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# **Technology standards as a key battleground in an era of strategic competition between the United States, China and the EU**

**New research project will shed light on standards and patents from cross-disciplinary perspectives.**

A new research project StandardEdge will produce insights and disseminate information on the critical role of technical standards and patents in an era of geopolitical competition. The research project will involve cross-disciplinary collaboration between legal scholars (IPR University Center), industrial innovation researchers and economists (LUT University) and political scientists (Finnish Institute of International Affairs). The project is funded by Business Finland. It will run from 1 September 2023 till 31 August 2025.

Technical standards have emerged as a key battleground in the strategic competition between major geopolitical powers, especially the USA, China and the EU. This quest for power involves not only private enterprises and standardization fora, but also states and trading blocs like the EU. The standards game is also about regulatory and judicial competition between the said geopolitical blocs. Will the “Beijing effect” based on technological infrastructures and active strategic standardization prevail over the “Brussels effect” (Bradford 2020), based on global standard-setting regulatory efforts? Could the USA leverage its existing strength in technology standards to the new strategic areas of the Internet of Things (IoT), Artificial Intelligence (AI) and data governance through its trade laws and policies? Which courts will be the most influential in setting global rules and royalties for standard essential patents (SEPs), which cannot be circumvented when implementing standards?

## **Legislatures and courts have entered the global standards game**

Increasing state involvement in standards policy is visible in standardization strategies (e.g., European Commission 2022, ANSI 2020), court rulings with extraterritorial reach and new legislative initiatives, such as the EU Commission’s (2023) recent Regulation proposal on SEPs. The EU also resorts to standards in its ‘Big Five’ data laws, especially the Digital Markets, Digital Services and the coming Data and Artificial Intelligence (AI) Acts. The complex interplay of technological development, standardization and major power regulatory and judicial competition create a changing terrain in which companies must navigate.

If accepted, the Commission’s recent proposal for SEP Regulation could change the SEP licensing landscape dramatically. It would introduce new duties for SEP owners, bar enforcement of SEPs under certain conditions and affect the setting of royalty rates. This could benefit some smaller businesses and also major implementers of standards, such as the car industry. On the other hand, the proposal has met with fierce criticism from innovative SEP owners. At worst, the Proposal could affect the investment in innovation activities negatively, development of market based licensing solutions, and also be problematic from the perspective of (intellectual) property ownership, freedom to conduct a business and the right to an effective remedy – all protected under the EU fundamental rights regime as well as European and international intellectual property regimes. The

StandardEdge project will analyse the proposed SEP Regulation from multiple angles and produce insights about it for policy makers, businesses and other researchers.

On the judicial front, the research project will focus on analysing recent court rulings especially from the US, UK, Germany and increasingly also from China, whereby courts have started to issue rulings with extraterritorial effects, seeking to impose global royalty rates and at the same time seeking to prevent courts from other jurisdictions from ruling on the same matter (so called '*anti-suit injunctions*'). The situation has escalated into courts in other jurisdictions giving so called '*anti-anti-suit injunctions*', seeking to bar anti-suit injunctions. Some courts have even issued '*anti-anti-anti-suit injunctions*', seeking to prevent anti-anti-suit injunctions! Addressing these and other novel judicial developments will require cross-disciplinary collaboration between the participating units.

### **The geopolitics of technological competition is at the centre of US-China strategic competition**

China has over the past decade emerged as a major power in research and technological innovation. It is also increasingly active as a technical standardization power (Rühlig 2023). In standardization, China attempts to leverage the advantages it has as a centrally-led party-state that has functional control over large sections of its economy (Mattlin et al 2022). This has been referred to as the "AI race". However, the active role of innovative Chinese business groups, and China's innovation ecosystem more generally, is not well understood beyond China. In fact, China's rapid advances in new technological fields like AI and IoT are not driven solely by state-directives and channelling of resources, rather they emerge from the complex interplay between the party-state and its organizations, as well as business groups. China has also been leading the way in some areas of regulation, such as being the first globally to adopt regulation on generative AI. The StandardEdge project will shed light on these complex dynamics utilising Chinese-language source materials and the research team's deep expertise on the Chinese political system and political economy, as well as its innovation ecosystem.

### **Standards as institutions shaping the rate and direction of innovation and technological progress**

Economists broadly agree that institutions writ large (i.e., "rules of the game") ultimately define which countries succeed and which countries fail in the context of economic development (see e.g., North 1991, Rodrik et al. 2004, Acemoglu et al. 2005, Acemoglu & Robinson 2012). Both intellectual property rights institutions and standardization institutions concurrently enable and constrain innovation activity and technological progress in Finland and elsewhere. Therefore, it is important to investigate how these institutions impact Finnish players and their technological trajectories.

In the Finnish context, success in achieving the target to increase R&D expenditure to 4% of GDP level by 2030 (Ministry of Education and Culture 2023) will definitely be impacted by standardization as well as the evolving IPR environment (Heikkilä 2022). From a small open economy's – such as Finland's – perspective, standards are crucial prerequisites for international scaling – and even survival. Finnish companies are European companies operating in the European Single Market and therefore they must consider strategically the

opportunities and risks related to the “Brussels effect” (Bradford 2020) – the ability of the EU to scale European regulations and standards beyond its borders.

As part of the project, we analyze micro-level impacts and company capabilities related to IP and standardization co-evolution. We pilot the Finnish Standardization Panel following the benchmark of the German Standardization Panel (2023), explore the experiences of Finnish players in licensing SEPs in the IoT context and study empirically the marketing strategies of patent licensing programs. The research results can be utilized by multiple stakeholders in developing the Finnish standardization and IPR (incl. data) business capabilities which themselves are highly valuable intangible capital.

### **Approaching future challenges through scenarios presented as comic strips**

The StandardEdge project will engage key stakeholders in a scenario-based online exercise. The exercise brings together business representatives, policy-makers, researchers and representatives of organizations into a structured dialogue on standardization issues that enhance the competitiveness of Finnish companies, and thereby Finland’s long-term economic growth potential. It combines insights from the other strands of the research project and relies on an innovative synthesis of the futures research approach of backcasting and the Delphi technique with scenarios presented in the form of comic art (see Mattlin et al. 2023 for a recent similar application of the method). Unlike forecasting, whose point is to extrapolate trends and rather passively anticipate what the future will or could hold, backcasting is an innovative process that seeks to define possible future endpoints and explore means and pathways to reach them (e.g. Robinson 1988, 1990). The Delphi technique is a method for facilitating efficient expert dialogue with the means of anonymity and iteration (Turoff & Linstone 2002).

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