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**Q244**

## **Inventorship of multinational inventions**

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### **I. Current law and practice**

1) Please describe your law defining inventorship and identify the statute, rule or other authority that establishes this law.

a) If person A, located outside your country, directs the efforts of person B, located in your country, for making an invention in your country, under what circumstances would person A and/or person B be considered an inventor under your law?

An inventor is defined in Section 2 of the Singapore Patents Act (Cap. 221) as follows:

“inventor”, in relation to an invention, means the actual deviser of the invention and “joint inventor” shall be construed accordingly

However, the phrase “the actual deviser of the invention” is not further defined in the Patents Act but has been interpreted by the Court in the case of *Dien Ghin Electronic (S) Pte Ltd v Khek Tai Ting* [2011] 3 SLR 227 to mean the natural person who “came up with the inventive concept” or has contributed to the “formulation of the inventive concept”. Individuals who merely “contributed to the claim” in the form of “non-patentable integers derived from the prior art” would not be considered as inventors.

Person A would be considered an inventor under Singapore law if he contributed to the formulation of the inventive concept, even though the precise details of how the inventive concept may be realised into a functional product may be worked out by other persons.

Person B would be considered as an inventor under Singapore law if his contribution to the invention goes beyond the “non-patentable integers derived from the prior art” such that he has contributed

to the formulation of the inventive concept. For example, he would not be considered an inventor if he merely assisted in carrying out the experiments as per the instructions of Person A, cleaned up the equipment in the laboratories or supplied the necessary starting materials.

b) Does your law defining inventorship rely on or look to a particular part of the patent application? For example, is inventorship under your law determined on a claim by claim basis, determined based on the content of the drawings or the examples, or determined on some other, and if so, what basis?

yes

Please comment:

In determining whether a person is an inventor within the meaning of Section 2 of the Patents Act, the court would first identify the inventive concept in the patent application, followed by determining whether that person has contributed to the inventive concept.

The phrase "inventive concept" is not defined in the Patents Act. Though the High Court in *Dien Ghin* did not specify the approach taken in identifying the inventive concept (i.e. whether only the claims are considered or whether the claims, together with the description and drawings are considered), the inventive concept identified by the court in that case is clearly derived from the independent claims of the patent application in question.

This approach is supported by Section 113 of the Patents Act, which states that an invention in a patent application shall be taken to be that specified in the claims as interpreted by the description and any drawings contained in the patent specification.

Therefore, the inventive concept should be identified or derived from the claims, as interpreted by the description and any drawings contained in the patent specification.

2) Does your law of inventorship depend on the citizenship of the inventor(s)?

no

Please comment:

The Singapore law of inventorship does not depend on the citizenship of the inventor(s).

3) Does your law of inventorship depend on where the invention was made (e.g. on the residency of the inventor(s))?

no

Please comment:

The Singapore law of inventorship does not depend on where the invention was made.

4) Can the inventorship of a patent application be corrected after the filing date in your country?

yes

If yes, what are the requirements and time limits for such correction?:

The inventorship of a patent application can be corrected after the filing date in Singapore. Correction can take various forms, for example:

- correction of the name or address of the inventors
- addition of additional inventors
- removal of inventors

Correction of name of inventors This is a simple process and can be done at any time by filing the requisite form. The Registrar may request for proof of the alteration.

Addition of additional inventors or removal of inventors

Rule 17(1) of the Patents Rules provides that any application for the addition or removal of inventors shall be made on a prescribed form and accompanied by a statement setting out fully the facts relied upon. The Registrar will send a copy of the application and grounds to the patent owner, inventors and other interested parties, and they may oppose the application if they object to the same. Where there are no objections by the patent owner or the named inventor(s) or where the objections are resolved in the applicant's favour, the Registrar may include the applicant as an inventor to the patent application or issue a certificate removing the inventor.

Time limits for correction of inventorship

There are no time limits for the correction of inventorship.

- 5) What are the possible consequences of an error in the stated inventorship on a patent application in your country? Can a patent issued from such an application be invalidated or rendered not enforceable on that basis? Does it matter whether the error was intentional or unintentional?

In responding to this question, we assume that an "error in the stated inventorship" means either an individual was named as an inventor when he should not have been named, or an individual was not named as an inventor when he should have been.

The following are possible consequences of an error in the stated inventorship on a patent application in Singapore:

- a) Any person (including a third party) may apply to the Registrar to add an individual as an inventor pursuant to Section 24(1), or to remove an individual from being named as an inventor pursuant to Section 24(3) of the Patents Act. If there are no issues, the relevant action would be taken without affecting the patent.
- b) If errors in the inventorship affects the entitlement to grant, and an application is filed pursuant to Section 20(1) of the Patents Act by a person alleging that he is entitled to the patent, the Registrar may refuse to allow the patent application to proceed to grant. On the other hand, the Registrar may, pursuant to Section 21 of the Patents Act, allow the application to proceed to grant, and then deal with the issue as though it is referred under Section 47(1) of the Patents Act (see paragraph c).
- c) In the case of a granted patent, any person claiming a proprietary interest to a granted patent may refer the question of proprietorship to the Registrar pursuant to Section 47(1) of the Patents Act, and the Registrar may make such orders as he deems fit, including adding the applicant as a proprietor. However, the Registrar would not be able to order the patent to be revoked unless an application was also made under Section 80 (see paragraph d), even where the Registrar finds that the patent was

granted to a person not entitled to be granted that patent (whether alone or with other persons).

d) In the case of a granted patent, the Registrar (or the court) may revoke the patent (upon the application of any person under Section 80) on the basis that:

- the patent was granted to a person who is not entitled to be granted the patent or
- the patent was obtained fraudulently, on any misrepresentation or on non-disclosure or inaccurate disclosure of material information.

An intentional error in the stated inventorship on a patent application may amount to fraud. Even if the error was unintentional, it could amount to a misrepresentation if it actually deceived the Registrar into granting the patent.

If the error is intentional, generally, the consequences will be more severe as the Registrar has the powers to make the appropriate orders.

6) Does your law require that an application for a patent claiming an invention made in your country, whether in only one technical area or in all technical areas, be filed first in your country?

yes

If the answer is yes, please answer the following::

a) Is the law requiring first filing in your country limited to a specific area of technology or otherwise limited such that it does not apply to all inventions made in your country? If yes, please explain.

no

Please comment.:

The law is not limited to a specific area of technology and applies to all inventions made in Singapore by a person resident in Singapore.

b) Does your law provide for granting of a foreign filing license or similar mechanism that would allow a patent application for an invention made in your country to be filed first in another country? Please describe any such foreign filing license or similar mechanism as well as the procedure, timing, and cost of obtaining it.

yes

Please comment.:

Yes. A person resident in Singapore may request for grant of written authority by the Registrar pursuant to Section 34 of the Patent Act ("**Foreign Filing Licence**") for an invention to be filed first in another country. A Foreign Filing Licence is referred to as "National Security Clearance" in Singapore.

Section 34 of the Patents Act states that no person resident in Singapore shall, without written authority granted by the Registrar, file or cause to be filed outside Singapore an application for a patent for an invention. However, the requirement applies where the person filing or causing the application to be filed is **resident** in Singapore, and not necessarily where the invention is made in Singapore.

Any application outside Singapore will have to be filed at least two months after the date of filing in Singapore.

Thus, Singapore law requires that an application for a patent claiming an invention made in Singapore be first filed in Singapore, if the inventor(s) and/or the applicant is resident in Singapore.

Any person requesting for a Foreign Filing Licence must submit a form to the Intellectual Property Office of Singapore (“**IPOS**”) giving details of the person seeking the Foreign Filing Licence, the country in which protection is sought and the technology cluster of the invention. This form must also be accompanied by a brief summary of the invention and the drawings.

IPOS would generally respond in less than 5 working days upon receipt of the application. The request is made online or manually via the Service Bureau if the online application cannot be made, but the latter will be slower. If the subject matter of the invention involves defence or national security, the processing of the application may take a longer period, sometimes even 1 to 2 months.

Additionally, where urgent consideration of the application is required, the applicant is encouraged to inform IPOS via telephone before such an application is made.

No official fees are payable to obtain a Foreign Filing Licence.

c) If the answer to b. above is yes, is it possible to obtain a foreign filing license retroactively, for example, if a foreign filing was made without a foreign filing license due to inadvertent error?

no

Please comment.:

A Foreign Filing Licence cannot be obtained retroactively.

d) How does your law apply to an application for a patent claiming an invention that was made jointly by an inventor in your country and an inventor in another country? Does this apply based on the citizenship of the inventor, the residency of the inventor, or both? Does the nationality of the patent owner affect your answer?

It is necessary to obtain a Foreign Filing Licence only where an inventor or an applicant of a patent application for an invention is a **resident** of Singapore. A resident includes a person who, at the material time, is residing in Singapore by virtue of a valid pass lawfully issued to him under the Immigration Act (Cap. 133) to enter and remain in Singapore for any purpose. The citizenship of the inventor and the nationality of the patent owner are therefore not relevant in ascertaining whether it is necessary to obtain a Foreign Filing Licence.

Where the invention was made jointly by an inventor resident in Singapore (“**Resident Inventor**”) and an inventor resident outside Singapore (“**Non-Resident Inventor**”), a patent application for the invention can be filed first in a country outside of Singapore *by the Non-Resident Inventor* pursuant to Section 34(2) of the Patents Act. Although the requirement to obtain a Foreign Filing Licence does not apply to a patent application for an invention filed first in a country outside of Singapore *by the Non-Resident Inventor*, the Resident Inventor may still be in contravention of Section 34 of the Patents Act if he/she *caused the patent application to be filed first outside Singapore*.

Hence, it is prudent to obtain a Foreign Filing Licence as long as there is one Resident Inventor.

e) In the case of an invention made jointly by an inventor in your country and an inventor in another country, would it violate your law if a request for a foreign filing license was filed in the other country before being filed in your country?

no

Please comment.:

Filing a request for a Foreign Filing Licence in another country does not amount to filing or causing a patent application to be filed in that country and therefore, would not amount to a contravention of Section 34(1) of the Patents Act (which requires applications to be first filed in Singapore except where the Registrar has granted written authority otherwise).

The criminal sanctions for contravention of Section 34 of the Patents Act only applies where any person "*files or causes to be filed an application for the grant of a patent in contravention of*" Section 34(1).

f) What are the possible consequences for failing to comply with this law? Does it matter whether the error was intentional or inadvertent?

Contravention of the requirement for first filing in Singapore is a criminal offence and any person convicted of such an offence is liable to a fine not exceeding \$5,000 or to imprisonment for a term not exceeding 2 years or to both.

The inadvertency of the error would be taken into consideration in deciding the quantum of fines imposed on the person who contravened Section 34 of the Patents Act. The IPOS website states that where the failure to obtain a Foreign Filing Licence is inadvertent, the Registrar **may**, after considering the facts of the case, compound the offence upon payment of a sum of money not exceeding \$2,000, and no further proceedings will be taken against that person.

7) Does your law require that a patent application claiming an invention made, at least in part, in your country undergo a secrecy review or similar process before it can be filed in another country?

yes

If yes please answer the following questions.:

a) Does this law depend on the area of technology that is disclosed and claimed in the patent application?

The Patents Act requires Secrecy Review to be conducted for all areas of technology. However, it is very likely that operationally, Secrecy Review is only conducted for those areas of technology where inventions are likely to be prejudicial to the defence of Singapore or safety of the public.

b) Describe this aspect of your law as well as the procedure, timing, and cost of compliance with it.

After a patent application is filed in Singapore, Section 33 of the Patents Act requires the Registrar to give directions to prohibit or restrict the publication of the patent or the communication of information contained in the patent application if the Registrar is of the opinion that the patent

application contains information which is prejudicial to the defence of Singapore or the safety of the public ("**Secrecy Review**").

A Secrecy Review will be conducted by the Registrar whenever a patent application is filed in Singapore (whether as a domestic application or as an application under the PCT). It is an automatic process and there are no costs associated with this review.

The Registrar has to notify the Minister of the patent application and the Registrar's directions, and the Minister will decide whether to affirm the Registrar's decision or to make some other order.

A patent application can only be filed outside of Singapore if no directions have been given under Section 33 of the Patent Act prohibiting the publication of the patent or the communication of information relating to the patent, or where all such directions have been revoked.

If the Registrar wishes to prohibit the disclosure of the invention, the Registrar has to give directions within 2 months of the filing of the patent application.

One condition for granting a Foreign Filing Licence is that the Registrar must not have issued directions prohibiting the disclosure of the invention pursuant to Section 33.

c) Describe the possible consequences of failing to comply with this law. Does it matter whether the error was intentional or inadvertent?

Failure to comply with the directions given by the Registrar pursuant to Section 33 is a criminal offence and any person convicted of such an offence shall be liable on conviction to a fine not exceeding \$5,000 or to imprisonment for a term not exceeding 2 years or to both.

## II. Policy considerations and proposals for improvements of the current law

8) If your law defines inventorship, is this definition sufficient to provide patent applicants with clear guidance as to who should be named as the inventor(s) of a patent application? Are there aspects of this definition that could be improved?

An inventor is defined in Section 2 of the Patents Act to mean "the *actual deviser* of the invention".

The phrase "the *actual deviser* of the invention" does not provide clear guidance as to who should be named as inventor(s) of a patent application. This phrase has been interpreted by the courts as meaning a natural person who has contributed to the "formulation of the inventive concept". However, the phrase "inventive concept" itself is a nebulous concept which is difficult to identify. It is recognised that it may not be possible to be very specific about how the identification of the "inventive concept" is to be done.

Nevertheless, to provide clearer guidance to the inventors, the phrase "actual deviser" and "inventive concept" should be defined in the Patents Act.

9) If you have laws requiring first filing of patent applications directed to inventions made in your country, are there aspects of these laws that could be improved to address multinational inventions?

A Foreign Filing Licence is needed for a first filing overseas where an inventor or an applicant is resident in Singapore. However, the term "person resident in Singapore" is not clearly defined. It is defined as including a person who is residing in Singapore by virtue of a valid pass lawfully issued to him under the Immigration Act. This may possibly include persons who are visiting Singapore on a social visit pass for

a short period.

Considering the fact that inventions may have inventors who reside in different countries, and also the fact that other countries are also likely to have similar provisions requiring a Foreign Filing Licence for resident inventors, there is a real need for harmonisation of laws relating to Foreign Filing Licences.

As an invention may take place over a long period of time, and an inventor may be resident in several countries during the period of invention, it is not inconceivable that an inventor may have to apply for Foreign Filing Licences in more than one country!

The law provides that “no person resident in Singapore” shall cause a first filing of an application overseas without obtaining a Foreign Filing Licence. It is not clear whether this section only applies to persons resident in Singapore at any time during the period of the invention or only at the time of the proposed first filing overseas. It is proposed that this Section be amended such that it only applies to persons resident in Singapore at the time of the proposed first filing overseas. This will ensure that the Singapore Patents Act does not apply to persons outside the jurisdiction of Singapore, and any foreign inventor/applicant who ceases to be resident in Singapore would only be governed by the laws in the country where he is resident.

In most cases, inventors do not make the decision as to where the application is to be filed. Hence the obligation to obtain a Foreign Filing Licence should not be imposed on inventors, but should be imposed on applicants only.

It should also be permissible for Foreign Filing Licences to be obtained retroactively, provided that such application to obtain the Foreign Filing Licence is made before any publication of the patent application.

10) If you have laws requiring a secrecy review of patent applications directed to some or all types of inventions made in your country, are there aspects of these laws that could be improved to address multinational inventions?

Section 33 of the Patents Act requires the Registrar to carry out Secrecy Review when an application is filed in the Registry “whether under the Act or any treaty or international convention”. This is wide enough to include PCT applications entering national phase in Singapore, which can cause hardship to foreign applicants. The Patents Act should therefore be amended to clarify the scope of this section. The scope of this section should not be so wide that it covers PCT applications filed overseas entering national phase in Singapore, since the Registrar would not have the ability to prevent the publication of such applications if they had not entered national phase in Singapore.

11) Are there other aspects of your law that could be improved to facilitate filing of patent applications having multinational inventorship? If yes, please explain.

*Scope of Section 34(1)*

This section provides that “no person resident in Singapore” shall cause a first filing of an application overseas without obtaining a Foreign Filing Licence. It is not clear whether this section only applies to persons resident in Singapore at any time during the period of the invention or only at the time of the proposed first filing overseas. It is proposed that this Section be amended such that it only applies to persons resident in Singapore at the time of the proposed first filing overseas. This will ensure that the Singapore Patents Act does not apply to persons outside the jurisdiction of Singapore, and any foreign inventor/applicant who ceases to be resident in Singapore would only be governed by the laws in the country where he is resident.



*Section 34(2)*

The requirement for a Foreign Filing Licence should be limited to cases where there are Resident Inventors. It clearly does not apply to patent applications where all the inventors are Non-Resident Inventors.

In the case where there are both Resident and Non-resident Inventors, the requirement to obtain a Foreign Filing Licence should still be applicable. As mentioned above, Section 34(2) which allows a Non-Resident Inventor to file overseas without a Foreign Filing Licence introduces uncertainty, especially where there are both Resident and Non-Resident Inventors.

Hence, the scope of Section 34(1) and (2) should be clarified as to the obligations of the Resident Inventor when the Non-Resident Inventor first files overseas.

The issue is whether the Resident Inventor could be considered to have caused the Non-Resident Inventor to first file the application overseas, and therefore be liable to punishment.

### III. Proposals for harmonisation

12) Is harmonisation in this area desirable?

yes

Please comment.:

Harmonisation is desirable. See proposals below.

If yes, please respond to the following questions without regard to your national or regional laws. Even if no, please address the following questions to the extent you consider your national or regional laws could be improved.

13) Please provide a definition of inventorship that you believe would be an appropriate international standard.

*Proposed definition of an inventor*

"An inventor is a natural person who has materially contributed to the inventive concept of the invention as set out in the claims and as interpreted by the description and any drawings contained in the patent application, excluding any elements and/or features that are part of the state of the art, and excluding any person who is acting upon the directions of another."

14) Please propose a standard for correction of inventorship after a patent application is filed, together with any requirements necessary to invoke this standard (e.g. intentional versus unintentional error) and any timing requirements (e.g. during pendency of the application).

*Standard for correction of inventorship*

There should be a simple process for the voluntary correction of inventorship by an applicant/patentee where the failure to include or remove the inventor(s) was unintentional or inadvertent. In such cases,

there should be no consequences in relation to the patent.

Where the failure to include the inventor(s) or the inclusion of non-inventors was intentional or if it appears to the Registrar to be questionable, more serious consequences should follow. The Registrar should have the power to revoke the patent.

*Timing requirements*

There should not be any time limits for the correction of inventorship.

- 15) If you believe such a requirement is appropriate, please propose an international standard for first filing requirements that would take into account multinational inventions.

The first filing requirement should apply irrespective of the technologies involved. The requirement should apply in all cases where there is a Resident Inventor. The section which allows a Non-Resident Inventor to file overseas creates uncertainty as regards the obligation of the Resident Inventor and clarifications should be made as to the obligations of the Resident inventor when the Non-Resident Inventor first files overseas.. The Section should only apply where the inventors/applicants are resident in Singapore at the time of the proposed first filing overseas.

In most cases, inventors do not make the decision as to where the application is to be filed. Hence the obligation to obtain a Foreign Filing Licence should not be imposed on inventors, but should be imposed on applicants only.

- 16) If you believe such a requirement is appropriate, please propose an international standard for secrecy review requirements that would take into account multinational inventions.

Secrecy reviews should be conducted only where the application is first filed in a country, or where a Foreign Filing Licence is sought. It should not apply to foreign PCT applications entering national phase in the country.

- 17) If you believe such a requirement is appropriate, please propose an international standard for obtaining a foreign filing license.

A foreign filing licence should be granted unless the invention is prejudicial to the national defence or safety of the public. Where a foreign filing licence is not granted, any further disclosure of the invention should be clearly prohibited.

In the case of an application with inventors from different jurisdictions, each inventor may be required by the laws of his country to obtain a foreign filing licence. Hence, details of the invention would have to be disclosed to the authorities of different jurisdictions in order to obtain foreign filing licences. Any such disclosure prior to the issue of directions prohibiting disclosure should not be considered to be in contravention of any laws.

In most cases, inventors do not make the decision as to where the application is to be filed. Hence the obligation to obtain a Foreign Filing Licence should not be imposed on inventors, but should be imposed on applicants only.

The cost for obtaining the grant of foreign filing licence should not be too onerous or too prohibitive and the authorities should not take too long to grant a foreign filing licence.

18) Please propose an international standard for an ability to cure or repair an inadvertent failure to comply with a first filing requirement or a security review requirement.

An inadvertent failure to comply with a first filing requirement should be cured or repaired by the retroactive filing of foreign filing licence. Security review should be automatically carried out by the authorities, as in the case of Singapore. It should not be the obligation of the applicants to voluntarily submit their applications for security review as applicants view their invention from a commercial angle, whereas the authorities view the invention from a security angle which may not be apparent to a commercial entity. Applicants may inadvertently be liable if they fail to submit an invention for security review.

19) Please propose any other standards relating to multinational inventions (excluding those related to inventor remuneration or ownership of the invention) that you feel would be appropriate.

We do not have any proposals other than what have been proposed above.

#### Summary

Please comment on any additional issues concerning the multinational inventions you consider relevant to this Working Question.