US leadership through promoting what works best for International Standards

The *United States Government National Standards Strategy for Critical and Emerging Technology* calls for a whole of government approach to reinvigorate its rules-based and private sector-led approach to standards development. The strategy seeks to prioritize efforts for standards development that are essential for US competitiveness and national security including communication and networking technologies, semiconductors and microelectronics, artificial intelligence and machine learning, biotechnologies, clean energy, and quantum information technologies.[1]

My following comments respond to most of the dozen questions posed by The International Trade Administration (ITA), The National Institute of Standards and Technology (NIST) and The United States Patent and Trademark Office (USPTO) in their request for public comments on the strategy. My focus is on technical standards providing interoperability in communications and networking technologies. These have been most significant technically, economically and in improving consumer welfare in the US and globally over several decades. Purely national or geographically limited technical standards might make sense in limited cases for reasons of national security, but there is broad consensus that standardizing globally is most effective and efficient due to economies of scale and the universal interoperability provided. Various "International Standards" have also flourished because, in accordance with World Trade Organisation (WTO) Technical Barriers to Trade (TBT) requirements, these also foster various competing business models. Some industry participants are dependent on generating licensing royalties, others move fast and succeed in downstream product markets by licensing-in standard-essential technologies and incorporating semiconductor chips and other components that already include them. Many other companies have hybrid business models that operate in both ways concurrently.[2]

My responses explain that what is good for International Standard development and licensing is also good for America. The US is the world leader in various advanced technologies—as a technology developer, and as an implementer. For market leaders, more can usually be gained by growing the pie than by simply taking share from others.

International Standards development, licensing and adoption has flourished

The US should promote predictability with legal certainty in institutions and open market processes that have proven successful in the development of International Standards by private sector companies. Intellectual property rights (IPR) policies and legal rulings in foreign jurisdictions are threatening US leadership and development of International Standards overall by eroding and potentially severely undermining the value of patented standard-essential technologies. While these actions might provide some short-term advantage to certain implementers; for example in Asia where the overwhelming majority of consumer electronics products implementing Standard Essential Patents (SEPs) are manufactured, in the medium and long term these policies and rulings impede technical and market developments across the entire ecosystem, and in turn harm consumer welfare.

[1] United States Government National Standards Strategy for Critical and Emerging Technology, May 4, 2023.
[2] These important distinctions are explicitly recognized by competition authorities; for example, in the EU's 2023 *Horizontal Guidelines,* paragraph 440.

I highlighted the extraordinary success of highly standardized communications technologies with the example of cellular communications in a 2016 research paper.[3] This success has continued to date. International Standards development and patent licensing remains most effective in enabling the world's fastest growing and largest ever technology ecosystem serving more than five billion people and 16 billion connections with cellular worldwide. Cellular technologies such as 4G LTE provide the primary or only means of person-to-person communication and Internet access to most of the world's population. Most personal devices connect to fixed networks via WiFi. With video accounting for more than 70% of Internet data traffic, standardized video compression technologies are also vital and valuable in providing interoperability and ensuring fixed and mobile network capacity is used most efficiently. IPR policies and SEP licensing practices that have enabled all this should be preserved and strengthened, not sabotaged.

Major contributors to International Standards development, including US companies Qualcomm and Interdigital, rely on or are in some cases entirely dependent on SEP licensing income to fund their R&D. While the extensive work of Standard Setting Organization (SSO) participants such as these companies in cellular technologies is the largest and possibly the greatest ever example of human coordination on a multilateral global scale, this is only the tip of the iceberg in standards-essential technology development. Most of the inspiration, effort and investment in developing standard-essential technologies occurs elsewhere, such as in innovators' R&D labs, and in field trials with network operators and enterprise customers.[4]

Standards setting with inclusion of patented technologies makes the very best capabilities rapidly and openly available for all implementers, including chip, module and device vendors. International Standards development — such as 5G Advanced in cellular communications, WiFi 7 and VVC/H.266 for video compression most recently — maximizes innovation and the scale of market opportunities along the entire supply chain while also providing the highest utility most cost effectively to consumers and enterprise customers. Freely available documentation including patents, standard specifications and essentiality declarations, together with standard-compliant components such as merchant market chips, lower market entry barriers and shorten product development cycles while reducing fixed and many variable costs for implementers.

Standard-essential technology developers — including those that are vertically integrated with design and supply of component or product manufactures — accept and effectively promote the commoditizing effects of standardization on downstream markets. This tends to diminish profit margins. Standardized product capabilities are by definition undifferentiated.[5] However, with the exception of a few standards that are largely licensed

[3] Keith Mallinson, *Don't Fix What Isn't Broken: The Extraordinary Record of Innovation and Success in the Cellular Industry Under Existing Licensing Practices, George Mason University School of Law Center for the Protection of Intellectual Property, July 1 , 2016*

[4] Keith Mallinson, *Cellular inventions trigger avalanche of activities among companies*, IP Finance June 30, 2018.

[5] Some implementers — most notably Apple in smartphones, tablets and wearables — find alternative ways of making exceptional profits through differentiating their standard-compliant products, including through vertical integration in other ways (e.g., with Apple's iOS and its App Store). Many other vendors including Ericsson, LG, Motorola, Nokia and Siemens have failed to maintain sufficient differentiation and have exited

royalty-free — such as Bluetooth, USB and DOCSIS for cable TV network broadband connections[6] — they only contribute their patented technologies to the standards on the condition they can be adequately and fairly rewarded through Fair, Reasonable and Non-Discriminatory (FRAND) licensing.[7] This vital incentive for innovation in open and competitive markets is to compensate for technology investments and development risks by those who cannot derive sufficient fair value through royalty-free cross-licensing and voluntarily chose to forgo opportunities to monetize their technologies proprietarily.[8]

Many companies have based their technology developments and product strategies on International Standards that—while benefiting many implementers—can only ever be *fully* monetized through licensing. Ericsson and Nokia, each with extensive US operations, including Nokia Bell Labs, have invested around one billion dollars apiece annually on R&D in recent years. They face fierce price competition all around the world in downstream product markets for cellular network equipment, including from vendors such as China's Huawei and ZTE.[9] Chinese companies are strongly supported and in many cases subsidized by the Chinese government.[10]

Patent pools such as VIA Licensing have done a great job in licensing many thousands of implementers with payment of royalties to dozens licensors over decades for popular

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the cellular handset market due to poor financial performance. Keith Mallinson, *How Europe can build on strengths in SEPs to reclaim leadership in cellular with 5G and 6G*, 4iP Council, April 28, 2022.

[6] Standards with mandatory royalty-free licensing terms cannot qualify as International Standards because they preclude SEP owners from monetizing their rights through licensing. Six Principles for development of International Standards were agreed by the WTO's TBT Committee, but these do not define what constitutes an International Standard or stipulate what kinds of licensing conditions are permissible. Whether a royalty-free standard qualifies as an International Standard depends on whether it meets TBT criteria including transparency, openness, impartiality and effectiveness. For example, "the standard development process will not give privilege to, or favour the interests of, a particular supplier/s, country/ies or region/s." Implementers that are entirely or even only largely dependent on the SEPs of others save money by not having to pay out any royalties. With royalty-free licensing, they are favored over those dependent on out-licensing for cash payments, some of whom have no other means of monetizing the patented technologies they contribute to a standard. Technology developers are entitled through their patent rights to license for royalty payments, but standards with mandatory royalty-free licensing terms exclude these in technology selection. They may choose not to contribute their patented technologies to a royalty-free standard and instead seek to license elsewhere, but that could also exclude them from accessing the standard. Royalty-free standard licensing terms invariably require reciprocal commitments for royalty-free licensing by all parties to such agreements. The EU warns in its Horizontal Guidelines that "If an undertaking is either completely prevented from obtaining access to the result of the standard, or is only granted access on prohibitive or discriminatory terms, there is a risk of an anti-competitive effect." Mandatory royalty-free licensing discriminates against firms with business models that rely on generating cash royalties for SEP licensing. This clash could also work against the TBT requirement to "avoid[] the development of conflicting international standards" if excluded parties instead pursue rival standards or proprietary implementations to monetize their SEP rights.

[7] According to ETSI Rules of Procedure IPR Policy, Annex 6, Section 3.2, November 2022, as applicable to various cellular standards including 4G and 5G, "IPR holders whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS."

[8] Keith Mallinson, *How to stifle innovation by impeding competition among technologies, companies and business models*, June 17, 2022.

[9] Keith Mallinson, *How Europe can build on strengths in SEPs to reclaim leadership in cellular with 5G and 6G*, 4iP Council, April 28, 2022.

[10] US-China Economic and Security Review Commission, *Challenging China's Trade Practices*, November 14, 2022.

International Standards in video encoding including MPEG-2, AVC/H.264 and HEVC/H.265.[11] The Avanci licensing platform also pools patents.[12] It's automotive programs license the vast majority of patents declared essential to cellular standards. Licensees include many manufacturers who together account for the vast majority of connected vehicle sales globally.[13]

Alternatively, while proprietary approaches enable the value of technology developments to be fully monetized in a vendor's product prices, they tend to result in a dominant supplier. For example, Intel's microprocessors for PCs and servers have dominated for decades. Intel's proprietary x.86-based technologies are embedded in these and monetized there in its chip prices.[14] In contrast, while Qualcomm implements, in its baseband processor chips, highly standardized cellular technologies including 4G and 5G, these technologies are also openly available to competing baseband chip suppliers.[15] These include Taiwan's MediaTek in merchant market supply and Apple in the custom baseband chips it is developing to incorporate in its iPhones.[16] However, to provide fair and adequate compensation to standard-essential technology owners, FRAND royalties are applicable on all products complying with standards, such as those incorporating, for example, Qualcomm's, MediaTek's or Apple's baseband chips.

Rate-setting initiatives threaten to undermine that stable and flourishing system

SEP and FRAND licensing policies such as the rate setting proposed by the European Commission in April 2023, and SEP rate setting in China threatens to undermine global licensing practices. This includes royalty rates and other terms that are well established voluntarily through commercial negotiations in thousands of licensing agreements. Rates are underpinned by many years of licensed trade with many billions of dollars paid in royalties without dispute.[17] That means that in many cases there are strong market-based benchmarks for licensing terms including royalty rates to be charged, amounts actually paid and how figures are derived. Where there are not yet established rates, parties negotiate licenses with consideration of many factors including essentiality, infringement, patent validity and market factors such as the value that technologies provide to licensees' devices and the networks that use them. Some rate-setting proposals seek to disregard such established methods in favor of making up aggregate royalty figures and apportioning them with "top-down approach" methodologies that ignore factors such as validity, the relative value of different patents, and in some cases even any independent assessment of standard essentiality.

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[11] https://www.via-la.com/licensing-2/

[12] https://www.avanci.com/

[13] Notably, virtually all connected vehicle sales that remain unlicensed are by Chinese OEMs.

[14] Intel's proprietary market dominance in x.86 was only mitigated by antitrust litigation and Consent Decree. In 2009, Intel and AMD announced a comprehensive settlement agreement to end all outstanding legal disputes between the companies, including antitrust and patent cross-license disputes. Intel entered into a Consent Decree with the United States Federal Trade Commission in 2010 that imposed further restrictions and requirements intended to foster competition in x.86 chips.

[15] In 2020, the US Ninth Circuit found in *FTC v. Qualcomm* that there were no antitrust violations in Qualcomm's SEP licensing.

[16] *iPhone 15 Is Missing a Chip That Apple Spent Billions Developing: WSJ (businessinsider.com)*

[17] Keith Mallinson, *Feedback to the European Commission on draft EU legislation: Intellectual property – new framework for standard-essential patents*, June 14, 2023.

IPR policies in International Standards, including that of the European Telecommunications Standards Institute (ETSI) since 1994 and IEEE's patent policy until 2015, were established through consensus among voluntary participants.[18] These policies recognized the need for fair and adequate rewards for technology developers. The successes of 3G, 4G and 5G cellular, in WiFi and in video codec standards such as AVC/H.264 were based on this. The setting of standards and IPR policy is by 3GPP and ETSI for cellular, by IEEE for WiFi and by ITU-T for various video compression standards.

Troublemaking in US

However, over more than a decade, there have been several significant attempts in the US to upset this fair and effective equilibrium to the benefit of certain industry groups, but harmfully to other US interests and International Standards development in general. Regrettably, these were poorly conceived, based on bogus patent "hold-up" theory and then promoted by those who did not reflect US interests overall.[19] The 2013 Policy Statement on SEPs and FRAND licensing by the US Department of Justice (DoJ) and the USPTO was harmful, at least to the extent it was misinterpreted— particularly abroad. For example, it also used the term hold-up, five times, and warned against this alleged phenomenon, even though there is no empirical support for hold-up theory in the context of SEPs.[20] The US Federal Circuit concluded in *Ericsson v. D-Link* that "if an accused infringer wants an instruction [to the jury] on patent hold-up and royalty stacking, it must provide evidence on the record of patent hold-up and royalty stacking in relation to both the RAND commitment at issue and the specific technology referenced therein".[21] Royalty stacking is another unsubstantiated theory that was being propagated against SEP owners' rights around this time, including by some US companies, which I have shown empirically to be defective.[22] Others including academics have replicated and validated my seminal work and findings.[23] In 2015, IEEE shunned the consensus-based approach it employs in selecting the best technologies to include in its standards and pursued a non-consensual governance process in changing its patent policy to weaken the rights of SEP owners.[24] The harmful

[18] This is also the way that such policies require that technologies are selected for inclusion in standards.

[19] Renate Hesse, former Deputy Assistant Attorney General Antitrust Division, DoJ, *Six "Small" Proposals for SSOs Before Lunch*, October 10, 2012.

[20] I refuted patent hold-up assertions in my January 2022 comments on the US DoJ's 2021 'Draft Policy Statement *on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Licensing Commitments'* and in my February 2022 rebuttal to some academics' comments on the Draft Policy statement that misleadingly imply many measures taken by a standard-essential patent holder in seeking to obtain a FRAND license are abusive. In their own cited research those academics state that many licensor behaviors "are not per se unlawful and none are, standing alone, conclusive proof of holdup." The EU's 2023 Horizontal Guidelines state "there is no presumption that holding or exercising IPR essential to a standard equates to the possession or exercise of market power. The question of market power can only be assessed on a case by case basis."

[21] https://cdn.patentlyo.com/media/2014/12/13-1625.Opinion.12-2-2014.1.pdf

[22] Keith Mallinson, *Theories of Harm with SEP Licensing Do Not Stack Up*, IP Finance, May 24, 2013; Keith Mallinson, *Cumulative mobile-SEP royalty payments no more than around 5% of mobile handset revenues*, August 19, 2015; *The smartphone royalty stack: a long-term look*, IAM, March 2, 2022

[23] Alexander Galetovic, Stephen H. Haber and Lew Zaretski, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results*, 42 TELECOMM. POLICY 263 (2018); Gregory Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, 1 CRITERION J. INNOVATION 701 (2016).

[24] Keith Mallinson, *Development of innovative new standards jeopardised by IEEE patent policy*, 4iP Council, September 20, 2017.

signals these changes emanated internationally were a green light for foreign nations who sought to gain advantage by reducing royalty costs in implementing International Standards including WiFi, 4G and HEVC/H.265.[25]

The saboteurs are not done. While the DoJ issued a business review letter in 2020 expressing no intentions to initiate any antitrust enforcement against Avanci's 5G patent platform,[26] numerous legal and academic scholars among others are demanding that assurance to be withdrawn. Based on citations to 2007 and 2011 reports, their allegations regurgitate unproven patent hold-up theory that his been resoundingly discredited in subsequent years. However, instead of holding up (i.e. stopping) any component or car manufacturer, Avanci is providing freedom to operate through FRAND licensing with numerous signed agreements including the vast majority of cellular SEPs and connected vehicle sales. Royalty charges and other terms are clear and consistent. It would be a travesty to disturb that efficient, effective and stable arrangement.

Some industry associations, that purport to represent the interests of Small and Medium-sized Enterprises (SMEs) as licensees, are directed and funded by other interested parties in their attempt to undermine established SEP licensing practices. For example, for what is sometimes referred to as "astroturfing," the Association for Competitive Technology—ACT | The App Association—was unmasked as a front promoting interests of Big Tech firms.[27]

While US agencies including the FTC and DoJ have caused some harmful disruptions and created uncertainties with changes driven by political appointees and lobbying, the US judiciary, including courts of appeal, making decisions based on legislation, evidentiary principles and extensive case law are a competent, trustworthy and reliable authority. With confidence in and deference to jurisprudence and the courts, the USPTO, NIST and DoJ were right to withdraw the 2013, 2019 and draft 2021 policy statements on SEPs and FRAND licensing.[28]

Contagion in China

This home-grown mischief in the US pushed at an open door in China, which provides the first example of SEP rate regulation. Under pressure from a Chinese antitrust investigation commencing 2013, Qualcomm agreed in 2015 to pay a $975 million fine and substantially reduce the royalty base used to determine its royalty charges.[29] In contrast, in 2020, the US Ninth Circuit found in *FTC v. Qualcomm* that there were no antitrust violations in Qualcomm's SEP licensing practices.[30]

The Chinese courts were also already issuing rulings that eroded or severely undervalued SEPs — most notably for companies that are not Chinese. While patent injunctions that

[25] Keith Mallinson, *Curing contagion and harm from previous changes in IP policy and law for SEP licensing*, IP Finance, September 16, 2020.
[26] *Justice Department Issues Business Review Letter To Avanci For Proposed Licensing Platform To Advance 5G Technology For Interconnected Automobiles*, July 20, 2020.
[27] David Cohen, *On Deceptive Apps and Practices: Unmasking the ACT App(le) Association*, Kidon IP, July 7, 2021
[28] Keith Mallinson, Comments on the US DoJ's 2021 'Draft Policy Statement *on Licensing Negotiations and Remedies for Standard-Essential Patents Subject to Voluntary F/RAND Licensing Commitments,'* January 2022.
[29] *Qualcomm and China's National Development and Reform Commission Reach Resolution*, February 9, 2015
[30] https://www.qualcomm.com/ftc

could exclude products from the market are seldom awarded for SEP infringements in China, courts there readily make what they deem to be FRAND determinations.

A most egregious example of FRAND undervaluation was in *Interdigital v. Huawei* with litigation commencing 2011. Siding with Huawei, a court in Shenzhen, where the company is based, ruled that Interdigital's royalties should not exceed 0.019% of handset prices. The figure was evidently nonsense because Interdigital's royalties as a proportion of total market handset revenues, even including other unlicensed OEMs' revenues was in fact 3.5 times higher in 2013 at a 0.07% royalty "yield" (a term I coined in 2015).[31] Nevertheless, the Guangdon High Court upheld that ruling in 2013.[32] That derisory rate determination was supposedly based on royalties paid to Apple and Samsung. However, "unpacking" agreements to derive equivalent percentage rates provides massive scope for inept or willful misinterpretation and overly simplistic determinations by the courts. This can occur when courts derive rate figures from up-front lump sums using actual device sales figures rather than the forecasts that are the only possibility for licensing parties when payment amounts are set up-front. Nobody anticipated in advance quite how very high smartphone adoption growth would be when licenses were struck for these devices in the few years prior to 2010, with the smartphone boom only beginning around then. While the recent FRAND rate determinations in *Interdigital v. Lenovo* by the UK's courts of England and Wales have been a disappointment to Interdigital,[33] the lump sum royalty award to Interdigital equates to $0.175 per handset sold and a corresponding royalty rate yield of 0.13% across all standards on only Lenovo's sales.[34]

In addition to undervaluing SEPs in its FRAND determinations, China has also forcefully asserted its jurisdiction over others as the forum for global FRAND determinations in various cases. China began issuing global antisuit injunctions (ASIs), which prohibit patent holders from pursuing legal action in non-Chinese courts and can levy financial penalties on companies that violate such orders.[35] The EU has filed a case against China at the WTO for restricting EU companies from going to a foreign patent court. According to the EU, China's use of ASIs are inconsistent with the WTO Agreement on Trade-Related Aspects of

[31] Keith Mallinson, *Cumulative mobile-SEP royalty payments no more than around 5% of mobile handset revenues,* August 19, 2015; InterDigital's royalty yield on all handset sales rose to as high as 0.16% in 2016, but it has fallen back since to around 0.10% in 2022.

[32] https://www.concurrences.com/en/bulletin/news-issues/october-2013/The-Guangdong-High-Court-upholds; However, in 2018 the Supreme People's Court granted Interdigital a retrial: https://news.bloomberglaw.com/ip-law/interdigital-granted-huawei-patent-case-retrial-by-china-spc. The parties ultimately settled, but not until after slogging it out for nearly a decade by 2020: https://www.lightreading.com/5g/huawei-and-interdigital-bury-the-hatchet.

[33] Interdigital argued that higher royalty charges were applicable for Lenovo than the discounted charges for others such as market leaders Apple and Samsung selling their devices in much higher volumes. However, at least the royalty yield implied by the Interdigital v. Lenovo decision appears to be consistent with the weighted average of royalties paid including all Interdigital's licensees.

[34] Assuming wholesale average selling prices of $135 for Lenovo over the applicable period between 2013 and 2020. One should expect this yield percentage to be somewhat higher than Interdigital's overall royalty yield across all vendors handset sales revenues because the latter was derived from total historic royalty payments and total handset sales revenues including those for unlicensed OEMs such as Lenovo.

[35] US-China Economic and Security Review Commission, *Challenging China's Trade Practices,* November 14, 2022.

Intellectual Property Rights (TRIPS). The EU requested consultations at the WTO.[36] In March 2022, the US, Canada, and Japan asked to join the consultations as third parties.[37]

EU sought to depress SEP royalties since the beginnings of 3G in 2000s

Notwithstanding the EU's well justified complaint against China, over many years the EU has otherwise only discredited itself as a venue for competence and fairness in settling SEP disputes and making FRAND determinations, even on a regional basis, let alone globally. In 2009, the European Commission abandoned, after four years of antitrust investigations, its proceedings against the practices of world-leading SEP licensor Qualcomm including assertions that its royalty rates were too high.[38] While it appears that the legislative proposals for SEPs the Commission set out in April 2023 have been significantly driven by the lobbying of German automotive manufacturers as well Big Tech SEP implementers, it is surprising how little consultation there was before the draft legislation was published, even within the Commission, let alone with other European expert authorities and interested parties. For example, António Campinos, President of the European Patent Office (EPO) has written to the European Parliament in October 2023 to express concerns and offer expert advice.[39] The EPO was not consulted despite it making many informal offers to do so.

The EPO's letter accurately summarizes widespread concerns about the proposed legislation. While the Commission states that its objectives are to increase transparency and predictability, the EPO states "that some of the proposed changes may be ill-suited to achieve these stated goals" and that "proposed measures may impose disproportionate regulatory burdens and hamper and delay access to justice, which could result in legal insecurity, not only for patent holders but also for third parties implementing the standards concerned." The EPO is also concerned that "evidence adduced by the Commission is inconclusive," as was also concluded in a study engaged by the Commission. It is also concerned that proposed measure measures might be inconsistent with WTO TRIPS Agreement and respecting fundamental rights under the European Charter of Human Rights. And the EPU is also concerned about the disregard for established institutions including the Unified Patent Court (UPC) and the related Patent Arbitration and Mediation Centre (PAMC).

Among numerous legal, economic and commercial issues, the Commission's proposed legislation recklessly seeks to replace established and effective FRAND valuation and licensing practices with dubious top-down approach rate setting.[40] Its plans for aggregate rate setting by expert conciliators and mandatory, yet non-binding, FRAND rate

[36] European Commission, *EU challenges China at WTO to defend its high-tech sector,* February 18, 2022.
[37] World Trade Organization, "DS611: China—Enforcement of Intellectual Property Rights," May 9, 2022.
[38] *Antitrust: Commission closes formal proceedings against Qualcomm,* November 24, 2009. The Commission also got it wrong against Qualcomm when its decision and €997 fine in another antitrust case against Qualcomm's business practices were overturned by the EU General Court (GU) in 2022. Instead of finding bad behavior by Qualcomm, the GC found that the Commission violated Qualcomm's rights to defense by illegally denying it access to exculpatory evidence as the Commission failed to properly record interviews and exchanges with witnesses, and by changing the scope of the alleged conduct versus in its Statement of Objections.
[39] Letter from António Campinos, President of the EPO, to Chair Adrián Vázquez Lázara and Vice-Chair and Rapporteur Marion Walsmann of Committee on Legal Affairs at the European Parliament, October 18, 2023.
[40] Keith Mallinson, *Feedback to the Commission on its proposed SEP legislation regarding the top-down valuation approach including patent counting*, June 14, 2023.

determinations in various technology standards, seemingly based on patent counting, raises many and all kinds of concerns.[41]

UK indifferent, but competent

While the UK has no particular national reasons to favor patent owners or implementers in SEP licensing, it has become a welcoming and popular venue for FRAND cases. In the latter, initial sentiments across the industry following *Unwired Planet v. Huawei* — largely upheld in the Supreme Court — were that the UK was somewhat SEP owner friendly. But, now, rather less so with 2023 FRAND decisions in *Interdigital v. Lenovo* and *Optis v. Apple*. I discussed Interdigital's travails in detail above to illustrate that while the UK is not a very significant jurisdiction in terms of product sales due to its relatively small population and national income versus the US, EU or China, it is probably doing the best job among these in determining FRAND rates. This is all consistent with the nation's good reputation for the rule of law and competence in dealing with international commercial disputes; for example, in the industries of the nation's historic "invisible" major net exports in international banking, insurance and shipping.

Rate discovery, not fabrication

Given the aforementioned success and stability of International Standards development and implementation under FRAND licensing, which occurs largely without dispute, it would be logical and most appropriate to employ existing licensing benchmarks to resolve matters when there are disputes or uncertainties about royalties. That would be a better solution than, for example, making up aggregate rates and allocating them with top-down approach apportionment, that has so many shortcomings.

There are some difficulties in obtaining and using comparable licenses to determine FRAND rates, but these can overcome, or at least significantly mitigated:

- While patent pools are transparent with published royalty charges and tend to stick to them, many individual licensors also publish rate cards but their bilaterally agreed licensing terms are often very customized and tend to be confidential. Nevertheless, unredacted disclosures in judgments, such as in recent UK FRAND cases have revealed a lot. Seeking more voluntary disclosures, or even requiring them; including actual licensing terms, identification of licensed products and royalty payments made on these, at least confidentially, to some kind of database, could improve price discovery for all.

- However, such data also requires significant expert yet also rather subjective interpretation. Bilateral licensing terms can be very complex with some licenses running to hundreds of pages. They need to be unpacked and interpreted together with sufficient disclosure of volumes and prices of licensed trade, including cross-licensing and other related transactions. Basing FRAND determinations on actual rates such as these is better than making up aggregate royalties and apportioning them based on patent counts.

[41] Keith Mallinson, *Additional feedback to the Commission on its proposed SEP legislation regarding aggregate royalty setting*, August 8, 2023.

- When there are no established royalty benchmarks for new applications, trail-blazing technology developers and implementers are by far best suited to establish market rates based on numerous factors including the anticipated value of specific patented technologies in those applications. The example of Avanci in pooling cellular SEPs for connect vehicles illustrates this. Avanci established various royalty benchmarks, including for eCall, 4G and 5G and then achieved incredibly high participation in licensing by both SEP owners and car OEMs. This was not accomplished by dreaming up rates in an ivory tower for a limited number of months. It took years of liaison among many SEP owners and OEMs to discover what rates would most likely to achieve the high levels of participation that have been attained for 4G and are being obtained in 5G as cars begin to implement that standard as well. That is the essence of FRAND licensing.

- Where negotiations and disputes cannot be settled between the parties it should remain with the courts to determine FRAND royalties. The *Interdigital v. Lenovo* decision illustrates how disparate the parties' evaluations can typically be despite them each spending millions of dollars in expert fees over a year or so. Parties differed by a factor of 4.2 in their final offers for FRAND royalties before the court made its determinations.

Antitrust in joint licensing agreements

While joint licensing agreements such as patent pools have been highly effective and pro-competitive in some instances, they can potentially create antitrust problems.[42] Standard-essential patents are complements not substitutes, and so coordination among SEP owners in setting patent pool rates is not generally a concern. Economic theory and empirical findings indicate that such coordination moderates individual demands and total licensing charges when rates are determined jointly by SEP owners. This moderating effect is accentuated where some SEP owners also have significant interests as licensees to the pool. Antitrust authorities require the alternative possibility of licensing bilaterally or among rival pools to ensure that competition and choice is preserved. However, the notion that groups of licensees should coordinate the setting royalties they pay is a threat to competition as such groups could wield monopsony power (i.e. of a buyers' cartel). It is for this good reason that this proposed approach for so called Licensing Negotiation Groups (LNGs) is not favored by antitrust authorities.

Patent and licensing sovereignty

Even with global consensus on how to determine FRAND rates that can best preserve the balance of reward for SEP owners versus costs to implementers, as set out in IPR policies such as ETSI's governed by French law, this still leaves the questions of where and who makes the FRAND determinations when licensing parties remain in dispute. Patent rights are national rights, the value for which is dependent on where technologies and specific claims are patented and national market conditions for the capabilities they enable. For example, while some nations might make certain cellular features mandatory for safety in self-driving

[42] Keith Mallinson, *Additional feedback to the Commission on its proposed SEP legislation regarding aggregate royalty setting*, August 8, 2023.

cars — which would ensure high adoption and use — such service features might not even become available in some other nations.

However, it is generally impractical to set royalty rates nation-by-nation for sales of products such as smartphones. Licensing terms commonly include different royalty rates for certain regions or nations, but these are almost always within global agreements. Parties sometimes agree to global FRAND determinations being made in a particular national court, as was the case in *TCL v. Ericsson*. But parties will often not agree on a national venue for global FRAND determinations.

The UK's approach is ingenious but contentious, with some regarding it as territorial overreach and it could also result in different jurisdictions competing to set global FRAND licensing rates. In the *Unwired Planet v. Huawei* decision, which was upheld in the Supreme Court, the implementer Huawei had to accept the court's global FRAND determinations or be subject to a UK injunction. If an implementer is unwilling to accept such licensing terms and accepts its exclusion from the, relatively small, UK it is freed from constraint by the UK courts on licensing terms elsewhere. However, in the pending litigation between Nokia and Oppo, Oppo's rejection of UK-determined global licensing terms with acceptance of a UK injunction might well be followed by global licensing terms set by Chinese courts and accepted by Oppo.[43] Such competition between jurisdictions seems unlikely to result in global consensus on FRAND royalties.

It would be disastrous if FRAND rate determinations — where parties are in dispute and more generally in their licensing negotiations — break down to being nationally or regionally based (e.g., for EU patents and EU sales), even though that might suit some implementers that seek to hold out licensing. There is strong consensus that International Standards have been highly beneficial to all. If global licensing does break down, there is a grave danger that so in turn might International Standards development. While there is already de-risking, decoupling and some bifurcation in the supply chains for technology hardware and software, among other goods and services versus China and some other nations, it remains business as usual in standards setting despite various geopolitical tensions and outright conflicts.[44] This continuity should not be taken for granted.

Globally agreed solutions across jurisdictions are required. Where parties can agree to international arbitration, this can be an ideal way to resolve disputes including the determination of FRAND rates. However, to get there, parties in dispute need to have agreed to that in contract. In many cases, there is no contract and never has been. Arbitration cannot be imposed unilaterally because this would subvert parties' rights to access to justice.

The US should promote use of alternative dispute resolution including through the World Intellectual Property Organization (WIPO). Rate setting and patent licensing dispute resolution is beyond the scope of SSOs, and should remain that way. For example, despite proposals that ETSI perform essentiality checks and weigh-in on SEP valuation and FRAND

[43] OPPO rejects High Court's ... - Manufacturers - Mobile News (mobilenewscwp.co.uk); China's Supreme People's Court Again Affirms Right to Set Global FRAND Rates in Standard Essential Patents in Nokia/OPPO Case

[44] Keith Mallinson, *Global standard setting at 3GPP endangered with Russia's invasion of Ukraine*, IP Finance, March 14, 2022.

rate determination issues, it insists on staying out of all that and remaining focused on its technical responsibilities in setting the very best technical standards.[45]

Preserving and expanding leadership

The US has some long-standing global leaders in development and implementation of International Standards, including Qualcomm and Apple, respectively, in cellular standards such as 5G.[46] The US should apply its influence to ensure the sound and effective practices — for example, relying on established FRAND licensing benchmarks, as I have noted above — are preserved, promoted and are adopted worldwide. There are numerous ways it can do this, such as through participation — particularly with leadership positions — in bilateral and multilateral international initiatives and organizations in standardization, licensing and trade.

Initiatives such those to improve investment (e.g., tax credits, government procurement for trials or full deployments, grants and prizes), awareness (e.g., through seminars and competitions), education, training , academic and professional support would help advance more companies. Sponsoring technical, economic and legal university research would also be beneficial. These initiatives would also cultivate SMEs as standard-essential technology developers, patentees and implementers.[47] Many of these currently have little awareness, let alone in-house expertise in these matters.

This submission was written by WiseHarbor's founder, Keith Mallinson

WiseHarbor is a global analyst and consulting firm serving companies, industry associations and government clients. Founded in 2006, WiseHarbor has remained focused on the ever-expanding and changing ecosystem in wireless and mobile communications as it connects people and an increasing array of things—from wearables and connected buildings to autonomous vehicles and industrial robots—and in transformation of many different markets and industry verticals.[48]

Keith Mallinson has more than 25 years of experience in the telecommunications industry: as a research analyst, consultant and testifying expert witness.[49] Complementing his industry focus, he has a broad skill set including technologies, market analysis, regulation, economics and finance. He has published numerous articles and speaks publicly at industry events on a wide variety of topics including market developments and competition in next generation mobile network technologies, semiconductors, technology standards, patents and licensing.[50]

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[45] For example, in 2021 ETSI rejected proposals by implementers to revise its FRAND policy to mandate a specific royalty base, in which implementers argued the "more apt royalty base is the broadband chip (i.e. 'smallest saleable patent-practicing unit' or 'smallest priceable component,' respectively)" as opposed to the industry practice of licensing at the "communication device" level. Dirk Weiler, IPR SC Chairman, *Status of discussions: overview of the possible scenarios, associated historical information and wording proposals where appropriate*, ETSI IPR (12)12_002r2, at 2-3 (Sep. 26, 2012).

[46] Qualcomm also employs standard-essential technologies in chips implementers incorporate in their standard-compliant products.

[47] It is commonly overlooked that many SME are developers of standard-essential technologies. Ownership of patented technologies including SEPs can be vital for these as a source of licensing income, for cross-licensing and as assets to leverage while fundraising or seeking an acquirer.

[48] https://www.wiseharbor.com/about-us/

[49] https://www.wiseharbor.com/leadership/

[50] https://www.wiseharbor.com/publications/