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Universal Royalty-Free Reciprocity: when is Royalty-Free not FRAND?

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Abstract

Royalty-free licensing of patents essential to a technology has been a compelling argument for implementation of that technology. The IPR policy adopted by W3C has been a RF model for other standards bodies, including the Alliance for Open Media. This article examines these IPR policies and notably their terms for reciprocity. These can create a licensing framework of "Universal Royalty-Free Reciprocity", arguably an all-encompassing ecosystem covering standards development participants, other SEP holders and implementers. As a result, the headline royalty rate for AOM's AV1 video codec specification, $ 0 per device, compares favorably with the rates – between $ 0.277 and $ 1.677 per device – published for other leading video codecs, HEVC and VVC developed by FRAND-based standards development organizations. This article assesses the purported benefits of RF licensing, when coupled with Universal Royalty-Free Reciprocity, and presents its disadvantages. One key issue is that the RF ecosystem is porous; there are many SEP holders that fall outside the reciprocity framework. Indeed those purportedly bound by the framework are free to step away and offer FRAND (royalty-bearing) terms. This article is timely because of the investigation conducted by DG Competition of the European Commission into AOM's licensing practices and the similar interest recently shown by the Antitrust Division of the US Department of Justice. AOM's "clarification" to its IPR policy in May 2023, in response to the Commission's investigation, has received little commentary. This article is also timely in connection with this special edition of the Revista Brasileira de Direito on FRAND and SEPs in the light of recent proceedings before the Court of Justice of Rio de Janeiro brought by an AV1-essential patent holder against an AV1 implementer.

Keywords: Royalty-free licensing. Standard-essential patents. Reciprocity. FRAND licensing. Alliance for Open Media (AOM).

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Resumo

O licenciamento isento de royalties de patente essencial a padrão (SEP) constitui instrumento jurídico-econômico relevante para a difusão de tecnologias interoperáveis, a redução de barreiras de entrada e a promoção de ecossistemas inovadores. Nesse contexto, a política de propriedade intelectual do W3C consolidou-se como paradigma de reciprocidade, influenciando iniciativas como a Alliance for Open Media (AOM). Este artigo examina em que medida tais políticas, especialmente seus mecanismos de reciprocidade, podem conformar uma "Universal Royalty-Free Reciprocity", abrangendo desenvolvedores de padrões, titulares de SEPs e implementadores. A análise evidencia a expressiva singularidade do codec AV1, cuja taxa principal de royalties é de US$ 0 por dispositivo, em contraste com valores publicados para codecs como HEVC e VVC, estruturados sob regimes FRAND e estimados entre US$ 0,277 e US$ 1,677 por dispositivo. Embora esse modelo revele significativo potencial competitivo, sua eficácia permanece condicionada a limites institucionais relevantes: parte dos titulares de SEPs situa-se fora do ecossistema, e participantes vinculados podem afastar-se para ofertar licenças FRAND remuneradas. A investigação da DG Competition of the European Commission, o interesse da Antitrust Division of the US Department of Justice e litígios recentes no Tribunal de Justiça do Rio de Janeiro reforçam a atualidade e a densidade jurídica do tema.

Palavras-chave: Licenciamento isento de royalties. Patente essencial a padrão. Reciprocidade. Licença FRAND. Alliance for Open Media (AOM).

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Introduction

Owners of patents and other intellectual property rights in an innovation can choose to forgo receipt of royalty payment for the use of their innovation by third parties. Royalty-free (RF) terms have long been offered notably in the licensing of software. RF licensing terms often require reciprocity: in exchange for RF licensing by the licensor, the licensee is called upon to offer the same (reciprocal) terms back to the licensor. The licensor could also require that its licensee offer the same licence (RF coupled with reciprocity) to each of that licensee's own licensees. This creates a chain of RF licences linked by reciprocity, resulting, for the innovation, in an ecosystem of Universal Royalty-Free Reciprocity. The standards body W3C has, along these lines, developed its own W3C Royalty-Free (RF) Licensing Requirements governing the licensing of intellectual property essential to its standards.

Other articles in this Special Edition of the *Revista Brasileira de Direito* address the IPR policies of standards bodies, commonly based on the SDO participant's obligation to grant licenses to its standard essential patents on terms fair, reasonable and non-discriminatory (FRAND). The IPR policies of some SDOs, while generally calling for FRAND terms, expressly account for RF licensing coupled with reciprocity. These policies also may allow for the possibility that the licensee will not accept to license its own SEPs on an RF basis. In this case, the licensor may offer a FRAND alternative (in exchange for its licensee's FRAND terms). This is called the "FRAND fallback". The starting point is the *SDO participant's choice* to offer RF licensing.

The tension between FRAND terms and RF terms becomes more complex when *the authoring standards body itself* requires RF licensing. One noteworthy example is the Alliance for Open Media (AOM) whose IPR policy, modelled on W3C's, provides for RF with reciprocity, with the goal of creating a royalty-free ecosystem, binding all SEP holders and all SEP implementers of its video codec specifications (AV1 and, as announced in late 2025, AV2).

AOM's IPR policy does not expressly allow for a FRAND fallback. The tension becomes greater as AOM's video codec solutions compete with those authored by SDOs whose IPR policies call for FRAND licensing.

At the time this article is being prepared, these questions have become more pressing with the interest in AOM's licensing terms shown by antitrust regulatory authorities, notably the US Department of Justice and DG Comp of the European Commission. They have also been the subject of litigation in cases brought in Brazil and in the United States by an AV1-essential patent holder against an implementer of the AV1 specification.[1]

In this article, Part I(A) provides an overview of FRAND licensing as adopted by many SDOs, a topic treated extensively elsewhere in this Special Edition. It then introduces, Part I(B), **royalty-free licensing**, notably the arrangements central to the W3C Royalty-Free (RF) Licensing Requirements. The notion of **Universal Royalty-Free Reciprocity** is presented as a framework for creating an RF ecosystem for a technical specification. Part II discusses the **IPR policy of the Alliance for Open Media** as leading example of the application of the W3C Royalty-Free Licensing Requirements, and more specifically comprehensive Universal RF Reciprocity.

Part III sets out an assessment of Universal Royalty-Free Reciprocity, presenting (in Part III(A)) arguments in favour of RF licensing and the attractiveness of Universal Royalty-Free Reciprocity. This description of perceived benefits is followed (in Part III(B)) by **weaknesses in the foundation of RF licensing**: Notably, some holders fall outside the legal construct requiring reciprocity and are, as a result, in a position to form their own royalty-bearing licensing programs, including patent pools. Part III(B) further dispels the vision of a peaceable RF kingdom by describing **adverse consequences to SEP holders of the RF policy**: disruption to the virtuous cycle of innovation > royalties funding > further innovation; muddying licensing markets and fostering hold-out; harm to SEP holders because of collusion by players dominant in the technology.

This conduct, based on the development and application of an RF policy based on Universal Royalty-Free Reciprocity, has sparked the interest, described in Part IV, of **antitrust regulators** both in Europe and in the United States. AOM has reacted by "clarifying" its policy by recognizing that holders of AV1-essential patents are free to offer other FRAND terms. This could well be considered a step toward "FRAND fallback", an arrangement that is commonly found in formal standards bodies. In Conclusion, the article notes that, when recently announcing its new specification AV2, AOM appears to lay less emphasis on its vision of royalty-free licensing.

1. Brazil: Dolby Video Compression, LLC v. Snap Inc. (Rio de Janeiro State Court, Case No. 3043830-49.2026.8.19.0001 (filed Mar. 23, 2026)); United States: Dolby Video Compression, LLC v. Snap Inc. (D. Del., C.A. No. 26-317) (original complaint filed Mar. 23, 2026). On the Snap cases and on earlier Brazilian cases (based on infringements of patents to SDO standards), *see infra* n. 38.

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I. Models for IPR policies governing standards development

A. IPR policies based on FRAND terms

Standards development organizations have a policy framework shaped by antitrust considerations and by government procurement requirements.[2] In addition to other key elements required for an SDO, such as openness, balance of interest, due process, an appeals process and consensus, the framework addresses IPR licensing issues. For example, the OMB Circular A-119 calls for "voluntary consensus standards", that are

> standards developed or adopted by voluntary consensus standards bodies, both domestic and international. These standards include provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory, royalty-free or reasonable royalty basis to all interested parties.[3]

SDOs have adopted policies in conformity with these requirements. The non-governmental American National Standards Institute is a leading accreditor of SDOs. In order to qualify as an ANSI-Accredited Standards Developers, an SDO must comply with Normative American National Standards Policies including, that when the SDO receives notice that a standard may require use of a patent claim, it obtain a statement containing either

> a) assurance in the form of a general disclaimer to the effect that such party does not hold and does not currently intend holding any essential patent claim(s); or
> b) assurance that a license to such essential patent claim(s) will be made available to applicants desiring to utilize the license for the purpose of implementing the standard either:
>
> i) under reasonable terms and conditions that are demonstrably free of any unfair discrimination; or
>
> ii) without compensation and under reasonable terms and conditions that are demonstrably free of any unfair discrimination.[4]

2. *See, e.g.*, Office of Mgmt. & Budget, Exec. Office of the President, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities*, OMB Circular A-119 (Rev. Feb. 10, 1998), § 4(a)(1) (listing attributes of a "voluntary consensus standards body"); Standards Development Organization Advancement Act of 2004, 15 U.S.C. §§ 4301–4306. For the comparable EU regulation, *see* Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European Standardisation, 2012 O.J. (L 316) 12, Annex II (Requirement for the Identification of ICT Technical Specifications).
3. Office of Mgmt. & Budget, OMB Circular A-119, *supra* note 2, § 4(a) (definition of "voluntary consensus standard").
4. Am. Nat'l Standards Inst., *ANSI Essential Requirements* § 3.1.1 (Jan. 2025) (Statement from patent holder).

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This is a model for the IPR policy generally adopted by SDOs in the United States and elsewhere: FRAND licensing, option for RF licensing. In addition, some policies make explicit reference to reciprocity (others, while silent, would treat reciprocity as a "reasonable term"). For RF licensing, some allow that when the potential licensee refuses reciprocity (and will not offer its own SEPs on an RF basis), the licensor can offer instead a "FRAND fallback": FRAND (with royalty-bearing terms) and requiring FRAND reciprocity from its licensee.[5]

This is a summary of the IPR policies typically adopted by SDOs. These are described more fully elsewhere in this Special Edition.[6] FRAND policies have governed most notably the licensing practices of holders of patents essential to video codecs, including MPEG2, HEVC, AVC and more recently Versatile Video Coding (VVC).

B. Royalty-free policies in other technical development

On the IPR policies of standards bodies based on royalty-free licensing, there is little case law and few academic articles. This could be the result of several factors: first, the bodies adopting such policies are generally operating outside the framework established for e.g. ANSI-accredited SDOs.[7] Indeed, they may be short-lived industry consortia formed to find agreement on a single de facto standard. The members of such consortia could well be bound by obligations of non-disclosure. Second, in a software environment of rapidly evolving technologies, the value of any proprietary intellectual property and its licensing may be illusory. As a result there has been little call for a close assessment of royalty-free terms. [8]

5. FRAND with RF option (no reference to reciprocity): ANSI, *supra* note 4. FRAND licensing with reciprocity: *see, e.g.*, DVB Project, *Memorandum of Understanding* art. 14.2 (potential licensee must submit "equivalent undertaking" with respect to its SEPs). For explicit "FRAND fallback": *see, e.g.*, IEEE Standards Ass'n, *Standards Board Bylaws* cl. 6.2; Patent Statement and Licensing Declaration for ITU-T or ITU-R Recommendation/ISO or IEC Deliverable:

   Also mark here __ if the Patent Holder reserves the right to license on reasonable terms and conditions (but not Free of Charge) to applicants who are only willing to license their Patent, whose use would be required to implement the above document, on reasonable terms and conditions (but not Free of Charge).

6. A note on the nomenclature adopted for this paper: Among standards bodies, the term "standards development organization" (or SDO) encompasses recognized standards bodies in Europe (for example, ETSI and CEN/CENELEC) and, in the United States, ANSI-accredited standards developers. In this paper, "SDO" also includes those standards developing organizations in Europe that, while not formally recognized like ETSI, meet the criteria for a body authoring identified ICT technical specifications. These criteria are established in the Regulation on European Standardization, Annex II, *supra* n.2 (openness, consensus, transparency, FRAND IPR policy, etc.). For example, the DVB Project, a body satisfying the Annex II criteria of the Regulation on European Standardization, is an SDO. For purposes of this paper, all other bodies – industry consortia. entities authoring proprietary standards, and the like – are described by the more generic "standards bodies". On this basis, the Alliance for Open Media is a "standards body" but because of its IPR policy and for the other reasons discussed *infra*, would fail to qualify as a standards development organization. For that reason one corollary is that AOM's specifications would not qualify as "standards" as that term is understood in the US or in Europe.

7. Indeed, such consortia may well fail to satisfy the well-settled criteria for a "voluntary consensus standards body." Office of Mgmt. & Budget, OMB Circular A-119, *supra* note 2. As discussed below, the IPR policy of AOM results in the exclusion of companies whose revenues depend, in whole or in part, on receipt of royalties; for this reason a standards body like AOM would fail the criterion of openness. *See infra* note 41 and accompanying text.

8. One paper, apparently prepared as input to the European Commission in connection with its investigation of AOM, did not identify case law addressing the W3C patent policy and relied instead on decisions supporting open-source software licensing. Jorge L. Contreras et al., *Preserving the Royalty-Free Standards Ecosystem* (SSRN, Oct. 2022). *See also* John Jarosz et al., *The Adoption and Benefits of Royalty-Free Licensing* (SSRN, May 2022) (noting that the Summary of Select Royalty-Free Technologies and Standards includes consortia

A leading model has been the W3C Royalty-Free (RF) Licensing Requirements adopted by the standards body W3C.[9] For our purposes, here are the leading requirements:

> 5. W3C Royalty-Free (RF) Licensing Requirements
> [A] W3C Royalty-Free license shall mean a non-assignable, non-sublicensable license to make, have made, use, sell, have sold, offer to sell, import, and distribute and dispose of implementations of the Patent Review Draft or Recommendation that:
> 1. shall be available to all, worldwide, whether or not they are W3C Members;
> 2. shall extend to all Essential Claims owned or controlled by the licensor;
> 3. may be limited to implementations of the Patent Review Draft or Recommendation, and to what is required by the Patent Review Draft or Recommendation;
> 4. *may be conditioned on a grant of a reciprocal RF license (as defined in this policy) to all Essential Claims owned or controlled by the licensee. A reciprocal license may be required to be available to all, and a reciprocal license may itself be conditioned on a further reciprocal license from all*;
> 5. *may not be conditioned on payment of royalties, fees or other consideration*;
> . . . .

whose IPR policy imposes obligations only among consortium members, with no duty running to third-party implementers). See also Roberto Dini et al, *Different Policy Orientations Influence the Patent and Litigation Ecosystem*, s 4 ("Standards Bodies Setting Economic Terms for Licensing?"), LES NOUVELLES (March 2024). A recent book-length compendium, offering advice and insights on standards development, based on the author's long experience in the RF community, and notably with AOM and its affiliates, includes a chapter on royalty-free patent policies. The broad, ambitious range of his subject did not allow for a fulsome treatment of royalty-free licensing and reciprocity. David Rudin, COFFEE AND STANDARDS (2026) ch 8. One point is worth noting: Rudin describes as an important "safety valve" the ability of a participant in an RF standards body to exclude its patents from being subject to the RF policy. Indeed W3C and AOM have such provisions. W3C Patent Policy, s 4; AOM Working Group Charter Appendix A, Patent Policy Option 5 (W3C mode), 2 (Exclusion); *see also* AOM, AOM Statements (23 May 2026) at para 2 (clarifying that an exclusion under the AOM Working Group Charter is valid also as an exclusion under the AOM Patent License 1.0). But the ability to exclude in both cases is limited to participants of the standards body. It is of little value to non-participants who may not receive notice of either a relevant work item within the standards body or the timing for giving notice of exclusion. So the risk would be that even as a non-participant the SEP holder would find its patent infringed by implementers. If the SEP holder becomes an implementer of the resulting specification, the RF community would consider that the framework of Universal RF Reciprocity would capture the SEP. The ability to exclude, then, is not sufficient comfort for preserving the value of the outsider's SEPs. This explains the action taken by outsiders giving notice not of exclusion but of refusal to license on RF terms. *See infra* n. 31. And it complicates the holder's ability to negotiate licences of its SEPs because often it will be met with the argument that the holder is entitled to no royalty because the market has been repeatedly assured that the specification is royalty-free.

9. W3C Royalty-Free (RF) Licensing Requirements is Section 5 of W3C, *W3C Patent Policy* (2025).

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> 8. shall not be considered accepted by an implementer who manifests an intent not to accept the terms of the W3C Royalty-Free license as offered by the licensor.[10]

Of these requirements, s 5(3) sets out the basic duty of royalty free licensing.

Section 5(4) merits closer review because of the compactness of the text. Three levels of reciprocity can be discerned encompassing progressively wider levels of licensees benefiting from RF access to SEPs:

(1). First the RF licensor can require that its licensee offer to the licensor the licensee's own SEPs on an RF basis;

(2). At the next level, this initial RF licensor can require that its licensee offer, on an RF basis, its own SEPs to any of its own licensees; and

(3). At the broadest level, the initial RF licensor can require that its licensee not only make an RF offer but also make that offer subject to the acceptance by the further licensees of the same framework for reciprocity.

This structure creates a comprehensive ecosystem of RF licensing around a specification, binding ultimately all SEP holders and all implementers of the covered specification. This chain of RF licensing can be described as "viral reciprocity" or "universal royalty-free reciprocity". Note however the permissive language ("may be conditioned") in the W3C requirement on reciprocity: under the W3C Patent Policy, the application of reciprocity, and at what level, is not a binding requirement imposed on the RF licensor. but rather available at the option of the RF licensor.

A further aspect of the W3C Royalty-Free (RF) Licensing Requirements is that no affirmative assent to the RF licence with reciprocity is required from the licensee. Rather, section 5(8) of the Requirements provides that the RF licence "shall not be considered accepted by an implementer who manifests an intent not to accept the terms of the W3C Royalty-Free license as offered by the licensor". Thus, the licensee's inaction (that is, its failure to reject an offer) signifies acceptance.

II. Alliance for Open Media as a leading example of RF licensing

Recently, a leading example of application of the W3C Royalty-Free (RF) Licensing Requirements has been the Alliance for Open Media Patent License 1.0.[11] AOM is a standards body that has developed the AV1 video codec specification, a digital compression technology that lowers costs for video distribution. In the press release announcing the specification, AOM and its leading participants emphasized its royalty-free status.[12] To this end, the AOM website affirms that

10. *Id.* (emphasis added) (original hyperlinks omitted).
11. Alliance for Open Media, Patent License 1.0 .
12. Alliance for Open Media, *The Alliance for Open Media Kickstarts Video Innovation Era with AV1 Release — AV1 Unleashes 4K and Higher UHD, Royalty-Free Video for All* (press release, Mar. 28, 2018). The term "royalty-free" appears fourteen times in the press release, in the main text and in comments from leading participants including Amazon, Cisco, Google, Intel, Microsoft, and Netflix.

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> Participants in [the AV1 working group] have adopted the Alliance for Open Media Patent License 1.0. This is intended to fulfill their commitments to make available their Essential Claims, as defined in the W3C Patent Policy, in Final Deliverables adopted by that Working Group under the W3C RF licensing requirements . . .[13]

The AOM Patent License 1.0 is then the central text of its IPR policy. Here are the provisions of that licence relating to the royalty-free grant relating to AV1-essential patents and the requirement of reciprocity:

> License Terms.
> 1.1. Patent License.
> Subject to the terms and conditions of this License, each Licensor, on behalf of itself and successors in interest and assigns, grants Licensee a non-sublicensable, perpetual, worldwide, non-exclusive, no-charge, *royalty-free*, irrevocable (except as expressly stated in this License) patent license to its Necessary Claims to make, use, sell, offer for sale, import or distribute any Implementation.
> 1.2. Conditions.
> 1.2.1. Availability.
> As a condition to the grant of rights to Licensee to make, sell, offer for sale, import or distribute an Implementation under Section 1.1, *Licensee must make its Necessary Claims available under this License*, and *must reproduce this License* with any Implementation . . .[14]

Certain terms, defined in the AOM Patent License 1.0, are important for the framework that shapes the regime for AV1's universal royalty-free reciprocity:

> 2. Definitions
> . . .
> 2.8. Licensee. "Licensee" means any person or entity *who exercises patent rights* granted under this License.
> 2.9. Licensor. "Licensor" means (i) *any Licensee* that makes, sells, offers for sale, imports or distributes any Implementation, or (ii) a person or entity that has a licensing obligation to the Implementation as a result of its membership and/or participation in the Alliance for Open Media working group that developed the Specification.[15]

13. Alliance for Open Media, Legal — Open Media License 1.0 (links in original). Note that the version of the W3C Royalty-Free (RF) Licensing Requirements underlying AOM's IPR policy derives from the original W3C Patent Policy (2004). For purposes of this article, there is no material difference between that version and the most recent version. *See supra* note 19.
14. AOM Patent License 1.0, *supra* note 11 (emphasis added).
15. *Id.* (emphasis added).

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The AOM Patent License 1.0 aligns then with central elements of the W3C Royalty-Free (RF) Licensing Requirements:

- AOM's licence s 1.1 calls for royalty-free licensing by the holder of AV1-essential patents (W3C Requirement 5(5));
- The AV1 licensee's acceptance of the licence is automatic for example by simply implementing the AV1 specification, without signifying acceptance (AOM licence s 2.8, matching W3C Requirement 5(8) (but, in the AOM licence, not leaving room for a licensee "not to accept" the terms)); and
- The AOM license contemplates all three levels of reciprocity of W3C Requirement 5(4) – (i) licensee's RF licence to its AV1 licensor (AOM's licence s 1.2.1), (ii) licensee's recasting as the licensor under the AOM licence for its own licensees (AOM licence s 2.9), (iii) the viral use of the same royalty free terms (AOM licence 1.2.1 ("Licensee must make its Necessary Claims available *under this License*")).

While the AOM Patent License 1.0 largely aligns with the W3C Royalty-Free (RF) Requirements, it is more constraining because, as noted, the AOM licence does not leave room for refusal of the licence by an implementer.[16] In addition, while W3C Requirement 5(4) lists the levels of reciprocity as optional ("may be conditioned . . . may be required . . . may itself be conditioned"), AOM has, for its licence, selected as mandatory all three levels of reciprocity.[17]

III. Assessment of Universal Royalty-Free Reciprocity

A. Royalty-free: Paradise Regained?

It is by offering the Alliance for Open Media Patent License 1.0 that the participants in the AV1 working group "intended to fulfill their commitments to make available their [AV1-essential patents] under the W3C RF licensing requirements".[18] Across a very dense text,[19] AOM has fostered the formation of a royalty-free ecosystem which offers some economic benefits and reduces administrative burdens for licensees and licensors alike. We set out these benefits first and then list some drawbacks.

The significant benefit is of course the perceived freedom from payment of royalties enjoyed by implementers of the AV1 specification, consumers and other users of AV1-essential patents. For manufacturers of devices (eg consumer products such as televisions, set-top boxes, desktop PCs, cellphones) selecting a next generation video codec, the posted rate of $ 0 for AV1

16. And therefore there is no need to provide for a FRAND fallback — a step permitted in other standards bodies to accommodate the participant who has pledged RF licensing but whose potential licensee refuses RF reciprocity. *See supra* note 6.

17. Note that the notion of "universal reciprocity" need not be limited to royalty-free licensing. A standards body's call for FRAND licensing with reciprocity could trigger a comprehensive FRAND ecosystem. *See, e.g.*, DVB Project, Memorandum of Understanding (2014) art. 14.2 (a DVB member may condition its grant of a FRAND licence of a DVB-essential patent on the licensee's willingness "to submit an equivalent undertaking with respect to [such licensee's own DVB-essential patents]") (emphasis added).

18. Alliance for Open Media, Legal — Open Media License 1.0, *supra* note 11.

19. In a comment to one of the authors, an AOM colleague warned of the risk of "Talmudic exegesis." The allusions are not confined to the Old Testament (and related texts). The RF community may find inspiration in the New Testament: δωρεὰν ἐλάβετε, δωρεὰν δότε. (Matt 10:8). In English, one translation reads: "*Without cost* you have received, *without cost* you are to give." (New American Bible, Rev. Ed (2011) (emphasis added)).

compares favourably to the royalty rates, between $ 0.277 and $ 1.677 per device, posted for the licensing program covering patents essential to Versatile Video Coding (VVC) administered by Access Advance.[20] Not only are costs reduced, but also the administrative burden for implementers is arguably absent: no patent searches, no negotiation with patent holders, no periodic reporting of AV1-compliant devices. The application of the multiple levels of universal royalty-free reciprocity means that, thanks to the ingenious working of the Alliance for Open Media Patent License 1.0, all implementers are bound by the royalty-free terms.

For the AV1-patent holder, its administrative burdens are reduced as well: it is not called upon to submit declarations of essentiality and licensing assurances to a standards body. It is free from negotiating licences with AV1 implementers. Moreover it doesn't have to police compliance with license terms; and it isn't called upon to survey the market to find unlicensed infringers. Neither the patent holder nor the implementer incurs litigation costs.

Others are arguably the beneficiaries of RF licensing. The body authoring the specification is not responsible for maintaining and updating a costly database of submitted declarations.[21] For consumers, device manufacturers producing royalty-free products will, it is assumed, pass down the cost savings to end-users purchasing AV1 devices. Content providers and content distributors can count on a growing installed base of user devices compatible with AV1 streaming technology.

AOM's policy is just one application of a royalty-free approach to SEP licensing. It is important to contrast the IPR policy of AOM with other IPR policies in the RF community. The automatic operation of Universal Royalty-Free Reciprocity is notable: no express action is required by licensor to offer, or by licensee to accept, the Alliance for Open Media Patent License 1.0. The licence is treated as complete in itself; in that form alone it is intended to be made available to any potential licensee.[22] It is silent as to whether the licensor can offer, in addition to a royalty-free licence, other FRAND terms, in areas outside the four corners of the AOM patent licence, to be negotiated with licensees. In its IPR materials, AOM acknowledges that other policies allow other FRAND terms, supposedly for FRAND-based licensing negotiation.[23] This apparent adherence to RF doctrine contrasts with the relative flexibility allowed under the W3C Royalty-Free Requirements themselves and with the IPR policy adopted by other royalty-free

20. Access Advance, *VVC Advance Patent Pool: Royalty Rates Summary* (Nov. 11, 2025). The actual per-device rate depends on, among other factors, the device's selling price and the region in which it is sold.

21. The annual budget for the ETSI IPR Online Database is not publicly disclosed, but the range of activities associated with its operation suggests it represents a significant burden on ETSI. *See* European Telecomm. Standards Inst., *Guide on Intellectual Property Rights* (June 10, 2021) *passim*.

22. *AOM Patent License 1.0* § 1.2.1, *supra* note 11 ("Licensee must make its Necessary Claims available under this License, and must reproduce this License . . . .").

23. *Compare* Alliance for Open Media, Working Group Charter, Appendix A, Patent Policy Option 2 (RAND-RF Mode) ("royalty free, nonexclusive, . . . patent license to its Necessary Claims on fair, reasonable, and non-discriminatory terms"), *with* Alliance for Open Media, Working Group Charter, Appendix A, Patent Policy Option 5 (W3C Mode) (the mode selected by AOM, incorporating the W3C Royalty-Free (RF) Licensing Requirements, "fulfilled" by adoption of the AOM Patent License 1.0, which is silent on other licensing terms). *See also* W3C Royalty-Free Licensing Requirements § 5(7), *supra* note 9 (expressly permitting "reasonable, customary terms relating to operation or maintenance of the license relationship such as the following: choice of law and dispute resolution") (emphasis added).

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standards bodies, for example those following a RAND-Z model.[24] However, it appears that AOM has begun aligning its policy more closely with other RF standards bodies.[25]

B. The Royalty-Free Colossus: Head in the Clouds, Feet of Clay?

1. Gaps in RF Framework

The list of benefits described above creates a vision of a peaceable kingdom: An all-encompassing RF ecosystem bringing harmoniously together SEP holders and specification implementers. Can it be true that this is a mutually reinforcing universe of altruistically minded technology companies benevolently contributing the fruits of their research and development by making available a worldwide common platform benefiting consumers and the public at large by providing, at lower cost, an advanced technical solution for distribution of audiovisual and other data content?

There are a series of observations that dispel this vision:

a. There are holders of AV1-essential patents not covered by Alliance for Open Media Patent License 1.0.

Under that licence, its framework of universal royalty-free reciprocity offers the prospect of a comprehensive RF implementing environment. But in fact, by its terms, some AV1-patent owners fall outside the framework: Those who are neither AOM participants nor "entit[ies] who exercise[] patent rights"[26] related to the AV1 specification are, for that reason not subject to the terms of the Alliance for Open Media Patent License 1.0.

Several of these owners have joined together to form a AV1 patent pool administered by Sisvel. Others are in a pool administered by Access Advance.[27] Such pools are not a novel development: For the VP8 specification, a compressed video data format that is a precursor to AV1, Google claimed that the underlying patents were royalty-free.[28] Nevertheless a pool administrator, MPEG LA, took steps to form a licencing program of VP8 patents not bound

24. *See, e.g.*, the IPR policy of a leading standards body responsible for development of IoT specification, Connectivity Standards Alliance, IPR Policy § 8 (Definitions) (providing for "RANDz" licensing: "a no-cost . . . license . . . on fair, reasonable and non-discriminatory terms and conditions," which terms are deemed to include reciprocity and suspension).

25. *See infra* Part III.B.1.C].

26. AOM Patent License 1.0, *supra* note 11.

27. Sisvel, Sisvel's AV1 Licensing: Next-Gen Video Coding; Access Advance, VDP Video Distribution Patent Pool Program Overview (presentation, July 2025) (the Access Advance pool comprises video codec essential patents, covering AV1 together with HEVC, VVC, and VP9). In both instances, some licensors may arguably be captured by the AOM Patent License 1.0 as implementers of the AV1 specification, but have repudiated that licence. *See infra* Part II(B)(1)(b).

28. The Google specification development effort was called "WebM." On the WebM website, licensing was addressed in the Frequently Asked Questions:

> **Please explain how WebM is "royalty-free" or licensed under a "no charge FRAND" license?**
>
> Creators of some video codecs require content distributors and manufacturers to pay patent royalties to use the intellectual property within the codec. Google does not demand royalty payments for use of the codecs WebM supports (VP8/VP9 video . . .).

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by the royalty-free terms. At the time, Google's solution was to obtain from MPEG LA a pool licence with the right to sublicense to implementers.[29]

Thus, the patent holding outsiders – individually and in pools – undercut the claim that the specification is "royalty-free". As noted, this is a recurrent issue: an earlier video codec solution developed by some of the same companies was labelled royalty-free even when some patent holders offered royalty-bearing licences or joined in patent pools.

b. At least one implementer has invoked the RF "opt-out" described in the W3C Royalty-Free (RF) Licensing Requirements.

As noted above, the W3C Royalty-Free (RF) Licensing Requirements expressly contemplate that "an implementer [can] manifest[] an intent not to accept the terms of the W3C Royalty-Free license".[30] Although AOM participants "have adopted the Alliance for Open Media Patent License 1.0 . . intend[ing] to fulfill their commitments to . . . the W3C Patent Policy", their licence does not include the opt-out described in that policy. More than one implementer has publicly stated that it refuses to offer the Alliance for Open Media Patent License 1.0.[31]

c. The recent clarification of AOM's IPR policy further calls into question AOM's assertion that AV1 implementation is royalty-free.

One of foundations of AOM's claim of royalty-free licensing for its AV1 technology was that it was, at the very least, a pledge from AOM participants, many of them leading technology companies, whose technical contributions were especially valued. The implementing community could assume that these AOM participants would be adamant in trying to bolster the RF ecosystem. In AOM's IPR policy there is no explicit flexibility allowing, for example, a participant

29. *Google and MPEG LA Sign Licensing Agreement Covering Google's VP8 Video Codec, Clearing the Way for Wider Adoption*, TechCrunch (Mar. 7, 2013). After announcement of the MPEG LA licence, Google made available a form of sublicence covering MPEG LA licensors. VP8 Patent Cross-License Agreement. Although implementers could also sign, Google did not specify how an implementer would benefit; it stated: "We just wanted to provide a way, for those interested, to gain additional comfort using WebM if they wanted one." FAQ: VP8 Patent Cross-License (emphasis added). The "outsider" problem is not unique to video codec specifications. *See* Jorge L. Contreras, *When a Stranger Calls: Standards Outsiders and Unencumbered Patents*, 12 J. Competition L. & Econ.(2016) (University of Utah College of Law Research Paper No. 159). Since that paper, there has been growing awareness of "reverse patent stuffing" — the intentional inclusion in a specification of technology patented by a non-participant — also called "IPR socialization" or "guerrilla standardization." *See id.* at n.42 and accompanying text (quoting Josh Lerner & Jean Tirole, *Standard-Essential Patents*, 123 J. Pol. Econ. 547 (2015)). For a recent case in which a standards body incorporated an outsider's patented technology even after its owner refused to join the body because of its RF IPR policy, *see* Radian Memory Systems LLC v. Samsung Elecs. Co., No. 2:24-cv-1073 (E.D. Tex.), Statement of Interest of the United States Dep't of Justice (June 24, 2025).

30. W3C RF Licensing Requirements, § 5(8), *supra* note 9.

31. Qualcomm's Snapdragon processor implements AV1 technology, and Qualcomm would therefore, as framed by the AOM Patent License 1.0, arguably fall within the RF terms of that licence. Qualcomm has nonetheless opted out:

> Regarding the Alliance for Open Media (AOM) Patent License 1.0, Qualcomm has not accepted the unilateral terms asserted by AOM with respect to Qualcomm's intellectual property and has notified AOM of this position. Qualcomm reserves all its intellectual property rights, including with respect to the use of any of Qualcomm's patented technology to implement any AOM specification.

Qualcomm, Qualcomm Statement Regarding Alliance for Open Media Patent License 1.0 (undated [Oct. 2022?]). *See also* Dolby Laboratories, Inc. Statement Regarding the Alliance for Open Media Patent License 1.0 (undated [2023?]). *See generally* Contreras, *When a Stranger Calls, supra n 29.*

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to offer FRAND (royalty-bearing) terms if a potential licensee rejects the participant's initial offer of RF licensing with reciprocity. There is no FRAND fallback.[32]

In May 2023, however, AOM issued a set of clarifications[33] related to its IPR policy. Its first clarification (together with the accompanying footnote) states:

> The possibility to engage in bilateral negotiations
> AOM Members of the Royalty-free Codec Working Group have agreed to make their Essential Claims for Final Deliverables that have not been timely excluded available under the W3C Patent License Requirements and the terms of AOM Patent License 1.0. *Each Working Group Participant and each Licensee has the freedom to also offer, negotiate, and accept different FRAND terms, and prospective licensees1 are in all cases free to request different FRAND terms should they not wish to be bound by the terms of the AOM Patent License 1.0.*
>
> ———————
>
> 1 Use of the uncapitalized term "licensees" in "prospective licensees" is deliberate so as to encompass licensing on terms other than the AOM Patent Licence 1.0.

In accepting a degree of flexibility in its approach to universal royalty-free reciprocity and allowing "different FRAND terms" (*lege*: royalty-bearing FRAND terms), AOM was arguably taking a step away from a doctrinaire attitude mandating royalty-free licensing and toward the FRAND fallback allowed by some accredited standards development organisations.[34] This flexibility is consistent with the exchange of terms typical for a FRAND negotiation (and contemplated, for example, by the decision of the European Court of Justice in *Huawei v ZTE*[35] and its progeny).

This public clarification of FRAND flexibility is an acknowledgement by AOM that even those bound by the terms of the Alliance for Open Media Patent License 1.0 – whether as AOM participant or AV1 licensed implementer – are free to offer royalty-bearing FRAND terms.

AOM's royalty-free framework is an unsettled structure: Some AV1-essential patent holders fall outside the framework. Others disclaim being bound. And AOM itself acknowledges

32. On the "FRAND fallback," *see supra* note 5 and accompanying text.

33. Alliance for Open Media, AOM Statements (May 23, 2023) (emphasis added). The AOM Statements were issued on the date "[t]he European Commission . . . closed a preliminary investigation under EU competition law, without further action." *See infra* note 47 and accompanying text.

34. Note, however, that in issuing these clarifications AOM affirmed that it was making no change:

> None of these clarifications changes in any way AOM's FRAND-compliant Royalty-Free (RF) 'W3C Mode' IPR policy (AOM Working Group Charter, Appendix D), which incorporates portions of the W3C Patent Policy, and nothing changes Patent License 1.0, which embodies that policy.

AOM Statements, *supra* note 33. The May 2023 AOM Statements constitute the first AOM document that appears to align its RF policy with FRAND. Earlier AOM website pages distinguish "royalty-free" from FRAND. *See, e.g.*, Alliance for Open Media, Working Group Charter, Appendix A, *supra* n. 23 (distinguishing Option 5 (W3C Mode, AOM's choice) from RAND, RAND-RF, and other options); *id.* Appendix D (indicating AOM's selection of Option 5).

35. Case C-170/13, Huawei Techs. Co. v. ZTE Corp., ECLI:EU:C:2015:477 (July 16, 2015).

the "freedom to also offer, negotiate, and accept different FRAND". The next sectiont discusses the commercial consequences of AOM's IPR policy and the ambiguities it creates.

2. Adverse market consequences from imposition of RF licensing

The imposition by a standards body of its royalty-free IPR policy distorts the normal working of markets for licensing of patent rights. It obscures the true patent landscape for implementation of a standardised technology by undercutting the legitimate claims of SEP holders not bound by the RF policy. It encourages hold-out behaviour by implementers.

a. The strict application of a royalty-free IPR policy results in non-FRAND outcomes.

The commercial consequences of a royalty-free IPR policy vary considerably across implementers, aggravated by a term calling for Universal Royalty-Free Reciprocity. For the implementer without standard essential patents, there is only a happy consequence: it pays nothing (and has no administrative burden to negotiate and to comply with licences). For the implementer with a SEP portfolio, while it pays nothing for its counterparty's patents, reciprocity requires that it offers for free its entire SEP portfolio at no cost not only to its counterparty but also to every other implementer. The cost to the SEP portfolio owner as a notional licence fee is an amount equal to its foregone royalties in exchange for its counterparty's essential patent. The foregone royalties are enhanced by the effect of universal reciprocity. This is an arrangement that is manifestly discriminatory against the holder of essential patents.[36] It fails the non-discriminatory prong of the FRAND obligation.

b. More broadly, claims of a royalty-free AV1 ecosystem create market confusion for device manufacturers and others and offer an opportunity for "hold-out" behaviour.

The constant messaging by AOM proponents that AV1 is a "royalty-free video codec" results in market confusion in implementers when trying to assess the AV1 patent landscape and the true cost of implementation. This is particularly true of small and medium sized enterprises that do not have the resources for patent searches and other means of assessing the AV1 patent licensing market. The confusion delays licensing and provides an environment legitimatising hold-out behaviour, that is, the use of delaying tactics to postpone the conclusion of licensing negotiations and payment of royalties. "Efficient infringement" becomes more attractive as a commercial practice. The confusion impedes the ability of those patent holders, not bound by the AOM IPR policy, to negotiate licenses of their AV1-essential patents. Litigation to enforce patent rights can be the result.

The unsettled SEP licensing market, and constant impugning of the right of SEP holders to obtain royalties for their innovations, result in detrimental effects to research and development and to bodies responsible for developing technical standards.

36. A proponent of royalty-free licensing would arguably be hard pressed to show that a compelled reciprocal RF transaction is fair or reasonable.

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c. The "outsider" SEP holders may have greater remedies against infringement than if bound by a FRAND pledge.

One paradox is that the implementer of a purportedly RF specification may be at greater legal risks than for a FRAND-based specification. In a FRAND environment, the implementer may count on that SEP holders will be subject to their FRAND pledge. In litigation, the implementer has defences limiting the patentee's claims to reasonable royalties and frustrating the patentee's attempts to exclude the SEP-infringing products by injunction. But for specifications developed by a consortium whose royalty-free IPR policy may have discouraged participation by royalty-earning innovators, these innovators are not legally subject to the consortium's RF licensing framework. In the absence of any constraints, FRAND or RF, the patentee can seek supra-FRAND royalties and has a freer hand in seeking injunctive relief.[37]

The infringing implementer finds false comfort in the blandishments of the RF community and in fact faces legal risk from patentees not falling within the RF framework. In Brazil and elsewhere, holders of patents essential to video codec standards initially brought claims based on standards developed by recognised standards development organisations, with FRAND policies. More recently, patentees are now bringing claims against infringers of AV1-essential patents.[38]

d. Breaking the virtuous cycle of royalties funding new research and development

Royalty income is not a fortuitous windfall for a patent owner. The innovation protected by a patent is the results of the skills and expertise of its research and development department and considerable investment. Many innovations fail because of commercial challenges or competing technologies. The patents for failed innovations may be simply abandoned before the end of their term. Other innovations can enjoy significant success and it is based on the royalties generated from patent licensing that innovation companies have the funds to continue their continuing R&D and join in "promot[ing] the progress of science and useful arts".[39]

37. On the heightened threat of injunctive relief and the removal of a ceiling on damages, see Jan Ozer, *When There's No FRAND: What Dolby's Suit Against Snap Means for the Industry*, (Mar 26, 2026). The "outsider" SEP holder is also a concern for standards developed by FRAND-based SDOs. *See* Contreras, *supra* note 29.

38. In March 2026, a case was brought in the Rio de Janeiro State Court asserting infringement of an AV1-essential patent. Dolby Video Compression, LLC v. Snap Inc, Case no. 3043830-49.2026.8.19.0001. This is one of the first cases brought by a holder of an AV1-essential patent against an AV1 implementer. (For parallel US litigation, *see* Dolby Video Compression, LLC v Snap Inc. (D. Del) (C.A. No. 26-317) (Original complaint 23 Mar 2026) (asserting that Snap infringes Dolby patents essential to AV1 and another video codec). The Snap cases concern a *royalty-free specification*; Brazilian courts have earlier been the forum of cases claiming infringement of patents essential to video codecs standardized by *FRAND-based standards development organizations*. For a case involving the H.264 (AVC) video codec standard, developed by ISO/IEC and ITU/T, *see e.g.* Amazon Servicos de Varejo do Brasil (Appellant) v Nokia Technology Oy (Appellee), Twenty-First Chamber of Private Law of the Court of Justice of the State of Rio de Janeiro (Interlocutory Appeal No. 0106001-04.2023.8.19.0000 (June 19, 2024) (affirming on appeal grant of anticipatory provisional emergency relief (preliminary injunction) against infringement of patent essential to H.264 (AVC) standard); Dolby International AB v Roku Brasil Servicos de Apoio de Produtos Electronicos, 6th Business Law Court of the Judicial District of the State Capital of Rio de Janeiro (joint motion to suspend proceedings in view of settlement agreement) (Jan 6, 2026) (suit brought by a member of Access Advance HEVC patent pool for infringement of HEVC-essential patent by content streaming service). On the Roku case, see also Licks Attorneys, Brazilian Court Filings Highlight HEVC Patent Enforcement Against Roku | Licks Attorneys (Jan 7, 2026).

39. U.S. Const. art. I, § 8, cl. 8.

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The royalty income is not just part of the virtuous cycle of innovation leading to royalties available to fund further research and development. At times leading manufacturers of new technology products have counted on licensing revenues to balance out variations in other commercial activities.[40]

e. The RF policy of a standards body can block participation by significant technological contributors

Technology companies that are licensors of their patented innovations often refuse to participate in standards bodies that require its members to agree to royalty-free licensing. Their exclusion may deprive the specification development activity from a range of stakeholders who may be well placed to make consequential contributions. A standards body should welcome the full value chain; a constraining IPR policy deprives the other participants of important inputs and its resulting deliverable risks becoming the product of a closed circle.[41] The failure of a standards body to have a FRAND policy, and the related consequence that it is not open to all potential contributors, could mean that the standards body will not meet the criteria of a standards development organisation in the United States or the European Union[42] and its activities be found to fall outside any antitrust safe harbour.

Other consequences can flow from the adoption of an RF policy and the other infirmities in the structure of a standards body. For example, the standards body may look for greater legitimacy for its specification by submitting it to a more formal standards development organisation so that it can be accepted as a publicly available specification (PAS) or as a normative reference. But in either case, it's possible that its effort may stumble when its IPR policy or its governance framework is reviewed[43]

IV. Growing Interest by Regulatory Authorities

The IPR policies of standards bodies, based on royalty-free licensing, are almost inevitably porous because, for example, they fail to capture holders of SEPs who are not participants or otherwise bound. In addition, the imposition of royalty-free policies distorts the operation of

40. For two examples of manufacturing companies relying on royalty revenues to fund operations beyond R&D, *see* Technicolor, Document de Référence 2015 (document société) (incluant le Rapport Financier Annuel), financial statements, note 5.2, at 198 (showing that profit from licensing and related activities more than compensated for declining revenues from other segments); S.M. Saunders, *From Sanctions to Success: Huawei's Novel Strategy — IP Licensing*, Fierce Network (Sept. 23, 2024). (Huawei has addressed shortfall as a result of sanctions: "A little-known significant contributor to the turnaround is Huawei's intellectual property (IP) strategy").

41. The risk of a small circle shaping standards (and excluding contributions) can of course occur in formal standard setting. *See eg* TruePosition, Inc. v. LM Ericsson Telephone Co., et al., Case No. 11-4574 (ED PA, 2011) (within ETSI, when technology provider was blocked when proposing technical alternative, it sues ETSI and alleged collusive SDO participants).

42. For the U.S. OMB requirements for a "voluntary consensus standards body" and the EU criteria for an organisation developing ICT technical specifications, *see supra* note 2.

43. The DVB Project, for example, maintains detailed rules in its Policy on Normatively Referenced Materials, requiring review of the IPR policy of the authoring standards body and permitting a challenge on the ground that the body does not adhere to "the framework for standard-setting organisations set out in the European Commission's Guidelines on Horizontal Co-operation Agreements."

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normal licensing markets.[44] Antitrust authorities in Europe and in the United States have been asked to address these and other concerns. These concerns could include: whether dominant players, for example in video content markets, are impermissibly colluding when setting caps on prices that can be charged by others for key inputs (royalties on technology in video encoders and decoders).[45] And whether a purported standards body should have closer scrutiny when its IPR policy falls short of FRAND and other criteria of a "voluntary consensus standards body".

The European Commission opened an investigation into the activities of the Alliance for Open Media. The only information about the investigation was that it was closed in May 2023, without enforcement, on the date that AOM published its AOM Statements. As noted above, the clarification included in the AOM Statements, issued on the day the European Commission closed its investigation, affirmed that the AOM IPR policy allowed those otherwise bound to RF licensing "the freedom to also offer, negotiate, and accept different FRAND terms".[46]

Within the US Department of Justice, the Antitrust Division has, since mid-2025, been active in examining the relationship between antitrust law and intellectual property rights. Through speeches and other public statements, and in statements-of-interest as a non-party in litigation, the Division has been providing guidance to standards development organisations, SDO participants and implementers in technology markets on its approach to SEPs, FRAND and royalty-free licensing. In one noteworthy speech to antitrust practitioner in September 2025, Dina Kallay, a senior official of the Antitrust Division, addressed the question of universal royalty-free reciprocity. It is worthwhile to quote her comments at length:

> [T]here are private consortia that impose mandatory, royalty-free cross-licensing obligations on their members. Essentially, these consortia require that all members pool their IP together and allow all other members to cross-license their IP for free. Sometimes, they do so with the express purpose of creating a purportedly royalty-free standard, and they tout the benefits of such royalty-free standards.
>
> Pooling or cross-licensing arrangements can have procompetitive characteristics. But in the context of a proprietary consortium that is made up of dominant implementers that collectively possess market power, such arrangements can be competitively harmful.
>
> In the example of the private consortium that imposes mandatory, royalty-free cross-licensing, that policy allows a group of dominant implementers to fix the price of royalties at zero. The cadre of dominant implementers can then push for the adoption of this closed standard by adopting the standard themselves. Once the standard becomes widely adopted, companies that need to use the standard are forced to

44. *See supra* Part III.B.1 (porousness of RF framework); Part III.B.2 (non-FRAND outcomes; uncertainty in the market).

45. For the suggestion that the AOM is setting prices for non participant owners of AV1-essential patents, *see supra* n. 31 ("Qualcomm has not accepted *the unilateral terms asserted by AOM* with respect to Qualcomm's intellectual property" (emphasis added)).

46. *See supra* n. 33 and accompanying text. European Commission, Case AT.40805. *See* Alliance for Open Media,, Alliance for Open Media Welcomes the European Commission's Decision to End Its Preliminary Investigation of the AOM Royalty-Free Licensing Policy (May 23, 2023). *See also* Foo Yun Chee, *Tech Group AOM's Video Licensing Policy No Longer in EU Antitrust Crosshairs*, Reuters (May 23, 2023).

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> license their patented technologies for free. In such cases, these royalty-free cross-licensing requirements can effectively operate as collusive schemes among dominant players to promote closed, proprietary standards. Importantly, this has the effect of stifling innovation. If adequate royalties reflecting the value of a technology cannot be earned, the incentives for companies to invest in R&D are diminished and, as a result, we can expect market innovation to suffer. Moreover, over time, successful proprietary standards may push out other truly open standards that would better support interoperability and innovation.
> We would be particularly concerned where developers of standards, either open or closed, misrepresent their standard as available under F/RAND terms to promote market adoption when that claim is not true because its development was in fact not carried out under a F/RAND IP policy . . .. This is a misrepresentation of material information to the marketplace ex post after a standards development process has already concluded, and it is a cause for competitive concern that warrants close watch.[47]

It is uncertain whether the Antitrust Division will find another vehicle, such as an enforcement action, to give weight to these comments. Nonetheless the views she expresses are widely shared across the antitrust and IP legal communities. Her speech should inform the conduct of participants in standard setting, and shape the advice offered by their lawyers.[48]

Conclusion

The commercial rivalry among competing video codecs has contributed to the debate on the value of royalty-free licensing (and of course on the practices of holders of standard-essential patents). As elsewhere described in this paper, antitrust authorities have begun to review the framework of Universal Royal-Free Reciprocity, and the Alliance for Open Media has been brought to make changes (or at least offer "clarifications"[49]) to its IPR policy to deflect this scrutiny. Now courts in leading jurisdictions, such as Brazil, the European Union and the United States, have also begun to address issues raised by infringement of patents essential to purportedly RF specifications.

Paradoxically, while antitrust authorities have focused on the IPR policies advocated by royalty-free standards bodies, the notion of "royalty-free" patent licensing, coupled with the viral nature of the universal RF reciprocity, nonetheless appeals to other regulators. When the European Commission proposed its SEP Regulation, it expressly exempted standards developed

47. U.S. Dep't of Justice, Antitrust Div., Deputy Assistant Attorney General Dina Kallay, 'That's What F/RANDs Are For' and Antitrust Implications When They're Gone, Keynote Address at the Concurrences Dinner, New York, N.Y. (Sept. 19, 2025).

48. For an analysis of Dina Kallay's speech, see Roberto Dini, *The DOJ Understands Royalty-Free Licensing is Far from Free*, IP Watchdog (Oct 19,2025).

49. AOM Statements, *supra* n. 33.

by standards body with a royalty-free IPR policy[50] (presumably not taking into account the porousness of a RF framework and the multiple gaps allowing for royalty-bearing patents).

At the same time, the Alliance for Open Media could be taking steps away from its royalty-free idée fixe. In one development, when publishing its AOM Statements, it found that it could (for the first time?) describe its royalty-free policy as "FRAND".[51] AOM does indeed continue to promote the royalty-free status of its specifications. But when announcing in September 2025 the forthcoming launch of its AV2 specification, AOM made less prominent the claim to "royalty-free": royalty-free is mentioned once in its press release and only in the context of standards development. The term is not linked to devices, video codec, video, or ecosystem.[52]

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50. European Commission, Proposal for a Regulation of the European Parliament and of the Council on Standard Essential Patents, COM (2023) 232 final (Apr. 27, 2023), art. 1(2) ("This Regulation shall apply to patents that are essential to a standard . . . that is not subject to a royalty-free intellectual property policy . . . ."). The European Commission withdrew this proposal in February 2026.

51. AOM Statements s 1("different FRAND terms"), *supra* n. 33.

52. "Our standards benefit from input from innovators worldwide and are developed under a royalty-free patent policy . . . ." Alliance for Open Media, Press Release, AOMedia Announces Year-End Launch of Next Generation Video Codec AV2 on 10th Anniversary (Sept. 10, 2025) (emphasis added). Compare the fourteen instances of "royalty-free" in the press release announcing AV1, including references to "royalty-free devices," "royalty-free video," and "ecosystem . . . royalty-free." *See supra* note 12.

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