

Protection of Integrated Layout Circuit Design in Supporting the Potential of International Trade in Indonesia

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Abstract- In facing the potential of international trade, Indonesia requires legal certainty in protecting the existence of intellectual property. The existence of an integrated circuit layout design as a blueprint for integrated circuits, used in various information technology products, such as computers, cellular telephones, and communication equipment, has its own characteristics that are not suitable to be placed in the existing intellectual property law regime, therefore, it needs to be regulated in a special statutory regulation (*sui generis*). This research uses a comparative juridical approach research method by applying the statutory approach and the comparative approach. Indonesia has enacted a law on Layout Design of Integrated Circuits, but this law has several weaknesses. The weaknesses that exist relate to the completeness and quality of norms and law enforcement. This weakness is not only from the technical aspect of drafting legislation, but also is rooted in the legal culture.

Keywords: DTLSP, Intellectual Property, International Trade.

INTRODUCTION

In Indonesia today, there are very many things that support the development of national development, this is indicated by the increasing and sophistication of technology and knowledge currently developing. With this development, the desired process will be achieved faster. However, the government should not be careless in monitoring the development of technology and knowledge, because this will also have a negative impact on the government itself if it is not properly monitored. And the worst impact is that it can defeat the national development itself. One of these advances is the rapid development of intellectual property rights in Indonesia, this will certainly help develop Indonesia as well. Intellectual Property Rights are rights relating to property arising from human intellectual abilities. This capability can be in the form of works in the fields of technology, science, art and literature. In general, intellectual property rights consist of two things, namely industrial property rights and copyright (Ahkam, 2006; Saudi, 2018).

Objects regulated in IPR are works that arise or are born due to human intellectual abilities. The IPR system is a private right. A person is free to apply for or register his intellectual works or not. The exclusive rights granted by the State to individual IPR actors (inventors, creators, designers, etc.) are meant as an appreciation for their work (creativity) and so that other people are stimulated to further develop them, so that with the IPR system the interests of the community are determined. through market mechanisms. In addition, the IPR system

supports the establishment of a good documentation system for all forms of human creativity so that the possibility of producing the same technology or other works can be avoided or prevented (wikipedia.org.id). Protection of IPR is as important as protection of economic interests, especially in international trade. This is because then the dispute over IPR is no longer a technical legal problem, but also concerns business disputes and profit grabs (Suyud, 2002).

The role of the world trade organization (WTO) through the international agreements it produces and is signed by member countries is getting stronger and transformed into international law, especially in the field of trade. Strive to strive to standardize regulations on trade in goods and services as well as aspects related to trade (such as tariffs, subsidies, taxes, IPR). Each member country must conform national law with international law stipulated in the WTO. The adjustment process carried out by each member country is an activity of legal harmonization. According to Ivan A. Shearer, international law is a set of legal rules which mostly govern the principles and rules that must be obeyed by countries (international legal subjects) and their relationship with each other, which includes rules relating to functions and relationships between institutions or organizations, institutional or organizational relations with the state and individuals, as well as certain legal rules relating to individuals who are of concern to the international community other than state entities, while national law is the law that applies legally. exclusively within the territory of a sovereign state (Jawahir, 2006).

The integrated circuit layout design is a new form of intellectual property rights (IPR) in international law and Indonesian law, compared to other forms of IPR, such as copyrights, patents, trademarks, and industrial designs. The existence of regulations arises due to the special characteristics of the layout design of integrated circuits that cannot be accommodated through the existing IPR legal regime. The need for this special regulation is also driven by economic, technological and industrial developments related to the use of integrated circuits in developed countries and developing countries (Saidin, 2015). Since it is a new field of Indonesian intellectual property law, it is necessary to have an understanding of the outline of this regulation before being able to understand in more depth going forward. The need for special arrangements for the design of integrated circuit layouts is necessary because of the peculiar problems posed by the semiconductor industry's need (topography, integrated circuit layout design) for an economic reward for creativity, advancement of innovation, research and investment, as well as for protecting the interests of society. general approach to solving a typical problem, as the United States Congress saw it when the Integrated Circuit Layout Design Bill was first proposed (Partrick, 1999). The development of IPR law in developed countries is rapid due to the rapid development of information technology or computers and the economy in related fields, which require separate methods to accommodate it. Based on the background above, the problem formulation in this study is how to protect DTLST in supporting the potential for international trade.

THEORETICAL REVIEW

Understanding Integrated Circuit Layout Design

The definition of Layout Design of Integrated Circuits comes from the terms Layout Design (Topographies) and Integrated Circuit, which is formulated according to the Washington Treaty as follows:

"Integrated circuit means a production product in the last or semi-finished form in which there are various elements and at least (one) of these elements is an active element which is partially or completely interconnected and formed in an integrated manner in a semiconductor.

Integrated Circuit Layout Design Subject

The subject of DTLST is regulated in article 5 and in article 6 of Law no. 32 of 2000, basically the subjects of DTLST are designers, namely people or those who produce the DTLST design and those who receive DTLST rights from the designer. Thus the provisions of Article 5 paragraph (1) of Law no. 32 of 2000 expressly states that designers or those who receive DTLST rights through inheritance, grants, wills, written agreements or other causes justified by statutory regulations are entitled to legal protection. The scope of the DTLST as regulated in article 8 of Law No.32 of 2000 is to give exclusive rights to right holders for a certain period of time, either to carry out by themselves or to give permission to other parties to exercise the protected DTLST rights, then other parties are prohibited from exercising those DTLST rights without approval of legal rights holders except the use of DTLST for research and education purposes as long as it does not harm the reasonable interests of the DTLST rights holders

Object of Protection of Integrated Circuit Layout Design

Rights that receive legal protection in the field of DTLST must meet the requirements, namely original (original). This is regulated in article 2 of the DTLST Law which reads:

1. The DTLST rights are granted to the original DTLST
2. DTLST is declared original if the design is the designer's independent work, and at the time the DTLST was made it was not something common to the designers.

Furthermore, in the explanation of article 2 paragraph (2) of the DTLST Law:

DTLST is declared original if the design is the designer's own work and is not an imitation of other designs. The provisions of article 4 paragraphs (1) and (2) of the DTLST Law state that protection of DTLST rights is given to right holders from the first time the design was exploited commercially anywhere, or from the date of receipt and a maximum of (2) years from the first exploitation. in the sense that goods are made, sold, used, used, circulated in which there is a whole or a part of the DTLST in connection with a profitable transaction.

The process of the Integrated Circuit Layout Design

The DTLST Act aims to protect the "silicon chip" or "integrated circuit" which is the main driver of technological progress in the last two decades, especially the computer industry and related technologies. Furthermore, CHIP (Circuit Housed in a Platform), which is a small electronic component made of silicon material, contains very small circuits. Next, the circuit is an electrical path that comes out of the source through resistance that does certain work and returns to the source, or also have to go through a switch and another.

Integrated Circuit Layout Design License

The provisions regarding the DTLST license are regulated in article 25 to article 28 of Law No. 32 of 2000. Chapter I general provisions number 13 of the Law states:

License is a license granted by a Rights holder to another party through an agreement based on the granting of rights (not transfer of rights) to enjoy the economic benefits of an DTLST which is protected for a certain period of time and with certain conditions. The license is one of the DTLST rights that can be transferred or

transferred as regulated in article 23 of Law No.32 of 2000. The transfer of rights must be accompanied by a document regarding the transfer, because it is related to the obligation to record the transfer of DTLST rights in the DTLST general list and announced. in the official DTLST news at the Directorate General of Intellectual Property Rights accompanied by payment of a predetermined fee. DTLST rights holders can give their exclusive rights to other parties to make, sell, import, export funds or distribute goods in which all or part of the design has been granted rights DTLST. Furthermore, granting DTLST rights licenses to other parties will not result in the holder losing the right to carry out his own or grant a license to a third party, unless there is another agreement that has been agreed upon.

International Provisions on Layout Designs of Integrated Circuits

International business development has a significant influence on the use of Intellectual Property, especially DTLST. Therefore it needs multilateral or international protection through the formation of international conventions or agreements that can be ratified by each country as a legal basis in protecting DTLST. International provisions governing DTLST are the Paris Convention, the WTO-TRIPs Agreement and the Washington Agreement.

METHODOLOGY

To study these problems, research methods are used through a comparative juridical approach (comparison of DTLST with other types of KI), and data analysis is normative qualitative (starting from legislation, does not use statistical formulas), as well as data collection techniques through literature study to examine materials. primary law (legislation), secondary legal materials (expert opinion), and tertiary legal materials (internet) which aim to obtain direct information regarding research.

RESULTS AND DISCUSSION

The international world currently recognizes that emerging economies, including Indonesia, are considered as one of the world's new economic sources that will soon be heading towards developed countries. Expectations that are not without reason when viewed from the global economic development. Economic growth in emerging economies tends to be more stable than the world economy, even in developed countries. Even the conditions of world trade during the last decade have experienced a shift in trading patterns. Judging from the share of total world trade, it can be seen that in just 5 years, a shift in trade from Europe and North America to Asia has begun to appear. In 2005 the share of trade in Europe and North America which reached 39 percent and 16 percent decreased in 2009 to 37 percent and 13 percent (WTO & IFS, 2012). European and North American markets have experienced a slowdown during recession since 2008. Meanwhile, the share of Asian trade has strengthened, reaching 28 percent in 2005 and 30 percent in 2009.

If we look at Indonesia's export destination countries, the top five export destination countries for Indonesia are Japan, China, Singapore, South Korea and the United States with a 52.13 percent share of the fifth export. The main importing countries of Indonesia are still dominated by the five countries plus Malaysia. The five biggest importing countries Indonesia controlled the import share of 53.45 percent. This shows that so far Indonesia's trading partners are traditional economic market countries and there is a more than 40 percent share of exports and imports for other trading partner countries. The decline in the share of trade in Europe and North America

indicates that Indonesia should start looking for new markets for its products (Oktaviani, 2014).

Development of Regulations in International Law and Indonesian Law

The first international convention on the design of integrated circuit layouts emerged in 1989. This convention is called the Washington Treaty, which has the full name "Treaty on Intellectual Property in Respect of Integrated Circuits". Through this treaty, the integrated circuit layout design becomes a new form of IPR that is legally protected internationally (Sanusi, 2014).

On the one hand, the Washington Treaty provides a protection period of 8 (eight) years. The Washington Treaty also recognizes arrangements regarding compulsory licenses in order to support the achievement of national goals, free competition and prevention of abuse of rights, and so on. On the other hand, the scope of protection does not extend to rights with respect to the final product. The Washington Treaty also does not provide for compensation for actions of buyers in good faith (Paik, 1999). In 1994, the integrated circuit layout design became part of the Trade Related Intellectual Property Rights General-Agreement-on-Tariffs-and-Trade / World Trade Organization (TRIPs / GATT / WTO) regulatory regime. TRIPs / GATT? WTO regulates high disciplinary rules, complete with law enforcement mechanisms as it applies to other IPRs (Dahlan, 2000). As part of the international trade arrangements under TRIPs / GATT / WTO¹², the integrated circuit layout design has received considerable attention from the international community, both developed and developing countries. TRIPs is an Annex, which is inseparable from the substantive norms in the GATT international trade law document, which gave birth to a new international trade organization at that time, the WTO. As part of the GATT, which essentially regulates trade liberalization, TRIPs has quite a broad impact on IPR law, especially the law on the design of integrated circuit layouts. This is because TRIPs obliges each member country to create national legal rules, in accordance with the standards that have been set together (Zafar, 2014).

TRIPs in contrast to the Washington Treaty extend the protection life of integrated circuit layout designs to 10 years. TRIPs regulates compulsory licensing more strictly than the Washington Treaty, introducing judicial reviews and compensation payments. The scope of protection has also been further expanded, by adding protection also for rights relating to the final product. In addition, in TRIPs, even though the buyer is in good faith, he still bears the responsibility for the royalty payment, provided it has been sufficiently informed that the layout design of the integrated circuit purchased was made illegally (Paik, 1999).

Countries that already have national IPR laws then adjust their national arrangements one by one with the TRIPs / GATT / WTO rules. Meanwhile, participating countries that do not yet have national laws, because of this obligation, have begun to draft their respective national laws to provide protection for the layout design of integrated circuits. Indonesia, as a member of the WTO, which signed the TRIPs agreement as part of the international trade law document in the GATT, is also obliged to formulate statutory regulations in the form of laws to regulate this issue.

Outline of Regulations in Indonesian Law

To understand the definition of integrated circuit layout design, it is first necessary to understand the understanding of integrated circuit layout design. First, regarding the layout design Article 1 point 2 of the DTLST Law stipulates that the layout design is "a creation in the form of a three-dimensional layout design of various elements, at least one of these elements is an active element, as well as some or all of the

interconnections in an integrated circuit and triple placement. these dimensions are intended for the preparation of integrated circuits”.

Other terms also used by authors and statutory regulations for the design of such layouts are topography (topography) or semiconductor chips. Integrated circuit layout design is required to make integrated circuits. It is a form of blueprint (blue print) for producing integrated circuits. This integrated circuit is primarily used in various information technology products, computers, cellular phones, and telecommunications equipment. Second, regarding integrated circuits Article 1 point 1 of the DTLST Law defines the integrated circuit as "a product in finished or semi-finished form, in which there are various elements, and at least one of these elements is an active element, which are part or all of them interrelated and formed in an integrated manner in a semiconductor which is intended to produce electronic functions ".

Integrated circuits are products that are made using a layout design (Paik, 1999). Both the layout design and the integrated circuit are legally protected. In fact, the protection of integrated circuit layout design rights includes the end products (such as computers, cellular phones, and telecommunications equipment), which contain the integrated circuits.

According to Chistie (Andrew, 1995) integrated circuits are used to carry out 2 (two) different, but related functions, namely: (1) information preparation; (2) the implementation of logical operations on information. He added that distortion and logical manipulation of the information is at the heart of computer computation (also known as information processing). As such, many integrated circuits are designed and created for use in computers. Elements other than software, namely the hardware of a computer system, consist primarily of these integrated circuits. The definition of the integrated circuit layout design rights in Article 1 Number 6 of the DTLST Law is: "the exclusive rights granted by the Republic of Indonesia to designs for their creations, for a certain period of time to carry out their own activities, or to give approval to other parties to exercise these rights."

The state provides legal protection as private property to designers who can use their rights to obtain economic benefits for a certain period. Other parties who are not entitled do not get legal protection from the state, so that they are not allowed to violate the rights of their rights holders. If also violated, the offender can be subject to legal sanctions, both civil and criminal as regulated in the UU DTLST. Article 2 paragraph (1) of the DTLST Law states that the right to design an integrated circuit layout is given to the original integrated circuit layout design. Article 2 paragraph (2) of the UUDTLST confirms that an original requirement exists if it meets two criteria. First, the integrated circuit layout design is the independent work of the designer, and secondly, when the integrated circuit layout design is made, it is not something common to designers. The Law may use the conjunction "and" means that both terms must cumulatively be fulfilled, otherwise it will eliminate the original character so that it will not get legal protection.

The DTLST Law does not specify too strict requirements for the size of authenticity. The important thing is that the integrated circuit layout design is the result of the designer's own efforts, in the sense that it is not a plagiarism or reproduction of the work of other parties.

Besides, in order for the creation to be original it must not be a common thing among the designer or the industry. This second measure is close to the measure of novelty on patents. In contrast to the copyright registration system which does not require registration, the integrated circuit layout design rights require registration for legal protection. However, the registration system is different from patents. The layout design

for integrated circuits does not recognize substantive examination after registration to determine the grant of rights as contained in the patent. Therefore, the requirement for authenticity is important only when a dispute occurs before a judge, not at the time of registration. Copyright which suppresses a relatively short period of time because the Directorate General of IPR of the Ministry of Law and Human Rights does not need to carry out a substantive examination to determine whether there is authenticity (Paik, 1999).

In such a system, registration is important in the context of clarity of the design rights of integrated circuit layout in relation to the subject of protection of rights, time of creator, and expiration of protection (Paik, 1999). Meanwhile, the determination of who actually has the right is determined by the court if a dispute occurs. Thus, even though it has been registered, there is still an opportunity for other interested parties to question it in court, namely the commercial court. The protection period for the integrated circuit layout design differs from patents or brands. In a patent or mark, the determination is based solely on the filing date, namely the date of receipt of patent registration, trademark and industrial design. The integrated circuit layout design is based on one of 2 (two) things: (1) commercial exploitation; (2) The date of receipt.

As a result, there are two alternative protection periods that the owner can choose from. If the first one is elected, the law provides for a "grace period" of two years. This means that the owner within two years after being commercialized for the first time can register to obtain protection at any time. The owner is thus legally protected from the start of the commercial use, even though it has not been registered. Protection can be two retroactive years since it was first exploited conventionally, which according to the Elucidation of Article 4 paragraph (1) of the DTLST Law is "made", sold, used, used or distributed goods which in the DTLST Law contain all or part of the integrated circuit layout design in connection with transactions that bring the advantages "

It is seen that legislators adhere to a limited "first to use" system, in addition to a "first to file" system such as patents, brands and industrial designs. The period of protection according to Article 4 paragraph (3) is the 10 (ten) years DTLST Law, which is calculated based on one of the systems above. In contrast to copyright which does not require registration, the right to design integrated circuit layout is granted on the basis of an application, such as a patent. However, the registration procedure is also different from that of a patent because the integrated circuit layout design does not involve substantive checks. An application is only made for administrative examination. Therefore, registration is not difficult and does not take a long time. The procedure for applying for the design of the integrated circuit layout design is almost the same as the procedure for administrative examination of patents which according to Article 10 paragraph (7) of the DTLST Law will be further regulated in government regulations. Article 1 paragraph (4) of the DTLST Law stipulates that the application letter for the design of integrated circuit layout design must be accompanied by the following documents.

- a. A copy of the drawing or photo and a description of the layout design of the integrated circuit for which registration is requested.
- b. Special power of attorney, if the application is filed by a proxy.
- c. A statement letter that the integrated circuit layout design being applied for registration belongs to him.
- d. Certificate explaining the date as intended in paragraph (3) letter e.

The formality of the submitted application will be examined by the Directorate General of IPR to see the

fulfillment of the requirements stipulated in Article 3, Article 10 and Article 11 of the DTLST Law. Then, without conducting a substantive examination of authenticity, the office of the Directorate General of Intellectual Financial Rights (Ditjen HKI) will grant rights and record them in the General List of Layout Designs of Integrated Circuits and other media. Article 21 stipulates that the Directorate General of IPR must issue a Layout Design Certificate of Integrated Circuit as proof of ownership within 2 (two) months after the above requirements are met.

Regulatory Weaknesses in Indonesian Law

The arrangement of the integrated circuit layout design is the formation of a new law in Indonesian national law. Previously, there were no statutory provisions that regulated this new form of IPR in Indonesia. Therefore, in a socio-legal context, the formation of integrated circuit layout design law occurs based on legal principles as a tool of social engineering (law as a tool of social engineering). As a new legal norm, of course its application needs to be tested with success or failure in the field after the formation of the law. At this stage several weaknesses can be detected, which are in the DTLST Law. These weaknesses, among others, are due to the lack of experience in the formation of these laws and not many related cases that occurred in Indonesia, both in court and outside the court.

This is of course different from other forms of IPR law, such as copyrights, patents, and industrial designs. Indonesia already has more experience, both in the formation of laws and in applying them in the field. Sudjana explained the weaknesses of the DTLST Law in the context of internal comparisons with several other forms of IPR, namely copyrights, patents, and industrial designs, suggesting several weaknesses, as follows (Sudjana, 2017).

- a. The absence of regulations regarding moral rights as in copyright.
- b. The absence of regulations regarding priority rights as in patents and industrial designs.
- c. The absence of provisions regarding temporary designations such as copyrights, patents and industrial designs.
- d. The absence of implementation arrangements, which follow up the provisions of the DTLST Law, as is the case with several other forms of IPR.

Aline Gratika Nugrahani added 2 other weaknesses. First, the formulation of provisions concerning the meaning of the principle of protection of the first registrant (first to file), which is different from the regulations concerning the same matters in patent, trademark and industrial design law. Article 4 of the DTLST Law stipulates that commercial exploitation of the integrated circuit layout design that has not been registered does not result in the nullification of the right to apply for registration, as long as it is submitted within 2 (two) years prior to registration. This can cause practical difficulties, when there are 2 (two) parties who have an integrated circuit layout design that has similarities. One registers before the other. Second, the absence of substantive checks to determine the authenticity of the integrated circuit layout design. This can open a fault gap because it can provide protection against certain integrated circuit layout designs, which in fact are not original, thus making the protection system not on target (Nugrahani, 2006).

Another weakness is more general and basic because it does not only apply to the DTLST Law, but covers the entire Indonesian IPR legal regime. This weakness, among others, was stated by Afifah Kusumadara, who

stated several factors causing the failure of IPR legal protection in Indonesia. These causative factors include the following (Kusumadara, 2017).

- a. IPR law does not emerge and develop in Indonesian law itself, but comes from laws in the Western world which have different economic and socio-cultural interests.
- b. IPR law is not in line with Indonesian customary law, which does not recognize the history and concept of intellectual property ownership.
- c. IPR law has weaknesses from the aspect of law enforcement in Indonesia.
- d. IPR law is not in line with the reality of the level of economic and technological development in Indonesia until now.

CONCLUSION

Based on the results of the discussion, it can be concluded that the integrated circuit layout design is a new form of IPR, both in Indonesian law and in international law. IPR legal protection arises because of the need for demands due to developments in information technology and the economy in related fields, which the regulation has not yet been accommodated in the existing IPR legal regime. Today integrated circuit layout design protections can be obtained under Indonesian law and international law. Based on international standards based on TRIPs / GATT / WTO. Indonesia has made the DTLST Law which regulates various aspects of the required content, including definition, protection criteria, scope of rights, ownership of rights, period of protection, examination, transfer of rights and licenses, cancellation of registration, dispute resolution, and criminal investigation and provisions.

However, compared to the standards for regulating other forms of IPR, such as copyrights, patents, and industrial designs, the Indonesian DTLST Law has a weakness. So that the weaknesses of the DTLST Law, among others, lie in the content of regulation and the quality of the formulation of norms and law enforcement. These weaknesses do not only come from the technical aspects of drafting legislation, but also are rooted in differences in philosophical foundations in the formation of these laws, which are faced with Indonesian legal culture based on Pancasila. The Indonesian legal culture is different, because with the legal culture of other countries where the IPR law first appeared and is growing rapidly now. For this reason, in the future, a more in-depth study is needed on various aspects of IPR law regulation and enforcement in general and the law on an integrated circuit layout design in particular so that it can better adapt to the special needs in Indonesia based on Pancasila.

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