



## DIGITAL TRANSFORMATION, DATA AND FRONTIER TECHNOLOGIES

### BACKGROUND

#### Frontier Technologies

The last two decades have seen an explosion of technologies, transforming how we work and live in an increasingly interconnected digital world. The emergence of frontier technologies is at the heart of what is sometimes known as the Fourth Industrial Revolution or Industry 4.0.

The field of frontier technologies is rapidly evolving and there is no agreed definition. However, frontier technologies all share some common features. They operate at the intersection of radical scientific developments and real-world implementation. They are changing the way we communicate, solve problems, provide goods and services, create and do business. And the rate of change is increasing exponentially.

Frontier technologies also provide opportunities for economic growth. In order to harness those opportunities for all, we need to ensure that the IP ecosystem continues to foster innovation and creation and that the systems for IP administration evolve with the changes.

#### Data

According to the World Economic Forum (WEF), nearly a quarter (24.3%) of global GDP will come from digital technologies by 2025. It is estimated that 2.5 quintillion bytes of data are created daily. This rate of creation is accelerating exponentially, with 90 percent of existing data having been generated in the last two years. Data generation and refinement can represent a significant investment. Data wrangling, the process of cleaning and curating data into usable data sets, is fast becoming a key to using all the data we are generating.

Data generation, collection and curation, on the one hand, and data access, on the other hand, are pivotal to driving the new frontier technologies.

#### The WIPO Conversation

The WIPO IP and Frontier Technologies Division aims to facilitate discussion and knowledge building among Member States and other stakeholders on the impact of frontier technologies on IP, to support well-informed policy decisions and to provide practical tools and guidance to help us all navigate the IP questions posed by the new digital world.

The WIPO Conversation provides an open, inclusive forum to engage with and facilitate discussion and knowledge building among the broadest possible set of stakeholders on the impact on IP of frontier technologies.

The fourth session of the Conversation will take place on September 22-23, 2021, and will focus on “Data – beyond AI in a fully interconnected world”. We will ask how data changes how we do business, innovate and create. And we will explore how data fits into the current IP system and how can the IP system use data.

### **Request for Information**

To assist us in shaping our future work in frontier technologies and IP, and in preparation for the fourth session of the WIPO Conversation, we would like to hear from you about the challenges and opportunities you see, your stories and your views.

The questionnaire starts with some general questions relating to your use of frontier technologies and IP. Then it focuses on data as a driving force fueling frontier technologies, including AI.

WIPO is seeking to support innovators and creators with practical tools and guidance in this new world of frontier technologies. We will use your answers to this questionnaire to help us help you.

Thank you so much in advance for your replies.

### **TELL US ABOUT YOU**

Organization	
Website	
Name of the person completing this survey	
Title	
Unit	
Phone	
E-mail	

Any personal information provided, such as contact details of individual persons, will not be made publically available but may be used solely by WIPO to share the results of the questionnaire and to gather further information in the future.

1. What is your sector of activity?

2. How many employees does your organization employ?

3. Where are you located (country, city)?

4. In which year was your organization founded?

5. Please specify which new frontier technologies you are currently using in your business operations:

- AI
- 3D printing
- 4D printing
- Big data
- Cloud computing
- Internet of things
- Block chain
- Digital twins
- Robotics
- Quantum computing
- Genetic engineering
- Human augmentation
- Other, please specify:

**DATA**

Please help us understand your use of data.

6. Please describe what type of data you are using in your business and for which processes and (frontier) technologies.

7. How do you source the data you are using? *For example, do you generate your own data, are you relying on freely available data, or are you licensing in data sets? Does generating or sourcing data represent a significant investment for your organization?*

8. What is your business model (or product or service) based on?

- Business model based on data being available freely
- Business model based on data being protected from wider use
- Don't know / not sure

9. If your business model is based on data being freely available, how satisfied are you with the selected business model?

- Satisfied
- Not satisfied
- Don't know / not sure

10. If your business model is based on data being freely available, but you are not satisfied with being able to access the data, can you please explain the difficulties you are experiencing? *For example, is there a lack of standardized, useable data? Is the source of the data difficult to identify? Is the data potentially protected and access restricted? Is the necessary data-wrangling expensive?*

11. If your business model is based on the data you are using being protected from wider use, do you believe that the current laws (such as IP laws, trade secrets or contractual agreements) sufficiently protect your interests?

- Yes
- No
- If no, please explain:

12. If your business model is based on the data you are using being protected from wider use, would you consider sharing your data and, if so, under which conditions? *For example, under a licensing scheme, reuse of the data after a certain exclusivity period etc.?*

**USE OF IP**

13. How important is IP (patents, trademarks, copyright, designs etc.) for your business model?

- Very important
- Somewhat important
- Not important
- Don't know / not sure

14. Which of the following IP rights does your organization use in order to protect your assets (including in relation to frontier technologies)?

- Do not know/not sure
- Patents
- Trademarks
- Copyrights
- Design
- Other, please specify

15. How important are confidentiality and trade secrets to your business operations compared to traditional IP rights (patents, trademarks, copyright, designs etc.)?

- Very important
- Somewhat important
- Not important
- Don't know / not sure

16. If confidentiality and trade secrets are very important or somewhat important for your business, please provide details. *For example, do registered IP rights offer sufficient protection for your business model, product or service?*

17. How does your company obtain information and expertise on IP?

- Internal resource, please provide details:

- External advice, please provide details:

#### **DATA, FRONTIER TECHNOLOGIES AND IP**

18. Are you concerned about your ability to protect your data, innovations, creations and ideas generated with or in the field of frontier technologies? *For example, are you concerned about being able to register IP rights or enforcing IP rights in a much more fragmented digital world etc.?*

- Yes, please provide details:

- No, please provide details:

Do not know / not sure

19. What is your most significant concern in relation to IP concerning data and/or the new frontier technologies?

20. Are you aware of any third party or competitor IP rights in the field of the new frontier technologies (for example, proprietary rights in data, copyright in data, software patents etc.) that hinder your business operations? Please provide details:

**AI**

21. If you are using AI in your activities, please describe how your organization is using AI and its relevance to your business. Please provide as much information as possible. *For example: How do you use AI, and how important is AI to your activities? Would you describe your activities as an AI user or an AI developer? How dependent are your business activities on AI?*

22. How does your organization consider AI?

Opportunity

- Risk
- Both
- Do not know

23. Please share details of the opportunities and/or risks you see if possible.

Opportunities	Risks

### UNDERSTANDING AND KNOWLEDGE OF DIGITALIZATION, DATA AND FRONTIER TECHNOLOGIES

24. Which of the following frontier technologies and IP would you like to find out more about?

- AI
- 3D printing
- 4D printing
- Big data
- Cloud computing
- Internet of things
- Block chain
- Digital twins
- Robotics
- Quantum computing
- Genetic engineering
- Human augmentation
- Other, please specify

25. What particular aspect of IP in relation to frontier technologies would you welcome additional information on? *For example, which topic(s) would you like an IP guide to address?*

- IP protection and different IP rights
- Commercialization of IP rights
- Enforcement of IP rights

- Liability for infringement of IP rights
- IP protection for data
- Case studies
- Other (please specify)

26. Does your organization require additional general knowledge/training/orientation in IP related matters?

- Yes, please specify details:

- No

27. Is there any other information concerning frontier technologies and IP that you would like to share with us?

- Yes, please specify details:

- No

### **COLLABORATION WITH WIPO**

28. Would you be interested in collaborating with WIPO on the topic of IP and frontier technologies? *For example, to prepare case studies, for further surveys, to participate in the Conversation or to be interviewed for the WIPO Magazine.*

- Yes
- No

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