The Relationship between Open Source Software And Standard Setting:
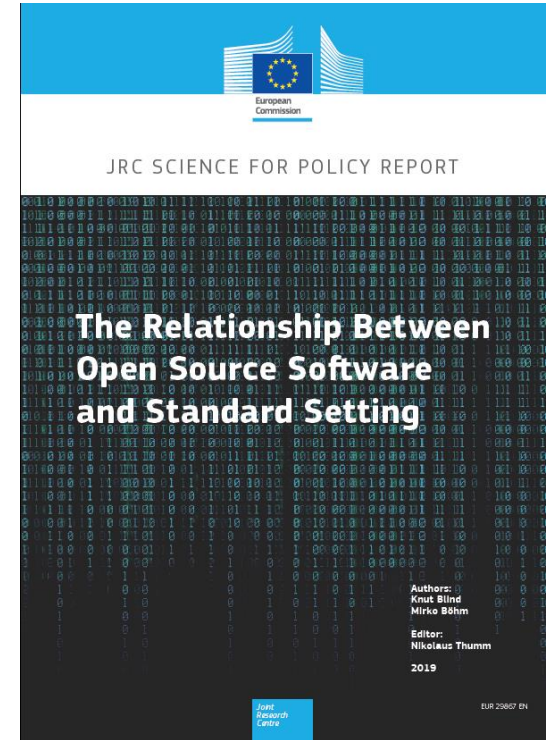# *An Update*

Prof. Knut Blind

StandICT Academy Webinar,

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The Relationship between Open Source Software And Standard Setting (2019)

Knut Blind & Mirko Böhm

https://publications.jrc.ec.europa.eu/repository/bitstream/JRC117836/jrc_the_relationship_between_open_source_software_final_online_compressed_logo.pdf

Economic impact of OSS and of Standards in the EU is significant!

Source: Blind et al. 2021

Source: European Commission 2022

Review of Key Findings of Blind and Böhm (2019)

- The role of governance is perceived very differently between SDOs and OSS communities.

- Governance reviews are taken place at European and national SDOs in Europe.

- New EU regulations, like Cyber Resilience Act and AI Act, but also the new General Product Safety Regulation, have implications on OSS eventually influencing future governance structures.

- In SDOs we find heterogeneous stakeholders with an overrepresentation of larger and patenting companies.
- Despite the very visible involvement of large multinational enterprises, OSS communities characterized by smaller companies without patents and by independent software developers.
- Large overlap of participants in standards and open source development especially for large enterprises.

- Blind et al. (2021) confirm that small or even micro companies dominate as contributors to OSS in the EU, whereas in the US the BigTechs are major contributors.
- According to the German Standardisation Panel, there is still very little overlap between experts involved in standardisation and OSS.

Findings: Areas and scale of collaboration (1)

- With the exception of international SDOs, like IEC, ISO and ITU, neither SDOs nor the wider open source community have developed truly global collaboration yet.

- Three archetypical scenarios, specification-first, implementation-first and parallel standardization can be observed.

- Where SDOs and OSS communities' processes are combined, the processes and governance in the working groups and communities often converge.

- OSS foundations becoming more globally active, e.g. LF

- Some new evidence of OSS reference implenentations of standards by Gamalielsson, J., Lundell, B., Brax, C., Persson, T., Mattsson, A., Gustavsson, T., & Feist, J. (2024). Open Source Software reference implementations for standards issued by different standards setting organisations: availability, perceptions and practices. Journal of Standardisation, 3(2). https://doi.org/10.59490/jos.2024.7140.

- In SDOs, the interaction with OSS communities is mutually beneficial and serves their interests in a specific technical area.

- SDO and OSS communities describe their mutual interaction as fruitful and productive.

- OSS implementations sometimes overshoot the functionality specified in the standards based on the faster pace of development.

- There is no indication that market pushes towards a situation where only open source solutions are used.

- No new evidence on change in collaboration available, but OSS receives increasingly attention, e.g. via new EU regulations.

Findings: The evolving role of Standards (1)

- Some of the larger OSS collaborative projects do not consider the creation of multiple, standards-compliant implementations as useful. OSS participants tend to choose a joint implementation for that purpose.

- The wider adoption of implementation-first and parallel approaches to standardisation influences the utility of specifications relative to the value of joint implementations.

- Freedom to operate is a key precondition for contributors to participate in the development process.

- The combination of SDO and OSS processes may, however, lead to trade-offs, especially to a slower pace of development and lower innovativeness.

- Still, rather parallel developments in standardisation and OSS.

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Findings: The evolving role of
Standards (2)

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- Relative to their size, small organizations contribute more to the integration of OSS and standardisation than large organizations.

- Smaller organization perceive knowledge flows from OSS to SDOs as providing the latter with new ideas as inputs for technical solutions. Larger organizations see advantages for SDOs from OSS in the implementation of technical solutions.

- No, new evidence on the integration of OSS and standardisation.

Findings: IPR regimes in OSS and SDOs (1)

- Legal compatibility is a necessary, but not a sufficient condition for possible collaborations of SDOs and OSS. IPR regimes serve partially different purposes in SDOs compared to OSS communities.

- Participants adjust to the collaboration methods and IPR policies employed by the communities they engage with.

- Only a few OSS licenses are relevant in recent practice, e.g. the Apache License 2.0, the MIT License and the GNU General Public License (GPL 2.0) quite popular followed by GNU General Public License 3.0 and the BSD License 2.0.

- Regarding the existence of conflicts both the GNU General Public Licenses GPL 2.0 and 3.0 and the GNU Lesser General Public License LGPL 2.1 and 3.0 are mentioned by the majority of the stakeholders.

- No significant changes in the IPR regimes in OSS and SDOs.

- Updated overview of most popular licenses in the Innovation Graph of GitHub https://innovationgraph.github.com/global-metrics/licenses

- Licensing incompatibilities are not a practically relevant problem in the investigated cases.

- In case of conflicts, the strict separation between OSS and FRAND licensing is still the preferred option followed by negotiations.

- No new evidence on licensing incompatibilities, but forthcoming regulation of standard-essential patents (SEPs), might influence also the relationship with the licensing schemes of OSS.

- In the last 5 years, not much changes in the relationships between standardisation and OSS!?

- However, significant changes in the external regulatory and geopolitical framework challenging both standardisation and OSS and their relationship!

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