforts for exploitation.

Some scholars argue that regulation of the issue of reasonable compensation for an employee-made invention by a central legislative body is neither necessary nor effective in encouraging employees to invent. Individual or collective contracts at the company level are preferable.

However, the legal regulation of a reasonable compensation ex-ante is also a necessary precondition for the implementation of efficient levels of inventive effort. Negotiating an ex-post, i.e. after the invention is created, puts the employer in a difficult position. In anticipation of this, the employee has a strong incentive to choose an inefficient level of effort in order to limit the risk of exploitation. Therefore, the introduction of a fixed remuneration system is a step in the right direction.

Properly defined and functioning remuneration system for inventions made by employees can be defined as one of the most important incentives for innovations. There are numerous studies that analyse the correlation between financial compensation to inventors and its impact on the stimulation of inventor activity. At first glance, it seems that assuming a certain number of inventions, the need to pay compensation for each of them reduces their net present value. It has been suggested that extra compensation for successful inventions may result in lower salaries for inventors who are employed since employers may demand hired

inventors to shoulder part of the risk¹⁵². As a result, it seems rather doubtful that companies will allocate more resources to the promotion of inventor activity.

Nevertheless, it is notable that the recognition and claiming of a certain number of inventions should have been rejected if the remuneration provisions would have encouraged the intensification of inventive activity, thus giving the employer the opportunity to choose the most suitable invention by its characteristics. This presupposes, firstly, that inventive activity can be influenced by monetary payments and, secondly, that the payments have a tangible effect.

Continuing the theme of providing employees with financial incentives as a method of increasing both their productivity and their creative output, it is important to pay attention to the carried out in Germany study¹⁵³. The survey was based on determining the primary factors that motivate employees working in the area of research and development. According to the results of the poll, 37,6% of employees place particular value on a high proportion of time for their own dispositions or on increased responsibility as the main motivating factor, while the remaining 62,4%, which is the majority, is materially interested¹⁵⁴.

Analysing more recent studies, the 2018 Cornell University study found that employees who received an appropriate reward were, on the whole, more motivated in their job and more eager to accomplish their assignments¹⁵⁵. This demonstrates the positive relation between compensation and work satisfaction in the long-term perspective.

Meanwhile, according to the German study mentioned earlier,¹⁵⁶ it could be doubted that the individual perception of incentives is highly positively correlated with the actual incentive effects of a motivational instrument. An indication of this assumption can be drawn from the results of stepwise regression analysis in which the logarithmized number of patents per employee and year of employment with the current employer in relation to the average of these key figures from the dependent variable¹⁵⁷. Since the personal perception of a particular incentive tool differs depending on each employee's personal characteristics and attitudes.

¹⁵² Vai Io Lo, "Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems," *Temple International and Comparative Law Journal*, 16 (2002): 319.

¹⁵³ Christopher Leptien, *Anreizsysteme in Forschung und Entwicklung*, a.a.O.: 166, quoted in Brockhoff Klaus, "Ist die kollektive Regelung einer Vergütung von Arbeitnehmererfindungen wirksam und nötig?" *Zeitschrift für Betriebswirtschaftslehre*, 67, 7, (1997): 683.

¹⁵⁴ *Ibid.*

¹⁵⁵ K. Woolley & A. Fishbach, "It's about time: Earlier rewards increase intrinsic motivation," *Journal of Personality and Social Psychology*, 114, 6 (2018): 878, <https://doi.org/10.1037/pspa0000116>.

¹⁵⁶ Leptien, *supra note*, 153: 683.

¹⁵⁷ *Ibid.*

Thereby, it is wrong to assume that the motivational structure is the same for everyone working in research and development. This means that to determine whether the expected reward will be an incentive for productivity, it is necessary to take into account the structure of individual needs and the working situation of each employee. This individuality in the assessment of incentive variables, in turn, argues against collective regulation. In order to promote inventive activity, it is difficult to take into account all the personal aspects that the employee expects, so individual acts that determine the amount of compensation have an advantage in this context over collective ones.

At the same time, it can be noted that leaving the issue of determining the amount of compensation to be settled only by individual acts may lead to an unjustified underestimation of the amount of compensation for the employer, given the weaker and less protected position of the employee, as well as the risk of abuse in this process by the employer. Such discrepancies will increase the workload of arbitration and courts. That is why there is a need to develop model guidelines for calculating fair compensation for inventions made by an employee, which could be used as uniform rules at the level of entities. As soft law, they could be implemented in the state's legislation, which would contribute to a clearer regulation of the issue of reasonable remuneration.

Based on the analysis of the legislation of different countries, carried out in the course of the study, it is possible to trace radically different approaches to the regulation of the issues of payment of fair compensation for inventions made by an employee. Although there is a significant need to harmonise these legal norms, such unification seems to be impossible due to the peculiarities of national legal systems and the sovereignty of each country's legislation.

In this context, it is worth mentioning that there have already been numerous attempts to harmonise this issue, at least at the EU level. EPC developers considered the provisions on harmonisation of European patent entitlement for employee-made inventions by looking at two possible ways. The first one was supposed to incorporate substantive provisions governing inventions created by employees into the EPC. At the same time, the other one was aimed at giving the Patent Office jurisdiction to determine patent eligibility. And since compensation to employees for inventions made by them is part of this matter, the harmonisation of the above-mentioned issues could possibly lead to a more unified settlement of this question.

However, it was decided not to apply any of these solutions for the following reasons. First of all, it was supposed "impossible to standardise the laws on ownership of inventions for all the European States which may become Contracting Parties to the Convention", and equally impossible for the EPO "to determine which national laws would be applicable in each case"

and “apply [...] twenty or so different national laws according to each individual case”¹⁵⁸. While the second objection was that it would be inappropriate, as a matter of principle, to have “disputes traditionally falling within the sphere of property law ... dealt with by authorities other than national civil courts”¹⁵⁹. That is why employee-made inventions were allowed to be decided by national authorities under national law. Thus, it can be said that there are difficulties in fixing at the supranational legislative level mandatory regulations that would determine the unified criteria for the payment of reasonable compensation to employees.

Simultaneously, as mentioned earlier, the biggest problem of compensation regulation exists at the level of small and medium-sized enterprises, which do not have sufficient resources to develop rules for calculating compensation. Therefore, it seems reasonable to formulate unified guidelines, which will serve as an example and will be implemented at the individual level of each enterprise.

The use of the model scheme for calculating the amount of reasonable remuneration for employee inventions enshrined in the guidelines could be implemented as a part of soft law in any country and can also be further modified by taking into account the legal traditions of each individual state. This would create additional protection mechanisms for both the employee and the employer, creating simpler and clearer conditions for their cooperation in the process of invention-creation and during their further interaction.

This type of regulation seems appropriate in view of the fact that most jurisdictions provide for the possibility of settling the issue of determining reasonable compensation for inventions made by employees on an individual basis between the employee and the employer. At the same time, the criteria for determining the “reasonableness” of such compensation are not specified, or the legislation contains only general descriptive provisions that do not provide specificity and clarity for the parties.

Reasoning the proposed format for fixing unified criteria for calculating fair compensation for inventions made by an employee, it should be emphasised that the guidelines may be the best option for solving the above issue, considering its legal nature and ease of implementation.

Taking into account the EU dimension and analysing guidelines’ position in its system of sources of law, it should be pointed out that, that due to Article 288 of the Treaty on the

¹⁵⁸ Justina Pila and Paul Torremans, *Intellectual Property Law* (Oxford: Oxford University Press, 2016), 68.

¹⁵⁹ Pila, *supra note*, 158: 68.

Functioning of the European Union¹⁶⁰, the guidelines are not included in the sources of Community law. They are usually considered to be “soft law”, but they are strongly persuasive¹⁶¹. Even though the guidelines are formally non-binding by their nature, they can serve as a very effective tool to address the compensation for employee inventions in light of the desire for consistency on this issue in Europe.

The possible concrete option for consolidating the relevant provisions in this context could be the guidelines presented by the European Patent Organisation (hereinafter – EPO). This organisation unites 39 European countries as member states¹⁶², and therefore its sphere of influence and the availability of in-depth information about the features of the patent systems of such a large number of countries will allow to develop the comprehensive and systematic guidelines, which will contribute to the unification of such norms at least in the European dimension. At the same time, further such guidelines can also be implemented with necessary modification in the legal systems of those countries outside the EPO, which are also looking for simplification and unification of the processes described above.

Guidelines could be important and useful in practice, even if not formally obligatory, as factually, they have become fairly hard “soft law”¹⁶³.

At the same time, while developing a scheme for calculating reasonable compensation, which should be enshrined in the above mentioned guidelines, it is essential to establish “realistic, but fair¹⁶⁴” approach, based on the optimal balance between the interests of the employee-inventor, whose creativity led to the creation of the invention, and the employer, whose material contribution ensured its creation. Which means that the so-called “balance of costs and benefits”¹⁶⁵ should be achieved. Simultaneously, it must be flexible enough for easier implementation by the company or adjustment to the specifics of a particular country.

In this case, in the process of searching for orientations for determining the criteria for calculating reasonable compensation for employees’ inventions, it is first of all worth paying attention to the system stipulated in the German Guidelines, as it is comprehensive and focused on considering many aspects.

¹⁶⁰ “Treaty on the Functioning of the European Union”, EUR-Lex, accessed 21 December 2022, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12016E288>.

¹⁶¹ Valentine Korah, *Intellectual Property Rights and the EC Competition Rules*, (Oregon: Hart Publishing Oxford and Portland, 2006), 23.

¹⁶² “Legal foundations and member states,” European Patent Office, accessed 21 December 2022, <https://www.epo.org/about-us/foundation.html>.

¹⁶³ *Ibid.*

¹⁶⁴ William Hovell, “Patent ownership - an employers rights to his employees invention,” *The Notre Dame Law Review*, 58 (1983): 868.

¹⁶⁵ Svacina, *supra note*, 5: 275.

In particular, it seems advisable to take over from the German system criteria for calculating compensation, such as the position and duties of the employee, the level of his initiative in the process of invention's creation, the degree of the employer's resources involvement in the process of solving the task, as well as considering the value of the invention.

In the meantime, as Pavel Svacina correctly noted in his work, the German approach to the definition of the value of the invention greatly simplifies this concept, as it is based only on visible income, although in practice, in addition to "part of the cash value", the benefit from the invention should also include "part of the strategic value"¹⁶⁶. Since it is important to take into account not only monetary benefits, but also the strategic benefit of the invention, for example, in the form of providing a competitive advantage in the market by blocking competition, or by providing monopoly advantages. This point should be taken into account, and a more extended interpretation of the concept of invention value should be enshrined in the guidelines.

Meanwhile, the guidelines should clearly state the issue of distribution of the amount of compensation for the invention created in co-invention, taking into account the level of involvement and the importance of the contribution of each of the co-inventors. This approach to determining the distributed amount of compensation for all co-inventors, although more complicated in terms of calculations, is more consistent with the principles of fairness of compensation.

To sum up, as was mentioned earlier, the guidelines can serve as a template for the calculation of reasonable compensation for employee inventions at the enterprise level, which will simplify many processes for employers, while also providing employees with certain guarantees of receiving the expected remuneration, the fairness of which they can then track much easier. It is expected that clearer conditions for determining the amount of remuneration as guidelines will make it easier for the parties to reach an agreement on the amount to be paid for the invention created. Since mutually beneficial regulations are extremely important in a constantly evolving globalised working world.

This, in turn, will reduce the judiciary's workload while saving significant financial and time resources for the parties. Of course, it is very utopian to hope that the creation of such instructions as a template will completely eliminate the contradictions regarding the amount of compensation between the employee and the employer, but at least for many, they can serve as a preventive measure and an additional tool that will help to resolve this issue amicably. And

¹⁶⁶ Svacina, *supra note*, 5: 280.

this is extremely important both in the context of employee-employer relations and for further stimulation of inventive activity in general.

CONCLUSIONS

1. The concept of employee inventions covers different approaches to its determination, which are mainly enshrined at the level of national legal systems, resulting in the absence of a unified definition of the terminology. Mostly, the criteria for establishing whether a particular invention is an employee's invention are based on the employee's work duties and considering if the invention was created in the course of his employment, as well as the extent of relation to the activities of the employer and the level of involvement of his resources and assistance in the process. While the issue of whether the invention was made during working hours and at the workplace usually does not play a key role.

2. Although the criteria for determining the "reasonableness" of compensation for employee inventions differ in the approaches established in domestic law, there are common features that unite them. In particular, one can trace a correlation between the specifics of the legal traditions of particular countries, and the relevant provisions enshrined in their legislation. While common law countries are characterised by greater freedom in establishing the criteria of compensation at the level of an individual agreement between the parties, whereas the main driver of their determination is external market circumstances, civil law countries have a more precisely fixed at the legislative level system of regulation of this issue, in which the key role is assigned to the influence of internal factors within the companies.

3. Different approaches to determination of reasonable compensation for inventions made by employees depend on the provisions of national legislation of each country.

The most comprehensive regulation of this issue is present in German legal system, where it finds detailed concretisation in the specialised Employee Inventions Act and Guidelines for the Compensation of the Inventions of Employed Inventors. The German legal approach to the regulation of this issue is based on the strong employee protection concept, according to which the employee-inventor has the right to a special remuneration, as he transfers the rights to the invention to the employer.

In contrast, in Switzerland an employee is in a less protected position, since in case of creation of a service invention, he is not entitled to compensation, but only receives a salary, which is considered as sufficient payment for the invention created. Whereas remuneration may be paid to employee for occasional inventions, created during performing his official duties, but outside his assigned area of responsibility.

French legal framework is characterised by a wide freedom of interpretation of reasonableness of compensation, which is fixed mainly at the contractual level between the

parties. At the same time, the legislation enshrines a clear division of employee inventions depending on the presence of an inventive mission in the process of their creation and, considering this, enshrines separate forms of remuneration for their inventions.

In the USA legislation, the right of employees-inventors to receive compensation is not fixed at the legislative level, as it is a subject to a free agreement whether and in what amount the employee is remunerated for his invention. At the same time, the British legislation stipulates the possibility for the employee to receive compensation for the invention created by him, however, the requirements for this are so demanding that only in exceptional cases such compensation is paid.

Ukrainian legal regulation of the criteria for determining the reasonableness of the compensation is enshrined in legislation, however, such provisions are more descriptive, and therefore their extended interpretation and practical application in a particular case are usually at the discretion of the court.

4. Considering the existing correlation between financial incentives and the intensification of inventive activity, as well as taking into account legal, economic and social reasons, it is necessary to establish a systematic and comprehensive approach to calculating reasonable compensation for employee-devised inventions. The most effective implementation of such criteria may be carried out in the form of guidelines as part of soft law, which can be further used as an example for calculation at the level of individual enterprises.

RECOMMENDATIONS

Taking into account the existing differences in approaches to determining reasonable compensation for employee inventions in each individual country, it is necessary to formulate a unified approach to establishing their main criteria and calculation procedures.

At the same time, given the fact that each national legal system has its own peculiarities, the creation and adoption of a single consolidated binding supranational act that would regulate this issue is too complicated, considering the difficulties of its practical implementation and the impossibility of taking into account all the legal features of each country. In view of this, the most appropriate way to set unified criteria for calculating reasonable compensation is soft law. In particular, the format of the guidelines will be convenient due to their advisory nature, as well as the possibility of their easier use at the level of certain enterprises.

The possible suitable option for consolidating the relevant provisions could be the guidelines presented by the EPO, since this organisation covers 39 member states, which means that it is aware of the peculiarities of the patent systems of a number of European countries and has a rather wide sphere of influence, and this, in turn, can significantly contribute to the development of systematic and comprehensive guidelines. Afterwards, such guidelines can also be implemented in the legal systems of those countries outside the organisation, which also seek consistency in approaches to the issue of reasonable compensation for employee inventions.

The German system, in which the amount of remuneration is based on the value of the invention together with considering of the employee's work duties and initiative in solving the task, as well as the employer's resources involvement, can be taken as an example for defining the criteria for calculating reasonable compensation enshrined in the proposed guidelines. Furthermore, as opposed to the slightly narrowed German approach to understanding the concept of the value of an invention, it is worthwhile to enshrine in the guidelines a more expanded interpretation of the invention's value concept, by including not only monetary, but also strategic benefits that the invention can provide. Special attention should also be paid to the issue of distribution of compensation in case of co-invention, so that its amount is fair and takes into account the contribution of each of the co-inventors.

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ABSTRACT

This study represents a comprehensive analysis of the concept of reasonable compensation for employee-made inventions from the point of view of scientific and theoretical approach, its practical enshrinement in the domestic legislation of particular countries, as well as in terms of defining further possibilities of its unification.

Based on the analysis of the peculiarities of legal regulation of this issue in the national legislation of Germany, France, Switzerland, the United Kingdom, the USA and Ukraine, the study identifies the positive aspects and problematic practices that require further improvement in order to formulate a complex and unified approach to the regulation of employee inventions.

Key words: *employee invention, remuneration, reasonableness, labour law, patent law*

SUMMARY

This master's thesis on the topic of "Reasonable Compensation for Inventions Made by Employees" is devoted to the analysis of the concept of remuneration for employee-devised inventions.

The aim of the study is to conduct complex research on the notion of reasonable compensation for inventions made by employees, criteria for its determination and possible ways of their unification.

For the accomplishment of this aim, the following objectives were fulfilled. First of all, to investigate the legal nature of the concept of employee invention and its components. Secondly, to analyse the criteria for reasonable remuneration for employee-devised inventions in the legal systems of different jurisdictions. Finally, on the basis of the research conducted in the master's thesis, to provide a proposal for the harmonisation of calculation of reasonable remuneration for employee-made inventions.

The work is structured into three interrelated parts. The first Chapter of the study gives a general understanding about the concept of the invention made by employees, its features and legal basis, as well as a notion of compensation for invention in the context of reasonableness in terms of theoretical and scientific approach.

In the second Chapter of the study there is a comparative analysis of approaches enshrined in the legislation of different countries regarding the calculation of reasonable remuneration for employee inventions. The analysis includes research of the legislation of Germany, France, Switzerland, the United Kingdom, the USA and Ukraine, each of which is devoted to a separate subsection of the work.

The last third part presents an examination of the extent to which it is possible to introduce unified criteria for determining compensation for employee inventions and how this can be done.

Finally, the general result of the study can be summarised in the statement that the necessity of forming agreed criteria for calculating reasonable compensation for employee made invention at the level of soft law, such as Guidelines, in order to minimise existing contradictions.