WORLD TRADE ORGANIZATION

IP/C/W/699

1 June 2023

(23-3746)

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Council for Trade-Related Aspects of Intellectual Property Rights

Original: English

INTELLECTUAL PROPERTY AND INNOVATION: RESEARCH COLLABORATION ACROSS BORDERS

COMMUNICATION FROM AUSTRALIA; EUROPEAN UNION; HONG KONG, CHINA; JAPAN; SINGAPORE; SWITZERLAND; THE SEPARATE CUSTOMS TERRITORY OF TAIWAN, PENGHU, KINMEN AND MATSU; THE UNITED KINGDOM AND THE UNITED STATES OF AMERICA

1 INTRODUCTION

1. Scientific research benefits immensely from international cooperation.[1] The interaction between people of diverse backgrounds all over the world yields new ideas, new solutions, and different ways of looking at the same problem. The need for certain scientific tools or databases can necessitate the involvement of international partners.[2] Cooperation and collaboration can enhance the quality of science, avoid unnecessary duplication, provide economies of scale, and address issues that can only be solved by working together.[3]

2. International collaborative research involves cross-country teams that share research interests, conduct research, and promote research results to advance knowledge.[4] In 2010, the share of patents with a foreign co-inventor doubled over the prior three decades, from 10% to 20%.[5] The share of scientific publications with an international co-author tripled during that same time period, from around 7% to 22%.[6] The digital age, access to new technologies, and the greater mobility of information, ideas, researchers, and scientists is making international collaborations easier.[7]

3. International research collaboration can take place in a variety of forms – for example, between public institutions, such as governments, universities, and international organizations, between private entities and public institutions, and between private entities.

2 REASONS FOR INTERNATIONAL COLLABORATION

4. There are many reasons why an entity or team of researchers may wish to collaborate, including efficiency, similarity in the area of technology, and cost considerations. Dividing effort can be more efficient when tackling a similar area of technology.[8] The complexity of the research may play a role;

[1] *International Activities at NSF*. National Science Foundation. https://www.nsf.gov/od/oise/IntlCollaborations/index.jsp

[2] *Id.*

[3] Global Research Council. https://globalresearchcouncil.org/about/global-research-council/

[4] Yao B. International Research Collaboration: Challenges and Opportunities. Journal of Diagnostic Medical Sonography. 2021;37(2):107-108. doi:10.1177/8756479320976130.

[5] OECD (2013), *Regions and Innovation: Collaborating Across Borders*, OECD Reviews of Regional Innovation, OECD Publishing. http://dx.doi.org/10.1787/9789264205307-en

[6] *Id.*

[7] National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2011. Examining Core Elements of International Research Collaboration: Summary of a Workshop. Washington, DC: The National Academies Press. https://doi.org/10.17226/13192.

[8] Jennifer Dusdal, Justin J W Powell, Benefits, Motivations, and Challenges of International Collaborative Research: A Sociology of Science Case Study, Science and Public Policy, Volume 48, Issue 2, April 2021, Pages 235–245, https://doi.org/10.1093/scipol/scab010.

in some cases, the advanced knowledge and skills required for a particular field may necessitate collaboration. Cost sharing is frequently cited as an important reason for collaboration.[9] As the World Intellectual Property Organization notes, "[i]nvestments in research and development (R&D) - the cost of labs, instrumentation, testing equipment and technical specialists - can be substantial. In some industries, such as those producing semiconductors or telecommunications equipment, the cost of a single R&D project can be beyond the reach of most companies. In more typical smaller-scale R&D operations, effective facilities not only require lab equipment but also ancillary services such as administrative support, staff to maintain specialized equipment or hazardous materials and testing technicians. Collaborating with a party that has similar needs helps spread these costs."[10]

5. Small and medium sized enterprises (SMEs), in particular, may seek to collaborate with another entity as they may have limited resources. This may include collaborating with another party that can offer capital, has a different set of expertise, can do some of the research and development, or can help license or bring products to market.[11] SMEs may also seek out collaboration with government-funded academic institutions.[12] Forming such collaborations allows smaller entities to share development risk and undertake projects that might otherwise be considered too risky.[13] Intellectual property rights often form an important part of these agreements.

6. In certain sectors, like technology and life sciences, it is common to collaborate with another party during certain stages of a project, such as invention, development, and commercialization.[14] An entity may seek out a partner to collaborate with who has more skills, expertise, or resources to address a particular phase of the project.

3 INTELLECTUAL PROPERTY RIGHTS CONSIDERATIONS

7. With any collaboration, there are key issues that may need to be discussed between parties, from the practical to contractual. In international collaborations, issues that can arise include cultural differences and nuances; legal issues particular to certain jurisdictions; differences in ethical standards, research integrity and conduct; and risk management issues.[15] Another consideration is intellectual property rights, or IPR. IPR aspects should be addressed before the collaboration begins, bearing in mind that IP regimes can be different in different territories.[16]

8. While some collaborating parties may think of IPR as the fruit of their collaboration, IPR are implicated throughout. In the case of a collaborative project, for example, there may be existing IPR owned by the participants, IPR owned by third parties, ownership of IPR in the project, use of the project IPR for internal purposes such as further research, and use of the project IPR for commercialization, such as selling products or services.[17]

9. IP protection and enforcement in each of the collaborating countries is essential to providing certainty when entering into a research agreement. Results from research developments in countries with effective and balanced IP protections are better protected from copyright piracy, trademark counterfeiting, patent infringement, and trade secret theft, any of which can increase the risk to the research partners and discourage collaboration. The lack of IP protection can also lead to a loss of

[9] Wadsworth, P., Brant, J., and Brown, P. (2021, June). *Key IP considerations for smaller enterprises*. World Intellectual Property Organization. https://www.wipo.int/wipo_magazine/en/2021/02/article_0008.html

[10] *Id.*

[11] *Id.*

[12] *Id.*

[13] Lerner, J., and Lin, E. (2012, November). *Collaboration in intellectual property: an overview*. World Intellectual Property Organization. https://www.wipo.int/wipo_magazine/en/2012/06/article_0008.html

[14] Sumroy, R. (2021, Dec. 10). *Intellectual Property: Cross-Border Joint Ventures*. Slaughter and May. https://my.slaughterandmay.com/insights/briefings/intellectual-property-cross-border-joint-ventures.

[15] National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2011. Examining Core Elements of International Research Collaboration: Summary of a Workshop. Washington, DC: The National Academies Press. https://doi.org/10.17226/13192.

[16] Glover, K. (1996). Intellectual property rights and international collaboration: A US perspective. Current Science, 70(12), 1057–1059. http://www.jstor.org/stable/24122256

[17] Australian Government Department of Education. "Developing IP Through Collaboration." https://www.education.gov.au/hercip/higher-education-research-commercialisation-intellectual-property-framework-practical-guide/4-individual-pathways-guidance/4-2-developing-ip-through-collaboration.

royalties, licensing fees, and market share if the result of the research is commercialized.[18] Collaboration may be more attractive with a research partner in a country where IPR and its enforcement, as well as the enforcement of contractual obligations, is strong, to protect against use of IPR that is not in line with the terms of the research agreement.

10. Strong and efficient IP protections also incentivize investment, which leads to more availability of resources for research and development.[19] Increased investment in research and development leads to job creation for researchers and for businesses that may be generated as the result of the research.[20] Those that invest in research are more likely to collaborate in countries where they know that the IP arising from that research will be protected.[21]

11. Ownership of IPR is determined by national law. Because considerable differences exist between national IP laws and regulations, these differences should be taken into account prior to entering into a collaboration, as well as when drafting research agreements.[22] For example, some research outputs may be patentable in one collaborating country but not in the other. In another example, some countries allow a 6- or 12-month grace period after the public disclosure of the invention during which it is still possible to apply for a patent,[23] while others do not allow obtaining patent protection if a public disclosure has been made. Therefore, a collaborative research project between parties would have to take these differences into account, possibly by agreeing to delay any kind of publication or presentation until a patent application is filed in all desired jurisdictions.

12. Another consideration is what will happen if new IPR continue to be developed after the end of the project. The research agreement should affirmatively state who has rights to IPR at the conclusion of the project and any further work that may occur once the project ends, including for how long and under what conditions. In addition, because the IPR involved in a collaboration may include third party rights, which should be appropriately licensed in order to be used as part of the project, the collaborators should consider whether the licensing of the third-party rights extends to developments that occur after the project ends, or merely for the duration of the project or collaboration.

4 GUIDING QUESTIONS FOR DISCUSSION

13. The following are questions for consideration by Members to aid in the discussion. Members are free to share any national experiences that may be of interest, and are not limited to the guiding questions below.

1) What are some of the international collaborations your country is involved in? For example, public-public, public-private, private-private?
2) What are some of the reasons for these collaborations? Why or how did they arise?
3) What are some of the benefits and challenges that have arisen as a result of these collaborations?
4) How have parties participating in international collaborations handled IPR considerations with respect to the collaboration?
5) Has your country seen more international collaboration as digital tools and technology have evolved?
6) Real-world cases can often provide the most illustrative examples. Are there any examples or case studies of international collaboration that particularly stand out in your country?

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[18] Glover, K. (1996). Intellectual property rights and international collaboration: A US perspective. Current Science, 70(12), 1057–1059. http://www.jstor.org/stable/24122256

[19] *Id.*

[20] *Id.*

[21] *Id.*

[22] Adams, J., et al. (2002). Working Paper: Expert Group Report on Role and Strategic use of IPR (Intellectual Property Rights) in International Research Collaborations: Final Report. (European Commission). Office for Official Publications of the European Communities.

[23] *Id.*