

Intellectual Property and Frontier Technologies

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AI & IP: Policy and legal design

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Setting the scene: frontier technologies

- Unprecedented era of interconnectivity
- Frontier technologies operate at the intersection of breakthrough science and practical implementation
- From work by Zoom to 5G, cryptocurrencies to telehealth, digitalization is accelerating.
- Never have our physical and digital worlds been more intertwined.

Setting the scene: economic impact

- Frontier technologies have the potential to provide significant economic growth.
- AI is currently the most prolific new technology in terms of the number of publications and patents.
- The IoT is the largest in terms of market followed by big data technologies, robotics, AI, 3D printing and the fifth generation of mobile services (5G) .
- Frontier technologies now represent a \$350 billion market, which could become a \$3.2 trillion market as soon as 2025.

IP and frontier technologies

- IP is rapidly gaining increasing importance over physical assets
- IP is central to driving growth in the field of frontier technologies
- Diffusion of these new technologies to benefit all and to leave no one behind.
- How do we ensure that the current IP system continues to promote innovation in the digital age?

What's all the fuss about?

- IP rights and the current IP systems were designed to foster human creation and innovation.
- While most of the current AI applications can be described as narrow AI, there is a lively debate whether, and if so when, general AI will become available.
- AI is increasingly becoming more autonomous and that the required human input is decreasing.
- Does AI innovation and creation fit into the current system? Should AI innovation and creation be incentivized at all? And, how do we balance the value of human and AI creation and innovation?

Everything is connected

- Why a holistic approach to AI and IP is important
- Is AI just like photography? AI impacts every part of the IP system
- WIPO Revised Issues Paper

It's complicated

- IP is not the only angle: ethics, security, privacy, competition law...
- AI is technically complex and the technology is evolving fast
- Is it too early or too late for regulation?
- Do you look at the impact of individual IP rights or the elements of AI (data, algorithm, output)?

Data is the fuel for the AI engine

- Every minute, more than 500 hours of content is uploaded on YouTube and nearly 70 million messages are sent via WhatsApp and Facebook Messenger.
- 4.6 billion active internet users worldwide – almost 60 per cent of the global population.
- 90 per cent of all the world's data has been generated in the last two years, with over 2,500 petabytes of data produced each day.

The value of data

- Data difficult to define - wide set of different characteristics.
- Difficult to value – but holds significant value.
- Available in vast quantities, often at marginal cost – but sometimes expensive to generate.
- Often meaningless until analyzed - investment often in preparing the data rather than analysis.
- Despite this investment cost, the value of data can increase when shared.

Data and IP

- Data is an intangible asset but often does not involve originality or an inventive contribution but fuels technological innovation and changes in the creative sector.
- The application of IP to data is complex.
- Regulation aims at establishing a balance between protection of rights and investment in data and encouraging free flow of data.
- Where should that balance lie?
- IP can be an incentive for the generation of data and a hindrance to the access, analysis and use of data.

WIPO's work

- Adopting the WIPO services and raising awareness of the new technologies and their IP implications
- The WIPO Conversation
 - provides a forum for awareness raising and knowledge building to support better policy decisions.
 - Sessions 1, 2 and 3 focused on AI.
 - Session 4 put the spotlight on data.
- WIPO is continuing to adopt new technologies including AI in its operations to serve its stakeholders and to match the speed of change and innovation we are experiencing.