standICT.eu 2026

ICT Standardisation Observatory and Support Facility in Europe

Standards Academy Webinar

Geopolitics of ICT standardisation

Maria Giuffrida

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eUOS Standards Academy

Berlin Contemporary China Network

29th January 2024

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"Forum for European Strategy on ICT Standards" to help increase EU leadership in international standards activities

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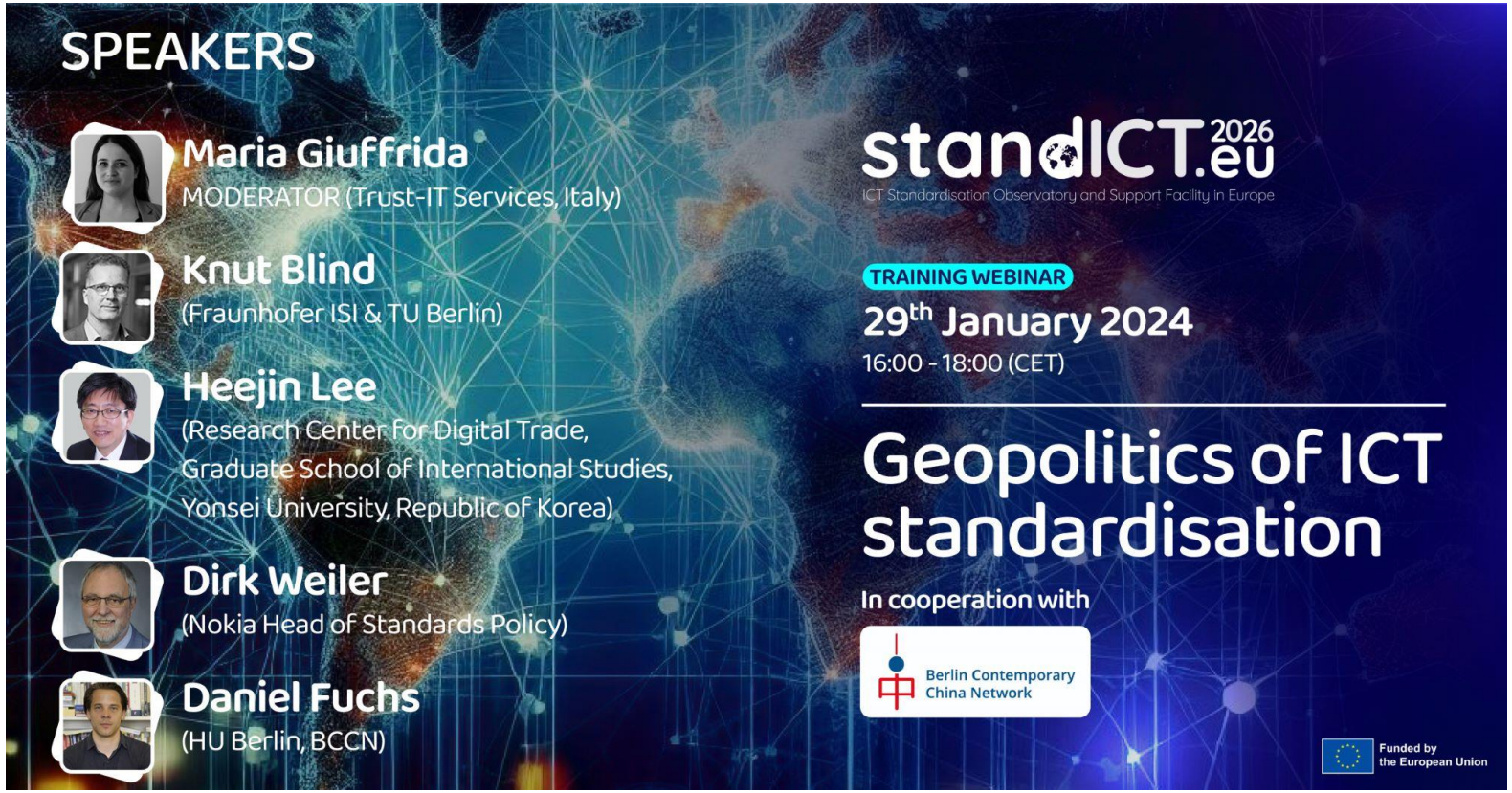
Standards Academy webinars

01 February 2024. [Register here]

Speakers and Agenda

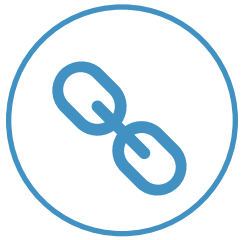


- 16:00 - **Welcome & housekeeping**, Maria Giuffrida Trust-IT
- 16:05 - **Intro into standardisation and geopolitcs with a focus on technological sovereignty**, Knut Blind (Fraunhofer ISI & TU Berlin)
- 16:20 **The power of standardisation**, Dirk Weiler (Nokia Head of Standards Policy)
- 16:35 - **The Geopolitics of ICT standardisation: The Case of Open RAN**, Heejin Lee (Graduate School of International Studies, Yonsei University, Republic of Korea)
- 16:50 **Cooperation and contestation: China's evolving role in international standardisation**, Daniel Fuchs (HU Berlin, BCCN)
- 17:05 - **Panel discussion**
- 17:40 - **Q&A**
- 18:00 - **Closure**

Webinar Housekeeping

The event will be recorded and will be made available on the StandICT.eu website after the event (including the presentations of each speaker)

We do encourage you though to enter any question in the dedicated Q/A box placed in the lower toolbar. The speakers will be pleased to answer back your questions real-time



You can follow the chat to be informed and receive link on the main StandICT.eu outputs and publications.

Standardisation and Standards: Safeguards of Technological Sovereignty?

Knut Blind

Contribution to the StandICT2026 Webinar „The Geopolitics of ICT Standardisation“

29th of January 2024

Agenda

- Motivation of technological sovereignty: Why, and why now
- Contribution
- Elements of the conceptual model
- Propositions

Motivation: Why, and why now

- Technological competition intensifying
  - ...with Europe fearing to fall behind in critical technologies, and this time
  - ...linked to systems and value competition (see EU Standardisation Strategy, 2022 and US Standardiation Strategy, 2023)
- Global interconnectedness provides great benefits, but can also create vulnerabilities further triggered by the war in the Ukraine
- Tension: A protectionist race vs legitimate ambition to determine one's own future independently
- Innovation policy rationales (competitiveness, transformation) challenged, but also industrial policy by a "new" concern (including security, defense and value discussion)
- Conceptualisation
  - Mobilising existing theories
  - Basis for analysis
  - Understanding meaning of TS for existing rationales
  - Suggesting policy consequences

Definition of Technological Sovereignty and basic understanding

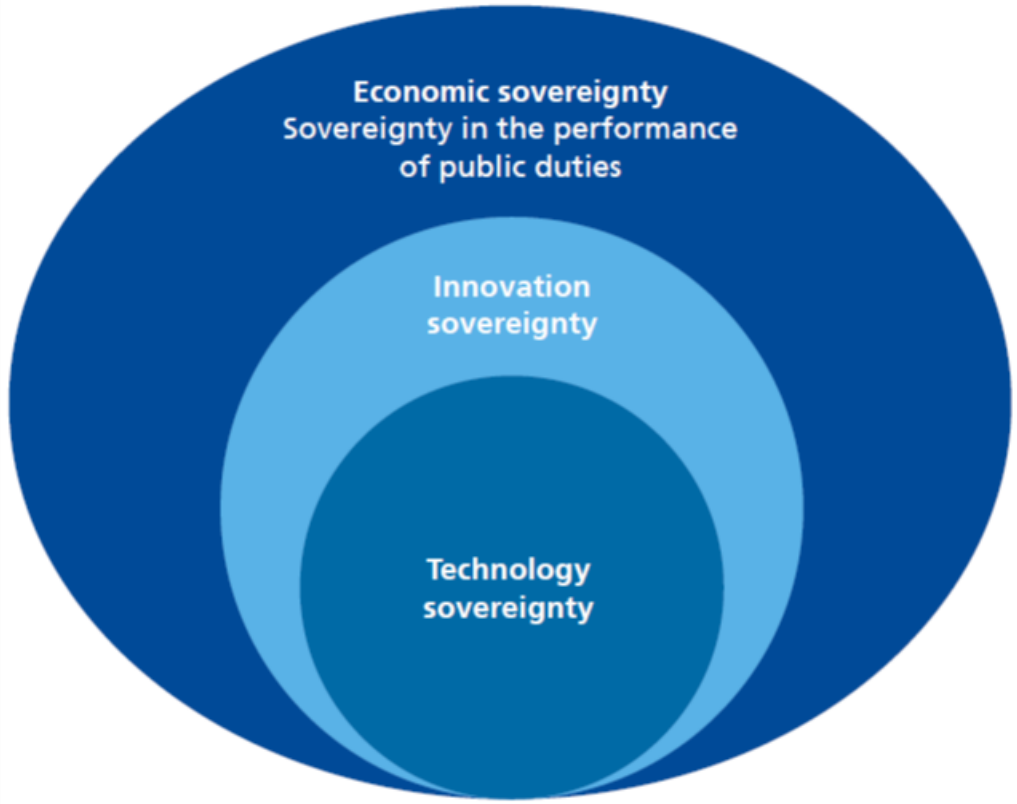
Ability of a state or a federation of states

to develop technologies it deems critical for its welfare, competitiveness, and ability to act

or source them from other economic areas without one-sided structural dependency

Dynamic concept: preserve future ability to determine well-being and value system

Striving for “domestic” competencies and structural interdependence rather than autarky



Source: Edler et al. (2020)

- Based on: Edler, J.; Blind, K.; Frietsch, R.; Kimpeler, S.; Kroll, H.; Lerch, C.; Reiss, T.; Roth, F.; Schubert, T.; Schuler, J.; Walz, R. (2020): Technology sovereignty. From demand to concept; Karlsruhe. urn:nbn:de:0011-n-5997578
- See also Edler, J.; Blind, K.; Kroll, H.; Schubert, T. (2023): Technology sovereignty as an emerging frame for innovation policy. Defining rationales, ends and means, Research Policy, Volume 52, Issue 6, 104765 https://www.sciencedirect.com/science/article/pii/S0048733323000495

Contribution

- identification of the role of standardisation and standards within technological sovereignty (TS) and try to answer whether and under which conditions they can serve as its safeguards
- first, conceptual model of how standardisation and standards can help secure or achieve TS considering different context factors
- secondly, policy recommendations to promote standardisation as a safeguard of TS
- thirdly, identification of challenges for fulfilling this role

Conceptual model

- no established conceptual framework, our approach focuses on innovation, trade, and public policies, particularly the regulatory framework, as essential instruments to assure TS (e.g., Edler et al., 2020) because they can immediately be supported by standardisation and standards
- starting point: standardisation as a knowledge and technology transfer channel (Blind and Gauch, 2009) and its interlinkages to other channels because it has an essential role for innovation (see a review by Blind 2022)
- standards influence trade flows (Swann 2010) and therefore TS
- standards play in the context of the European Union (EU) an essential role for the specification and eventually the implementation of regulations and other public policies, in particular, to generate an innovation fostering framework (e.g., Blind 2016), in recent EU standardisation strategy (European Commission, 2022), standardisation for shaping technical regulations will play an even more critical role to secure competitiveness and values of EU

Source: Blind (2023)

Elements of the conceptual model

- R&D input incl. skilled labor force necessary for standardisation
- R&D output, as scientific publications, patents and standard-essential patents as input for standards
- software in general and open source in particular as further input into standards
- trade flows, e.g. role of standards. certifications and accreditation for ex- and imports
- public policies, e.g. regulation and public procurement, are specified by standards

Source: Blind (2023)

Propositions

- R&D intensive countries can influence the trajectories in standardisation processes towards securing their TS
- standards can serve as a backup related to TS for those countries not investing heavily in R&D. However, a minimum level of R&D is necessary to assure countries' absorptive capacity (Cohen and Levinthal 1990) to implement them, e.g., in developing countries (Zoo et al. 2017)
- IPR active countries can influence both the direction of standardisation processes and the implementation of standards, e.g., via adjusting licensing conditions and, therefore, TS
- since standardisation has an absorptive capacity in converging technologies (Gauch und Blind, 2015), it can also contribute to TS
- standardisation and standards are more important in assuring TS related to complex products, e.g., 5G (Buggenhagen and Blind, 2022) than discrete products, e.g., Covid-19 vaccines

Source: Blind (2023)

Propositions

- standards can promote the foundation of start-ups and, therefore, TS in complex technologies because they push industries' vertical differentiation
- public procurement can promote the implementation of standards to increase the diversity in the supply chain, e.g., supporting innovative start-ups and SMEs, to secure countries' TS
- standardisation and standards are more critical for assuring TS related to hardware, whereas OSS is more relevant for software and digital sovereignty.
- international standards are crucial for supporting domestic exporters' competitive advantage, but also promoting imports, which is even more relevant for TS
- in particular, international standards can complement the primarily national regulations in heavily regulated sectors to secure TS by promoting a broad portfolio of suppliers
- if governmental regulations are less needed, international standards can provide an open innovation-friendly framework securing countries' TS

Source: Blind (2023)

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Source: Blind (2023)

Policy recommendations

- support human resources for R&D (see EU, but also US standardization strategy), not only technologically skilled engineers but also complementary economic and strategic knowledge needed (Blind and Drechsler, 2020)
- more courses provided by Higher Education Institutes (see also EU Standardization strategy and new project EDU4Standards https://www.edu4standards.eu/).
- interfaces of the already existing publicly funded programs to standardization have to be extended to strengthen the role of standardization and standards (EU standardization strategy, HSBooster, European Standardization Panel)
- reducing participation costs for researchers related to OSS and standardization (Nagle 2021, Blind et al. 2018)
- improve interface between OSS and standardization
- assure that governance of standardisation to follow WTO principles plus increase inclusiveness
- look for bilateral and multilateral collaborations (see new project INSTAR https://instarstandards.org/)
- increase diversity in supply chains via standardization
- promoting patent pools to push market entry of start-ups (Funk and Luo 2020)
- aligning SSOs to needs of start-ups
- reference international standards in public procurement
- using standards to promote open technical infrastructures, like GAIA-X

Source: Blind (2023)

Challenges

- researchers and their institutions still driven by scientific excellence and reputation (Blind et al. 2018) or companies' interests (Blind et al. 2022)
- whereas patents important for funding of R&D, e.g., via licensing revenues, their integration into standardization still - despite licensing regimes under FRAND conditions - challenged
- standards not used as knowledge source for product development (Grossmann et al., 2016), but positively correlate with product innovation (Blind et al. 2022)
- international standards best for international trade (Swann, 2010), global value chains (Blind et al., 2018b) and preferred within trade agreements (Blind and Müller, 2018), but deviations from international standards used to protection of domestic industries
- international standards compete with policymakers' preferred national regulations (OECD, 2021), another option to implement protectionist trade policies
- international standardization consortia and OSS communities not embedded into national regulatory framework although potential to contribute to TS
- large, primarily US-based bigtechs have power to set de facto standards within global value chains (Dinges et al., 2021), which cannot be easily steered towards TS

Source: Blind (2023)

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