Response to UK Government SEP Consultation (CP 1357)

https://www.gov.uk/government/consultations/consultation-on-standard-essential-patents-seps

October 7, 2025 by email to SEPs@ipo.gov.uk
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OpenUK welcomes the UK Government's consultation on Standard Essential Patents (SEPs) and commends its commitment to foster transparency, fairness, and innovation in the SEP licensing ecosystem. That ecosystem has a critical interaction with open source software and there are systemic issues in the SEP ecosystem around transparency and dispute resolution specific to its interaction with open source which may also require government intervention as well as the topics raised in the consultation. There is a real and present danger of innovation being stifled as a result of the current ecosystem in SEPs not only in electric vehicles and green technology but also across digital infrastructure and mobile networks.

Consultation questions are answered to the extent applicable to OpenUK's remit.

SEPs and Interaction with open source

"The SEPs ecosystem is complex. It intersects with the patent framework, competition law, standardisation and contract law. It is also a global ecosystem, in that SEPs licenses can be granted to a licensee globally. This has resulted in several complex cross-jurisdictional disputes, including parallel litigation." Additionally the interaction between open source software and SEPs is omitted from the consultation but expanded upon in this introduction due to its importance.

The SEP landscape in 2025 must be understood with understanding of digital infrastructure in enterprise and the public sector which is inevitably software defined. The importance of open source software in that digital infrastructure and critical infrastructure and challenges of the interaction between open source and SEPs is critical and must be considered in shaping any decisions made by the IPO.

Open source software is demonstrably 76% of the digital commercial stack and over 90% of code in the stack has open source dependencies[1]. Over 6.6 trillion open source software packages are downloaded each year across the supply chain. A fundamental pillar of modern digital infrastructure,

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[1] https://www.sonatype.com/blog/the-scale-of-open-source-growth-challenges-and-key-insights

a 2024 Harvard paper estimates the demand-side value of open source worldwide at USD $8.8 trillion[2] while OpenUK's earlier work on demonstrating the value of open source software demonstrates that in 2022, 27% of the UK Digital GVA was directly derived from open source software[3]. Moreover, studies have illustrated how open source software plays a critical role in enabling small and medium enterprises within an innovative and competitive economy.[4]

While SEPs have often been viewed through the lens of the telecommunications sector, a relatively young sector dependent on standards, the challenges addressed in this consultation—particularly those around pricing opacity, essentiality declarations, and dispute resolution—have a direct and growing impact on open source development, distribution, adoption and use. Open source's success is based on the ability of anyone to use the code licensed for any purpose (subject to law) and the introduction of friction into the free flow of code breaks the utility of open source and in essence sits in opposition to it[5]. The introduction of SEPs even on FRAND royalty licensing terms has this effect of creating friction.

Misinformation and open source software and AI

Companies whose revenue streams depend on SEPs will no doubt advocate for the status quo and greater protections. They may not acknowledge the friction between SEPs and open source, or may mis-characterise open source to suggest that SEPs are compatible with open source.

The open source sector has been particularly vulnerable to such misinformation and Policy Capture due to its community contribution-based ecosystem and lack of policy-focused representation. Open source does not have good representation at a policy level today and the interests of many who seek to speak for open source are driven by certain tech companies.

The sheer scale of revenue that might be impacted should FRAND licensing/ SEPs not apply to open source software is at the heart of this misinformation from companies concerned about their royalties diminishing over time if open source were to be adopted. The ability of wealthy organisations dependent on these FRAND royalty streams, to enable misinformation relies on the lack of policy representation from the open source ecosystem and its inability to be heard in response to their pro SEP position.

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[2] Manuel Hoffmann, Frank Nagle and Yanuo Zhou, 'The Value of Open Source Software' (2024) https://www.hbs.edu/ris/Publication%20Files/24-038_51f8444f-502c-4139-8bf2-56eb4b65c58a.pdf
[3] https://openuk.uk/stateofopen/state-of-open-the-uk-in-2023-phase-2-part-1
[4] See European Commission Report, 'Impact of open source software and hardware on technological independence, competitiveness and innovation in the EU economy' (2021) https://digital-strategy.ec.europa.eu/en/library/study-about-impact-open-source-software-and-hardware-technological-independence-competitiveness-and
[5] Blind et al Open Source Law Policy and Practice, Frauenhoffer Chapter 11,https://academic.oup.com/book/44727/chapter-abstract/378967350?redirectedFrom=fulltext&login=false

The challenges to open source are real. They have been widely discussed for almost a decade and are very clear[6]. Much has been written about this in the open source community[78] albeit in a sometimes emotive tone.

The EU had the opportunity to meet this challenge of open source in its SEP consultation but failed to do so. Its failure to recognise the SEP challenges to open source in recent years have been assumed by many to be on the basis of such Policy Capture and influence thereof.

AI and Standards

Standards in the AI space will be critical to the global governance of it in future but many who are supportive of these are unaware of the open source challenges with standards bodies and we must seek to ensure that standards in AI are open to enable access for all, as well as future innovation and competition.

A new challenge exists for open source in AI. The use of open source as a term in AI is as the House of Lords rightly pointed out in 2024 that the meaning of open source in AI is disputed.

However, there is a general acceptance that for any element of an AI to be labeled open source it must be licensed on a licence that meets the Open Source Definition. This is true of DeepSeek's R1 LLM[9] which was shared on a MIT licence. It is not true of Meta's LLama which is on the Llama community licence, and does not meet the standard of the Open Source Definition as it includes a restriction on commercialisation at 700m users. Such a restriction is directly opposite to the principles of open source as this commercial restriction interrupts the freeflow at the heart of such an open source environment.

It also allows for the benefit of open source - mass market adoption - to be obtained without paying the price of open source which is enabling your competitors with your innovation. In Meta's case if there is or are winners in the cascading use of Meta's Llama LLMs then Meta will reap a financial benefit. There is therefore a huge economic advantage to Meta in confusing its user ecosystem into believing that Lllama is open source.

[6] https://arstechnica.com/tech-policy/2016/05/eu-tech-standards-why-frand-not-compatible-with-open-source
[7] https://opensource.org/blog/another-issue-with-the-cyber-resilience-act-european-standards-bodies-are-inaccessible-to-open-source-projects
[8] https://meshedinsights.com/2022/07/22/briefly-frand-is-toxic-to-collaboration
[9] https://api-docs.deepseek.com/news/news250120

OpenUK was in fact a partner to Meta on the launch of its Llama 2 LLM, its first open LLM[10]. This was carefully framed as open innovation until the point of launch implying that Meta understood the difference. The opening of Llama was however important and a critical step in the right direction, which generally we commend, other than this "open washing" seeking to obtain the benefits of open source without paying the price of the benefits of open source.

This issue will need to be dealt with over time to avoid any confusion in the benefits offered to open source software or AI (if any) as recommended by OpenUK.

Importance of open source to digital infrastructure and the UK

For the UK this is a critical conversation. The UK's open source software development community is Europe's largest by number of UK based contributors and lines of code contributed. It has remained thus for many, many years, despite France's recent faster pace of growth. These globally contributing individuals, geographically based in the UK are not always visible to policy makers in their home geography, in this case the UK. They form a submarine under the digital economy - home working and tending to engage and collaborate globally with little direct engagement in their local geographies. Their economic power and skills are hugely important to the UK's digital future.

As open source increasingly underpins foundational layers of modern infrastructure supporting the global digital economy - from AI frameworks to connected devices and green technologies in both enterprise and public sector - it becomes imperative that the SEP environment is designed with accessibility, inclusivity, and legal clarity in mind and thereby enables its functioning in today's software world.

Technical Challenges of SEPs and open source

In addition to the inherent friction in the royalty structure, the absence of transparent licensing terms, the threat of unpredictable injunctions, and the cost of engaging with essentiality determination services pose significant risks to open ecosystems. These barriers can deter participation in standard-setting bodies, hinder public sector adoption of open technologies, and limit the innovative potential of UK SMEs and developers relying on open source components.

OpenUK urges the government to ensure that standard policy and SEP reform explicitly considers the needs of the open source ecosystem and ensures that its stakeholders, whose collaborative development models often operate outside traditional IP negotiation paradigms, are engaged and

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[10] https://www.llama.com/llama2/

able to participate in the standards setting process and the removal of commercial barriers to this engagement are supported.

Cost of participation in standard setting as an inhibitor to innovation

Cost is currently a massive inhibitor to SME and community representation and engagement in the standard setting process. It is also a factor in the limited voices representing SMEs and open source in responding to consultations such as this and generating policy level engagement. SEPs are perceived to be a significant area of policy capture, where large companies and incumbents are able to use their funded representation to both attend and influence standards bodies and despite safeguards, are able to capture standards through this participation and patents. They are able to use their funding position to engage in the standard setting process.

The concept of standards is well understood and their benefits increasingly relied on by legislation in an increasingly technical world. However, Standard setting bodies' funding and economic models are less well understood. These bodies are for profit entities reliant on very traditional revenue streams that have not adapted to change in recent years.

Ensuring clear, affordable, and predictable access to standards-embedded technologies is not only a matter of innovation policy—but also of digital sovereignty, sustainability, and market competitiveness. This is a real challenge in an open source world, as there is very limited ecosystem funding, few with the appropriate skills and who are able to represent the interests of open source in these conversations. Those who do this work are often working at less than their market value and do not have access to the funding necessary to enable travel and attendance at the international patent setting meetings. They may also encounter friction in attending these bodies as the very nature of open source challenges the standards bodies.

Access to standards must be free

In 2024 we saw European case law[11] where the European Court of Justice (ECJ) ruled that the overriding public interest in the disclosure of Harmonised Standards prevailed over their copyright protection, annulling the European Commission's decision to deny public access to the standards. This ECJ decision overturned a previous General Court ruling from 2021 that had affirmed copyright protection for HS and limited their free disclosure. Prior to this, even access to the existing standards let alone an SEP was a challenge. It is also notable that CENCenelec's reporting of this case spins the outcome as a victory and re-affirmation of copyright[12].

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[11] Case C-588/21 P judgment of March 5, 2024,
[12] https://www.cencenelec.eu/news-events/news/2024/brief-news/2024-03-05-ecj-case/

De facto standards in open source

In open source software such as Linux or Kubernetes, takes on the position of a de facto standard without the standard body cost. There are of course also some formal standards created for open source, but generally the royalty free licensing enables de facto standard creation and adoption.

Focus on open standards

As a general policy we would encourage the UK to have a future focus on the creation and adoption of open standards. These are not encumbered by SEPs and avoid the challenges relevant to the current suite of standards using SEPs licensed on a FRAND basis.

We see in sectors such as EV charging very successful implementation and adoption of open standards such as the Open Charge Alliance[13]'s Open Charge Point Protocol (OCPP)[14] standard, avoiding the challenges presented by SEPs and giving one of many examples of the success of an open standard in an innovative sector.

Possible solutions and recommendations to support open source

Options for standards which would remove friction with open source and SMEs include:

- Building and adopting open standards which are not encumbered by patents as opposed to further standards encumbered by SEPs and reducing the scale of SEPs over time;
- Standard setting organisations are required to include special considerations for open source in the FRAND commitments of their policies. It's important that these commitments apply to all SEP holders, including NPEs. Alternatively the carve-out could be included in legislation;
- Where SEPs are included in a standard they must be FRAND with an exception to the FRAND royalty requirements making this zero rated for open source software and potentially AI that meets an openness standard;
- The use of open source is taken into account in FRAND Rate calculation; and
- Use of a defensive patent pool for SEPs in the open source space possibly on the model of Open Invention Network[15] using a mutual cross licence and hold harmless to enable open source to have a "no fly zone" in patent enforcement.

Answers to Questions

Part 1:

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[13] https://openchargealliance.org/
[14] https://openchargealliance.org/protocols/open-charge-point-protocol/
[15] https://openinventionnetwork.com

We have not responded to questions 1-13 but are instead sharing general comments, see above.

2. **Potential measure 2: Searchable standard related patent information**

Open licensing of the data in any standard at zero cost is essential to the ecosystem as held in the EU (see above).

Part 2: Searchable standard related patent information

It will benefit the development and adoption of open technologies, and the associated benefits to innovation in the UK, to have greater transparency and reduction in the cost of engaging with standards. A searchable repository would assist in reducing information asymmetry and due diligence costs, and promote early engagement.

In addition to making the data in any standard available at zero cost, as part of FRAND commitments made by rightsholders (and/or FRAND rate calculation methods) we would like to see carve outs for use in technologies onward licensed on recognised Open terms such that no licence fees are payable in respect of SEPs for those use cases.

Q14: No, as they do not take the challenges of open source as explained above into account.

Q15: Not answered

Q16: Not answered

Q17: Are there alternative mechanisms or routes that might more easily achieve the government's objectives of increasing transparency and reducing information asymmetry?

Q18: Open source should be excluded from this.

Q19: Not answered.

Part 3: SEP Pre-Action Protocol

Q20: No. Current CPR pre-action rules lack specific expectations around SEP essentiality and pricing disclosure, especially in complex cross-licensing.

Q21: Yes. SMEs and open source contributors frequently face silence or heavily redacted claim information. A specialist protocol would raise expectations of minimum disclosure standards.

Q22: Yes. A specialist SEP protocol would create industry norms for early claim chart sharing, price basis, and ADR engagement before litigation.

Q23: Protocol should include: standard name and version, FRAND calculation method, essentiality justification, prior offers/licences, and ADR intent.

Part 4: Essentiality Checking Services

Q24: No. Commercial essentiality services have not been used in our advisory role because they are often cost-prohibitive, opaque in methodology, and not easily accessible to SMEs or legal teams outside the telecom or enterprise patent licensing domain.

Q25: Not answered.

Q26: No

Q27: Not answered.

Q28: Yes. The IPO is a credible, neutral body to offer a low-cost, standardised assessment service, potentially with confidence levels rather than binary results. An essentiality check service provided by a neutral body like the IPO could be useful for defensive patent communities. Moreover, defensive patent communities will already have carried out essentiality check assessments and collaborations could be set up to leverage these existing assessments. We would welcome greater understanding of open source and its nuances within the IPO and to see training across the board for all relevant parties.

Q29: Offer batch assessments at discounted rates for SMEs/startups, co-fund with Innovate UK or DSIT, and allow publicly funded research results to be leveraged.

Q30: Primary use would be to ensure that the patents deemed SEPs are absolutely essential and that the process by which standards are set avoid all and any abuse of the standard setting system. The IPO should also have power to consider validity of patents suggested and prior art.

Q31: A government-accredited network of independent SEP assessors, funded in part by pooled SDO/IP fees, could ensure coverage but would have to be carefully configured to ensure understanding of any open source implications. We have seen a regular suite of challenges where open source is not understood by assessors. Again we would hope to see the need for these diminish and encourage fewer patents to be deemed essential to standards as more open standards are used.

Part 5a: Remedies and Dispute Resolution

Q32: No. Existing remedies are largely accessible only to well-funded parties. There are valid concerns around injunction threats being used as leverage by well funded patent holders.

Q33: Bad behaviours can be curbed by requiring transparency disclosures as a precondition for injunctions and publishing anonymised offer chains. With respect to open source software and AI we should see a mandatory carve out to the licensing terms for open source.

Q34: Not answered.

Q35: For instance, in a machine learning start-up, an SEP demand letter included pre-emptive threat of exclusion from European markets, without clear claim analysis. This chilled deployment.

Q36: Yes. Proposals such as RDT, specialist pre-action protocols, and disclosure mandates would reduce misuse of injunctions. However in the case of open source these would need to be considered in the light of the above information and suggestions on carve outs etc.

Part 5b: Alternative Dispute Resolution

Q37: Some awareness exists among legal professionals. Most SME implementers and the open source community lack practical knowledge or the ability to pay for representation.

Q38: No direct use. Concerns persist around perceived neutrality and cost.

Q39: Barriers: lack of sector-specific expertise in mediators and a general lack of understanding of open source, upfront costs, unclear procedural norms, and cultural mismatch with global licensors. This is difficult for a community / ecosystem like open source.

Q40: Not answered

Q41: Yes. Expansion of IPO's mediation services with SEP-trained mediators and confidential online dispute rooms would provide an important middle-ground. There should be training for all parties in open source.

Part 6: Non-Regulatory Measures and International Cooperation

Q42: Yes. The SEP Resource Hub and Intergovernmental SEP Network (ISN) offer valuable educational and multilateral coordination platforms. However we require additional measures specific to open source as explained in the recommendations in our introduction.

Q43: The government should: (i) co-create use case tools with SMEs, (ii) embed interactive licensing walkthroughs into the Hub, (iii) work on open source understanding.

Part 7: Impact Assessment

Q44: Yes. However, assumptions likely understate SME costs from current litigation exposure and overstate the maturity of current rate-setting norms. Also these do not take into account the working of SEPs with open source.

Q45: Yes. Benefits such as earlier market entry, reduced counsel reliance, and improved IP valuation accuracy should be included but there remains innovation friction and a problem that is unanswered with respect to open source.

Q46: Yes. SEP licensees could save significant legal and commercial costs. SMEs would gain greater predictability in early-stage product development. However, this response should be read in the light of our introduction.

Q47: Consider benefits to public sector technology adoption, healthtech innovation, and standards participation by universities or civil society groups and the open source ecosystem. See above.

END