The co-evolution of open source and standards development

From project-specific cooperation to institutional partnership

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THE LINUX FOUNDATION | Europe

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As the European chapter of the Linux Foundation, LF Europe:

- Grows regional opportunities for our participants to contribute to LF's global collaboration,
- Amplifies the reach of LF projects in the European ecosystem, and
- Represents LF and its Members in European policy making, standards development and R&D funding programs

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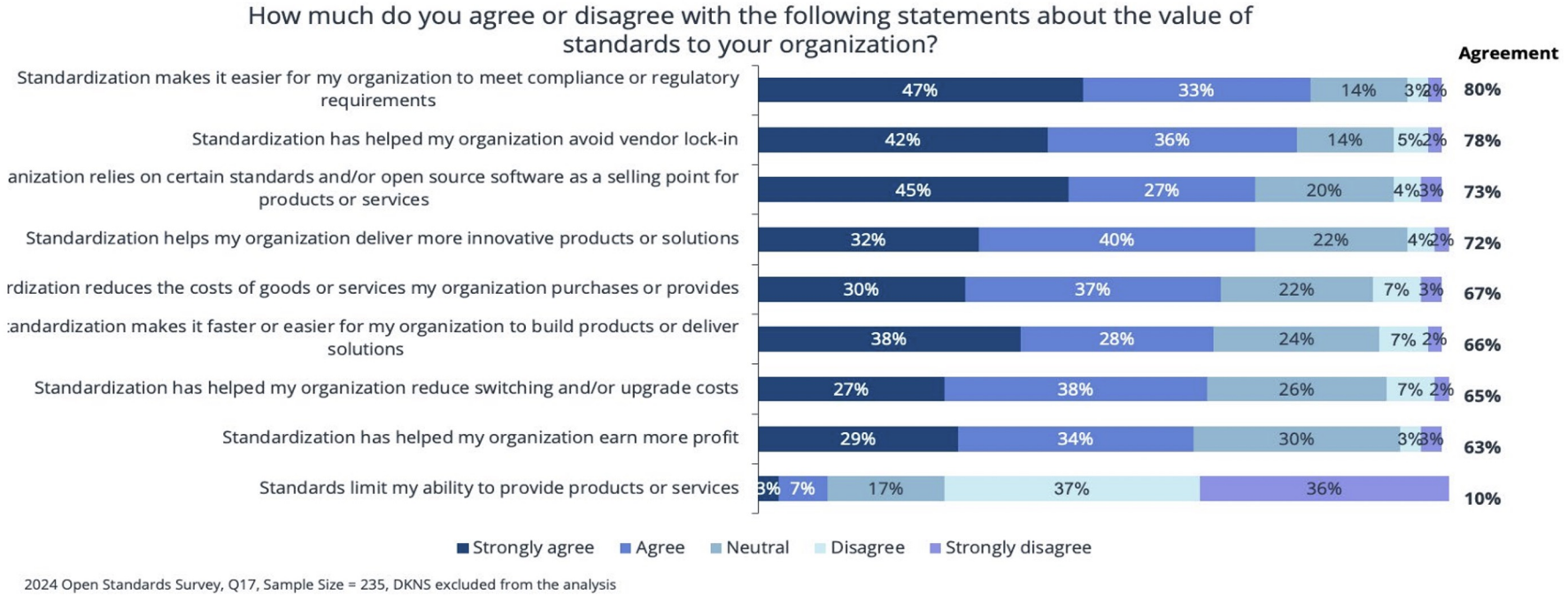
The Story So Far

Organizations strongly value standardization



The State of Open Standards: Standardization and Patents in Organizations

Linux Foundation Europe as ETSI Member

Linux Foundation and ETSI Further Collaborate to Drive Harmonization Across Open Source and Open Standards

THE LINUX FOUNDATION | 19 SEPTEMBER 2023

BILBAO, Spain—Open Source Summit Europe —September 19, 2023 – The Linux Foundation, the nonprofit organization focused on fostering innovation through open source, and ETSI, the independent organization providing global standards for ICT services across all sectors of industry, today announced expanded collaboration. While the two organizations have been working together for years, the 2019 formal Memorandum of Understanding (MOU) recently has been updated and expanded.

The formal link between our communities encourages and enables collaboration across communications, promotion and events, as well as common initiatives spanning Network Function Virtualization (NFV) / Cloud-native Network Functions (CNF), Artificial Intelligence, Software Defined Networking, Autonomous Networks, 5G/6G, and Edge Computing. Specific updates to the MoU include broader mapping of areas of interest to now include additional Linux Foundation project communities such as LF Networking's CNF initiatives, CAMARA, and Nephio, some of which were not yet created at the time of the initial MOU or its renewal. ETSI has also identified new areas of potential collaboration. These include zero touch network management and ETSI Open Source groups such as OSM and the recently created TeraFlowSDN.

"ETSI is pleased to extend our successful collaboration with the Linux Foundation, which has developed continually over the years," says Ultan Mulligan, ETSI's Chief Services Officer. "We have capitalized on this experience to create our own Software Development Groups. These groups will cater for the expected greater use of software in standardization of future technologies such as 6G and will help further extend ETSI's cooperation with the Linux Foundation."

"ETSI and the Linux Foundation have worked on harmonizing open source and open standards for the past several years, with examples spanning Cloud Native Functions descriptor specification implementations within projects such as ONAP," said Arpit Joshipura, general manager, Networking, Edge and IoT, the Linux Foundation. "We are looking forward to expanding this to areas across the stack enabled by automation and AI."

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The policy and research context (2017-2019)

- EC 2017 SEP Communication: "win-win situation"
- Blind & Boehm (2019): empirical evidence
- Complementary products: Specifications versus implementations
- Competing processes involving path decisions

Evolving collaboration patterns

Natural conversion:

- Network functions virtualization (2014-2018)
- ETSI NFV ISG → specifications
- LFN ONAP → implementation platform
- Specification-first ↔️ Implementation-first

Learnings:

- ✓ Shared vocabulary, aligned objectives, mutual respect
- ⚠️ IPR frameworks, release cycles, decision processes
- Key insight: operate within own framework, create value for the other

New collaboration patterns:

- LF Energy + OCA → OCPP / EVerest (IEC 63584)
- LF Edge ↔️ ETSI MEC
- NeoNephos ↔️ IPCEI-CIS
- Pattern: regulatory urgency + proven model

Complementary Governance Models

Two models of technology development

- Standards: consensus → specification → implementation
- Open source: contribution → code → adoption
- Complementary, not competing
- Hybrid patterns emerging

Trade-offs both ways

IPR frameworks: different yet bridgeable

- FRAND: R&D investment protection
- Permissive (Apache 2.0, MIT): unrestricted implementation
- Different purposes → complementary deliverables
- Evidence: Sylva, CAMARA

Decision velocity:

- Open source: monthly/quarterly → speed, agility
- Trade-off: fragmentation risk, less formal guarantees
- Standards: 18-24 months → consensus, stability
- Trade-off: may lag market reality

Complementary strengths in practice: OCPP/EVerest, O-RAN

- Standards: legitimacy, regulatory recognition, procurement eligibility
- Open source: velocity, market validation, transparency
- Sequence: prototyping → stabilization → certification → adoption

Practical Collaboration Framework

How LF projects are governed

- Governing Board: member companies, budget, strategy
- Technical Steering Committee (TSC): meritocratic, technical decisions
- Separation: technical decisions by contributors, not funders
- Essential context for ETSI-LF collaboration

Photo by Daniel Funes Fuentes on Unsplash

The representative nomination framework

- TSC identifies relevant ETSI TC
- TSC nominates representative (formal vote)
- LF Europe proposes to ETSI
- Representative reports back to TSC
- One rep per project* per TC
- Project representation, not corporate

Why this framework matters

- Legitimacy: speaks for technical leadership
- Accountability: bidirectional reporting
- Clarity: one voice per project
- Scalability: any TC-project pairing
- An opportunity for reciprocity: model for ETSI→LF engagement?

Outlook

What we can build on together

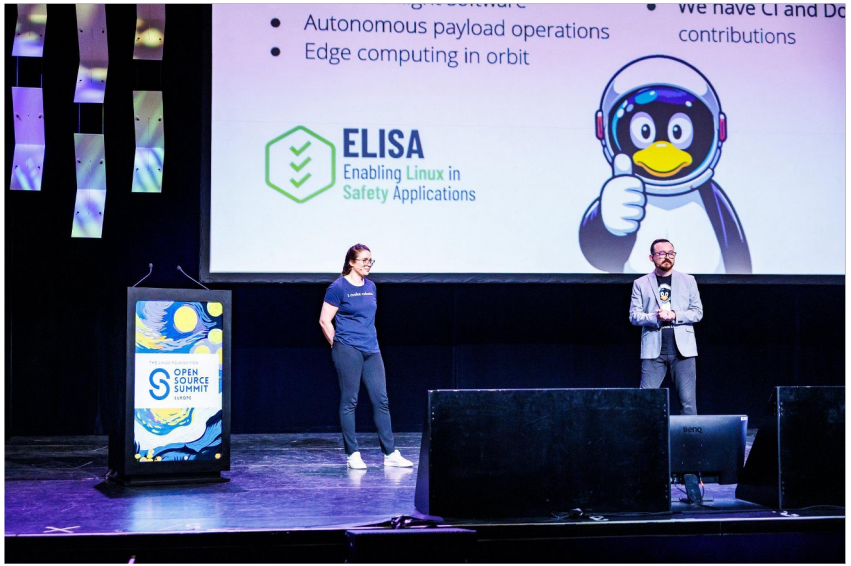
1. **Regulatory evolution creates opportunity**: CRA mandates what ETSI and LF were already building
2. **Contributors already bridge both worlds**: The technical understanding exists; we're reducing institutional friction
3. **IPR frameworks differ by design**: Practical collaboration through complementary deliverables, not framework reconciliation
4. **Institutional partnership enables scale**: From ad hoc cooperation to programmatic engagement with predictable pathways
5. **Different rhythms serve complementary purposes**: Strategic sequencing leverages rapid iteration and consensus-based stabilization

A blueprint for others

- First formal ESO–foundation institutional bridge
- Transferable framework
- Other organizations are watching
- Success here → industry-wide acceleration

The opportunity before us

- Co-evolution continues and accelerates
- Individual initiative → institutional strategy
- Open source and standards: better together
- ETSI and Linux Foundation: leading by example



Thank you!

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