Neutral Citation Number: [2024] EWCA Civ 743

Case Nos: CA-2023-001489, 001492

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM THE HIGH COURT OF JUSTICE, BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES, INTELLECTTUAL PROPERTY LIST (ChD), PATENTS COURT
Mr Justice Mellor
[2023] EWHC 538 (Pat) and [2023] EWHC 1578 (Pat)

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 12 July 2024

Before :

LORD JUSTICE ARNOLD
LORD JUSTICE NUGEE
and
LORD JUSTICE BIRSS

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Between :

(1) INTERDIGITAL TECHNOLOGY CORPORATION	**Claimants**
(2) INTERDIGITAL PATENT HOLDINGS, INC.	
(3) INTERDIGITAL, INC.	
(4) INTERDIGITAL HOLDINGS, INC.	
- and -	
(1) LENOVO GROUP LIMITED	**Defendants**
(2) LENOVO (UNITED STATES) INC.	
(3) LENOVO TECHNOLOGY (UNITED KINGDOM) LIMITED	
(4) MOTOROLA MOBILITY LLC	
(5) MOTOROLA MOBILITY UK LIMITED	

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Adrian Speck KC, Mark Chacksfield KC, Thomas Jones and Edmund Eustace (instructed by **Gowling WLG (UK) LLP**) for the **Claimants**
Daniel Alexander KC, James Segan KC, Ravi Mehta and William Duncan (instructed by **Kirkland & Ellis International LLP**) for the **Defendants**

Hearing dates : 10-14 June 2024

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Public Approved Judgment

This judgment was handed down remotely at 10.30am on [date] by circulation to the parties or their representatives by e-mail and by release to the National Archives.

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Lord Justice Arnold:

Introduction

1. The Court has before it an appeal by the Claimants ("InterDigital") and a cross-appeal by the Defendants ("Lenovo") against an order of Mellor J dated 27 June 2023 made for the reasons given in the judge's judgments dated 16 March 2023 ([2023] EWHC 538 (Pat) (confidential version), [2023] EWHC 539 (Pat) (initial public version) and [2023] EWHC 1538 (Pat) (revised public version), "the main judgment") and 27 June 2023 ([2023] EWHC 1578 (Pat), "the FOO judgment"). Both appeals concern the amounts payable by Lenovo for a licence on fair, reasonable and non-discriminatory ("FRAND") terms of InterDigital's portfolio of patents which have been declared essential ("standard-essential patents" or "SEPs") to the European Telecommunications Standards Institute ("ETSI") 3G, 4G and 5G standards.

2. The judge held that Lenovo should pay a lump sum of $138.7 million for a licence covering sales by Lenovo from 1 January 2007 to 31 December 2023 together with interest at 4% compounded quarterly amounting to $46.2 million, a total of $184.9 million. InterDigital claims that the judge should have held that Lenovo must pay a lump sum of $388.5 million together with interest at 4% compounded quarterly amounting to $129.3 million, a total of $517.8 million. Lenovo claims that (i) the judge should have held that nothing was payable in respect of the period prior to 27 August 2013, and therefore the lump sum payable was $108.9 million, and (ii) the judge should not have ordered the payment of interest at all, alternatively that any award of interest should be at a lower rate, simple interest and/or for a shorter period.

3. The bases for these claims all relate in one way or another to a common underlying question, which is the correct treatment of past sales by implementers such as Lenovo when determining what terms are FRAND. InterDigital contends that, although the judge found that licences granted by InterDigital to other implementers in the past had been affected by non-FRAND factors, the judge wrongly failed to take those factors into account when setting the lump sum payable by Lenovo. Lenovo contends that the judge was wrong to hold that Lenovo should pay a royalty in respect of sales made prior to a relevant limitation period and that the judge was wrong to hold that Lenovo should pay interest in respect of past sales.

4. InterDigital also contends that the judge should have made a declaration that InterDigital was a willing licensor. This is an entirely distinct contention to the principal claims referred to above. It raises issues both as to whether InterDigital was indeed a willing licensor, and as to what purpose would be served by making the declaration sought.

5. The issues raised by these appeals are important ones. This case is only the second case in which the courts of England and Wales have determined what terms of a global licence of a portfolio of SEPs are FRAND following the precedent set in *Unwired Planet International Ltd v Huawei Technologies Co Ltd* [2017] EWHC 2988 (Pat), [2017] RPC 19 (Birss J, "*UPHC*") affd. [2018] EWCA Civ 2344, [2018] RPC 20 (CA, "*UPCA*") affd. [2020] UKSC 37, [2020] Bus LR 2422 (SC, "*UPSC*"). Furthermore, it is the first case in which the issues of principle as to the correct treatment of past sales by implementers have been raised for determination.

The general background to disputes of this nature

6. Standards exist so that different manufacturers can produce equipment which is interoperable. This has a number of advantages, of which the following are probably the most important. First, it enables different manufacturers to produce different components of a system. This spreads the investment required and enables specialisation. Secondly, it enables additional types of device to be connected to a system, producing network effects. Thirdly, it means that manufacturers of the same type of device can compete with each other on both quality and price. Fourthly, it gives users of devices that comply with the standard the confidence that they will work anywhere. Standards are central to the development of modern technology, and their advantages are now familiar to many people worldwide through the development of telecommunications standards from 2G to 5G. As this example shows, standards have enabled major technological advances to be rapidly developed and commercialised in recent years. This has required huge investments to be made in research and development.

7. Standards are set by standards-development organisations ("SDOs"), also known as standards-setting organisations ("SSOs"), such as ETSI. SDOs such as ETSI typically have an intellectual property rights ("IPR") policy which requires companies participating in the development of a new standard to declare when technical proposals they contribute are covered by SEPs (or, more usually at that stage, applications for SEPs). A patent is said to be standard-essential if implementation of the standard would necessarily involve infringement of the patent in the absence of a licence. Once a proposal is declared to be covered by a SEP, the patentee is required to give an irrevocable undertaking to grant licences of the SEP on FRAND terms. If the patentee declines to give such an undertaking, the proposal is not incorporated into the standard and some other technology is used instead. In this way a balance is struck between the interests of patentees and of implementers. Patentees are ensured a fair reward for the use of their inventions, and implementers are guaranteed access to those inventions at a fair price. This balance is in the public interest, because it encourages patentees to permit their inventions to be incorporated into standards and it encourages implementers to implement those standards. Because standards are global in nature, and are implemented by businesses which trade globally, the obligation to license SEPs on FRAND terms is also a global one.

8. In order to make IPR policies involving the licensing of SEPs on FRAND terms fully succeed, there are two particular potential evils that must be avoided. Although terminology is not entirely consistent, these evils are generally known as "hold up" and "hold out" respectively. In simple terms, "hold up" occurs if a patentee is able to ensure that a SEP is incorporated into a standard and implemented by implementers in circumstances which enable the patentee to use the threat of an injunction to restrain infringement to extract licence terms, and in particular royalty rates, which exceed the reasonable market value of a licence of the patented invention (i.e. treating the SEP as akin to a "ransom strip" of land). "Hold out" occurs if an implementer is able to implement a technical solution covered by a SEP without paying the reasonable market value for a licence (or perhaps anything at all). It will be appreciated that the FRAND undertaking is designed to prevent hold up by giving the implementer a defence to a claim for infringement and hence to an injunction, while the patentee's

ability to obtain an injunction to restrain infringement of a SEP by an implementer which is an unwilling licensee should prevent hold out.

9. Avoidance of hold up and hold out depends upon the existence of a well-functioning dispute resolution system, because it is in the interests of patentees to maximise the royalty rates they can obtain for licensing their SEPs, while it is in the interests of implementers to minimise the royalty rates they pay. In the absence of a negotiated agreement between a patentee and an implementer as to the terms of a FRAND licence, which may be facilitated but cannot be guaranteed by mediation, a dispute resolution system is required to resolve disputes. The IPR policies of SDOs such as ETSI do not provide for any international tribunal to determine such disputes. It follows that, in the absence of an agreement to arbitrate, the only dispute resolution systems available to such parties are the national courts competent to adjudicate upon patent disputes.

10. It is generally accepted, however, that patents are territorial. That is to say, they are proprietary legal rights created by the law of a nation state which confer a monopoly within the territory of that nation state, but not outside it. (The unitary EU patent now confers a monopoly within the territory of the participating EU Member States, but that does not detract from the basic principle.) Thus an inventor wishing to patent their invention must apply for a patent in every state in which they wish to obtain a monopoly: in any state where they do not obtain a patent, the invention may be freely used by other parties. It follows that patentees typically own families of corresponding patents in many countries of the world, although the costs of patenting everywhere are generally prohibitive.

11. The competence of the courts of one state to adjudicate upon a claim for infringement of a patent granted by another state is a complex and contested question, but it is generally accepted that, even if they have jurisdiction over the parties because of e.g. domicile, the courts of state A are not competent to adjudicate upon a claim for infringement of a patent granted by state B at least if the validity of that patent is in issue. This principle is enshrined, for example, in Articles 24(4) and 27 of European Parliament and Council Regulation 1215/2012/EU of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast). Since it is commonplace for a claim for patent infringement to be met with a defence and/or counterclaim that the patent is invalid, the practical reality is that, for the most part, the courts of the state where the patent was granted have exclusive jurisdiction over the enforcement of that patent. It follows that SEPs must be enforced territory by territory.

12. This gives implementers who wish to (as the patentee would put it) hold out against taking a licence or (as the implementer would put it) resist exorbitant demands for a licence an important tactical weapon, which is to require the patentee to sue in every jurisdiction where the implementer exploits a patent family (or at least in a significant number of such jurisdictions). This places a significant burden on patentees. Although it also places a similar burden on implementers, the result is a war of attrition which tends to favour implementers because it leads to delay in enforcement and hence the potential to starve patentees of income from licensing.

13. Patentees have reacted to this problem by seeking determinations that FRAND terms are global, enabling the courts of one country to set the terms of a global FRAND

licence which the implementer must either accept or face exclusion from that country's market by an injunction to restrain patent infringement. In recent years the courts of an increasing number of countries have held that they have jurisdiction to determine the terms of a global FRAND licence either with the consent of both parties or, in some cases since the precedent set in *Unwired Planet*, without such consent. If the courts of a single country determine the terms of a global FRAND licence, then that should (at least in theory) avoid the necessity for patent enforcement proceedings in multiple countries (whether it will actually have that result depends on whether the implementer is willing to forego exploitation of the patented inventions in that territory in order to avoid having to take a licence on those terms). This approach by patentees frequently gives rise to jurisdictional issues, but happily no such issues have been raised in the present litigation.

14. In addition to seeking determinations of FRAND terms on a global basis, it is common for patentees to seek determinations as to the FRAND terms of a licence of a portfolio of SEPs. Since it is often impracticable for the proprietor of such a portfolio to sue on all the patents in the portfolio even though the claim is limited to the patents subsisting in the country where the claim is brought, it is common for the patentee to select a handful of patents to enforce. Although the real issue between the parties is as to the FRAND terms for a licence of the portfolio, it is in the interests of the implementer where possible to challenge validity, essentiality and infringement of the selected patents. Unless and until the patentee can establish that at least one patent is valid, essential and has been infringed by the implementer, the patentee cannot obtain an injunction to enforce the patent and thus cannot prevent hold out by the implementer.

15. This leads to a problem of how to case manage the litigation in an efficient and effective manner. Trying all issues together in one trial would be very burdensome and impractical both for the parties and for the court. Accordingly, until recently, the practice in England and Wales has been to split the claim into a number of separate trials: first, a number of "technical trials" to determine issues of validity, essentiality and infringement of the selected patents, and then a "FRAND trial" to determine the FRAND terms for a licence of the portfolio after all or some of the technical trials. As explained in more detail below, this is the course that was adopted in the present case; but the large sums of money expended on the technical trials turned out to have been wasted once Lenovo made a crucial concession.

The present dispute

16. Lenovo started selling devices compliant with the 3G standard in 2007. The first contact between the parties to discuss a licence of InterDigital's portfolio took place in late 2008 when InterDigital sent Lenovo an initial letter. After intermittent negotiations over the course of over ten years, InterDigital commenced these proceedings on 27 August 2019 seeking conventional relief for infringement of five patents unless Lenovo took a licence on FRAND terms, which InterDigital contended would be a global licence. Lenovo did not concede that it needed a licence to InterDigital's portfolio. On the contrary, Lenovo denied infringement and challenged the validity of the patents asserted by Lenovo. Lenovo did not, however, dispute that a licence on FRAND terms would be a global one. As outlined below, however, the parties were a long way apart as to the royalty which should be paid by Lenovo.

17. Five technical trials were scheduled and a FRAND trial. The first technical trials, Trials A and B, took place before the FRAND trial, and two technical trials took place afterwards, Trials C and D. InterDigital prevailed in Trial A ([2021] EWHC 2152 (Pat)) and on appeal ([2023] EWCA Civ 34). Lenovo prevailed in Trial B ([2022] EWHC 10 (Pat)), but InterDigital succeeded on appeal ([2023] EWCA Civ 105). InterDigital prevailed in Trial C ([2023] EWHC 172 (Pat)), and Lenovo did not appeal.

18. As the judge noted in his main judgment, by the time the FRAND trial commenced, InterDigital had established that at least one of the patents in suit was valid, essential and had been infringed by Lenovo subject to Lenovo's entitlement to a licence on FRAND terms, and InterDigital's position had only been strengthened by subsequent events. As the judge put it at [5], InterDigital had "established their right to a FRAND determination". As he also explained at [18], however, the decisions as to the validity and essentiality of the patents considered in the technical trials played no part in his assessment of FRAND terms.

19. The FRAND trial took place over 17 days in January and February 2022. In addition, the judge had four days of pre-reading time. The judge was supplied with over 50 bundles of material, including 23 statements from 10 fact witnesses, 30 reports from 14 experts and 760 pages of written submissions. There was extensive oral evidence, including cross-examination of the parties' valuation experts (Mark Bezant for InterDigital and Paul Meyer for Lenovo) for two days each. At the judge's request, further written expert evidence was filed by the parties in December 2022 and further written submissions filed in January 2023. It is worth noting, however, that some of the evidence filed by the parties turned out to be unnecessary, in particular expert evidence as to Chinese, French and US law.

20. After the judge had delivered the main judgment, the parties agreed that it was not necessary for the judge to deliver judgment with respect to Trial D, nor for Trial E to go ahead. This was because, shortly after receipt of the draft of the main judgment on 1 March 2023, Lenovo gave an undertaking on 6 March 2023 to take a licence to InterDigital's portfolio on such terms as the English courts ultimately determined to be FRAND in these proceedings. Previously, Lenovo had declined to give such an undertaking even after having been found to be infringing a valid and essential patent in Trial A. It is manifest that Lenovo's change in position came about because the effect of the main judgment was that, as the judge held when he came to determine the costs of the FRAND trial in the FOO judgment, Lenovo was the overall commercial winner: although the lump sum determined by the judge was higher than anything offered by Lenovo, it was significantly below the sum claimed by InterDigital.

<u>Basic legal principles applicable to the determination of FRAND terms</u>

21. There was little, if any, dispute either before the judge or this Court as to the basic legal principles applicable to the determination of FRAND terms. The judge set them out in some detail in the main judgment at [165]-[205] and [243]-[251]. For present purposes the following account will suffice.

The ETSI IPR Policy

22. The context and purpose of the ETSI IPR Policy in general, and of clause 6.1 in particular, have been authoritatively analysed by the Supreme Court in *UPSC* in a passage which it is necessary to set out in full:

> "7. The purpose of the ETSI IPR Policy is, first, to reduce the risk that technology used in a standard is not available to implementers through a patent owner's assertion of its exclusive proprietary interest in the SEPs. It achieves this by requiring the SEP owner to give the undertaking to license the technology on FRAND terms. Secondly, its purpose is to enable SEP owners to be fairly rewarded for the use of their SEPs in the implementation of the standards. Achieving a fair balance between the interests of implementers and owners of SEPs is a central aim of the ETSI contractual arrangements.
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> **The ETSI IPR Policy**
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> 8. The ETSI IPR Policy ('the IPR Policy') is a contractual document, governed by French law. It binds the members of ETSI and their affiliates. It speaks (clause 15(6)) of patents which are inevitably infringed by the sale, lease, use, operation etc of components which comply with a standard as 'Essential IPR'. By requiring an IPR holder whose invention appears to be an Essential IPR to give an irrevocable undertaking to grant a licence of the IPR on FRAND terms, it creates a 'stipulation pour autrui', in other words an obligation which a third-party implementer can enforce against the IPR holder. The IPR Policy falls to be construed, like other contracts in French law, by reference to the language used in the relevant contractual clauses of the contract and also by having regard to the context. In this case, that context is both the external context and the internal context of the IPR Policy document itself, such as the policy objectives declared in the document.
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> 9. The external context includes (i) the Guidance (above) which ETSI has produced on the operation of the IPR Policy, (ii) ETSI's statutes (above), (iii) the globalised market which ETSI and other SSOs were and are seeking to promote …, and (iv) the fact that ETSI is a body comprising experts and practitioners in the telecommunications industry who would be expected to have a good knowledge of the territorial nature of national patents, the remedies available to patent owners against infringement of their patents, the need to modify by contract the application of patent law to promote the development of a globalised market in telecommunications products, and the practice of the industry in negotiating patent licensing agreements voluntarily.

10. The policy statements which provide the internal context include the objectives set out in clause 3 of the IPR Policy. They include the statement in clause 3.1 that the IPR Policy:

> 'seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable.'

That statement clearly reveals a policy of preventing the owner of an Essential IPR from 'holding up' the implementation of the standard. But that policy is to be balanced by the next sentence of clause 3.1 which speaks of seeking a balance, when achieving that objective, 'between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs'. The importance of protecting the rights of the owners of IPRs is declared in the second policy objective (clause 3.2) in these terms: '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.' This objective seeks to address the mischief of 'holding out' by which implementers, in the period during which the IPR Policy requires SEP owners not to enforce their patent rights by seeking injunctive relief, in the expectation that licence terms will be negotiated and agreed, might knowingly infringe the owner's Essential IPRs by using the inventions in products which meet the standard while failing to agree a licence for their use on FRAND terms, including fair, reasonable and non-discriminatory royalties for their use. In circumstances where it may well be difficult for the SEP owner to enforce its rights after the event, implementers might use their economic strength to avoid paying anything to the owner. They may unduly drag out the process of licence negotiation and thereby put the owner to additional cost and effectively force the owner to accept a lower royalty rate than is fair.

11. Having looked at context, we turn to the operative clauses of the IPR Policy. A member of ETSI is obliged to use its reasonable endeavours to inform ETSI in a timely manner of Essential IPRs during the development of a standard or technical specification. If a member submits a technical proposal for a standard or technical specification it is obliged to inform ETSI of its IPRs which might be essential (clause 4.1). Clause 4.3 confirms that this obligation of disclosure applies to all existing and future members of a 'patent family'

and deems the obligation in respect of them to be fulfilled if an ETSI member has provided details of just one member of the patent family in a timely manner, while also allowing it voluntarily to provide information to ETSI about other members of that family. A 'patent family' is defined as "all the documents having at least one priority in common, including the priority document(s) themselves' and 'documents' in this context means 'patents, utility models, and applications therefor' (clause 15(13)). The patent family thus extends to patents relating to the same invention applied for and obtained in several jurisdictions. It shows an intention for the arrangement to apply internationally. This is important because the undertaking to grant a licence under clause 6, to which we now turn, extends to all present and future Essential IPRs in that patent family.

12. The key to the IPR Policy is clause 6, which provides the legal basis on which an owner of an Essential IPR gives an irrevocable undertaking to grant a licence and thereby protects both ETSI and implementers against 'holding up'. Clause 6.1 provides so far as relevant:

> 'When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory ('FRAND') terms and conditions under such IPR …'

It provides that the licences must at least cover the manufacture of equipment, the sale, lease or other disposal of equipment so manufactured, and the repair, use or operation of such equipment. FRAND licensing undertakings made pursuant to clause 6 are intended to bind all successors-in-interest in respect of a SEP, and upon transfer of a SEP the SEP owner is required to take steps to ensure that this is achieved (clause 6.1*bis*). The undertaking made in respect of a specified member of a patent family is applied to all existing and future Essential IPRs of that patent family unless specified IPRs are excluded in writing when the undertaking is made (clause 6.2). It is envisaged in the IPR Policy that this process will usually take place while ETSI is working to create a standard because clause 6.3 provides that, if the IPR owner does not grant the requested undertaking, relevant office-bearers in ETSI will decide whether to suspend work on the relevant parts of the standard or technical specification until the matter is resolved, or to submit any relevant standard or technical specification for adoption. Similarly, if, before a standard or technical specification is published, an IPR owner is not prepared to license an IPR, clause 8.1 provides for the adoption of a viable alternative technology for the standard or technical specification if such a technology exists. If such technology does not exist, clause 8.1 provides an option for work on the standard or technical specification to cease. If the refusal to grant a licence occurs after ETSI has published a standard or a technical specification, clause 8.2 provides the option of modifying the standard so that the relevant IPR is no longer essential.

13. Clause 6*bis* instructs members of ETSI to use one of the declaration forms annexed to the Policy. So far as relevant, the licensing declaration is an irrevocable declaration by the declarant and its affiliated legal entities that, to the extent that disclosed IPRs are or become and remain Essential IPRs, they (a) are prepared to grant irrevocable licences in accordance with clause 6.1, and (b) will comply with clause 6.1*bis*.

14. It appears from this brief review of the IPR Policy in its context that the following conclusions may be reached. First, the contractual modifications to the general law of patents are designed to achieve a fair balance between the interests of SEP owners and implementers, by giving implementers access to the technology protected by SEPs and by giving the SEP owners fair rewards through the licence for the use of their monopoly rights. Secondly, the SEP owner's undertaking, which the implementer can enforce, to grant a licence to an implementer on FRAND terms is a contractual derogation from a SEP owner's right under the general law to obtain an injunction to prevent infringement of its patent. Thirdly, the obtaining of undertakings from SEP owners will often occur at a time when the relevant standard is being devised and before anyone may know (a) whether the patent in question is in fact essential, or may become essential as the standard is developed, in the sense that it would be impossible to implement the standard without making use of the patent and (b) whether the patent itself is valid. Fourthly, the only way in which an implementer can avoid infringing a SEP when implementing a standard and thereby exposing itself to the legal remedies available to the SEP owner under the general law of the jurisdiction governing the relevant patent rights is to request a licence from the SEP owner, by enforcing that contractual obligation on the SEP owner. Fifthly, subject only to an express reservation entered pursuant to clause 6.2, the undertaking, which the SEP owner gives on its own behalf and for its affiliates, extends to patents in the same patent family as the declared SEP, giving the implementer the right to obtain a licence for the technology covering several jurisdictions. Finally, the IPR Policy envisages that the SEP owner and the

> implementer will negotiate a licence on FRAND terms. It gives those parties the responsibility to resolve any disputes as to the validity of particular patents by agreement or by recourse to national courts for determination."

23. It can be seen from the Supreme Court's analysis that clause 6.1 must be interpreted and applied in a manner which avoids both hold up by the SEP owner and hold out by an implementer. Hold up by the SEP owner will be avoided by ensuring that the SEP owner is held to its undertaking. Hold out by the implementer will be avoided by allowing the SEP owner to enforce its normal right under the general law to obtain an injunction to prevent infringement of the SEP by the implementer save to the extent that this would be inconsistent with the SEP owner's undertaking.

24. In this case, at least now that Lenovo has undertaken to take a licence of InterDigital's portfolio of SEPs on the terms determined to be FRAND by the English courts, Lenovo is seeking to enforce the undertaking given by InterDigital to grant licences on FRAND terms. InterDigital accepts that it is obliged by that undertaking to grant Lenovo a licence on FRAND terms (although, as noted above, there is an issue as to whether InterDigital was in the past a willing licensor). The dispute is as to what terms are FRAND. It is common ground that, the parties having been unable to agree what terms are FRAND, the court should determine them. It is also common ground that, in determining what terms are FRAND, the court should take into account the context and purpose of clause 6.1 of the ETSI IPR Policy as described above.

25. Based on its analysis of the ETSI IPR Policy, and in particular clause 6.1, the Supreme Court went on to draw several conclusions, and to make a number of statements of legal principle, which are relevant to these appeals.

26. First, the English courts have jurisdiction, and may properly exercise that jurisdiction without the agreement of both parties, (i) to grant an injunction restraining the infringement of a UK SEP unless the implementer enters into a global licence on FRAND terms of a multinational SEP portfolio and (ii) to determine royalty rates and other disputed terms for a global licence and to declare that such terms are FRAND: [50]-[91].

27. In this context the Supreme Court stated at [62]:

> "It is to be expected that commercial practice in the relevant market is likely to be highly relevant to an assessment of what terms are fair and reasonable for these purposes. Moreover, the IPR Policy envisages that the parties will first seek to agree FRAND terms for themselves, without any need to go to court; and established commercial practice in the market is an obvious practical yardstick which they can use in their negotiation. In our view the courts below were correct to infer that in framing its IPR Policy ETSI intended that parties and courts should look to and draw on commercial practice in the real world."

28. It also stated at [64]:

> "We agree with the parties that the FRAND obligation in the IPR Policy extends to the fairness of the process by which the parties negotiate a licence."

29. It also stated at [87]:

> "The second argument is that it is anomalous that an implementer should be liable in damages only for the loss which a SEP owner incurs through the infringement of one or more of its UK patents if the implementer chooses to withdraw from the UK market rather than enter into a worldwide licence but that, if the implementer wishes to market its products in the UK, it must pay global royalties. It is premised on the misplaced equation of the fixing of a licence which requires the payment of royalties for past and future use of patented technology and the separate or alternative award by the court of damages for past infringement of a UK patent. In our view this argument fails for two reasons. First, the award of damages is not to be equated with the royalties that are paid under a contractual licence. If an implementer agrees to enter into a FRAND licence which a SEP owner offers, it is entering into a voluntary obligation. If the court awards damages it does so on proof of the loss which the SEP owner has suffered through the infringement of its patent or patents. It may be that the measure of damages which a court would award for past infringement of patents would equate to the royalties that would have been due under a FRAND licence. That does not alter the different nature of the exercises which the court performs in (i) awarding damages and (ii) determining the terms of a licence, which will usually contain many important provisions in addition to the fixing of royalties. Secondly and in any event, as mentioned above, what the implementer purchases in entering into a worldwide licence is the ability legally to manufacture and sell standard-compliant products on a worldwide basis."

30. Secondly, the "non-discrimination" aspect of the FRAND obligation is "general" rather than "hard-edged". It does not mean that a SEP owner is required to grant licence terms to an implementer equivalent to the most favourable licence it has granted to a similarly situated licensee. Rather, the terms and conditions on offer should be such as are generally available as a fair market price for any market participant, to reflect the true value of the SEPs to which the licence related and without adjustment depending on the individual characteristics of a particular market participant. Among the reasons for this given by the Supreme Court were that price discrimination is the norm as a matter of IP licensing practice and can promote the objectives of the ETSI IPR Policy, and that there could be circumstances in which the SEP owner would choose to license its portfolio at a rate which did not reflect its true value, by example by offering a lower rate to the first implementer to take a licence: [105]-[127].

31. Thirdly, the remedy of an injunction is neither inappropriate nor disproportionate if the implementer is infringing the SEP owner's UK SEPs and the SEP owner is willing

to offer a licence on terms which the court has found to be FRAND, but the implementer does not accept that offer: [159]-[169].

32. In this context the Supreme Court stated:

> "164. There are, in the first place, no grounds in this case for a concern of the kind expressed by Kennedy J in the *eBay* case. The threat of an injunction cannot be employed by the claimants as a means of charging exorbitant fees, or for undue leverage in negotiations, since they cannot enforce their rights unless they have offered to license their patents on terms which the court is satisfied are fair, reasonable and non-discriminatory.
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> …
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> 166. Secondly, in a case of the present kind, an award of damages is unlikely to be an adequate substitute for what would be lost by the withholding of an injunction. The critical feature of a case of this kind is that the patent is a standard technology for products which are designed to operate on a global basis. That is why standard technology is essential, and why the patent-holders whose patents are accepted as SEPs are required to give an undertaking that licences will be made available on FRAND terms. Once the patents have been accepted as SEPs, it may well be impractical for the patent-holder to bring proceedings to enforce its rights against an infringing implementer in every country where the patents have been infringed. That is because, as Huawei's witness Mr Cheng accepted in evidence, the cost of bringing enforcement proceedings around the world, patent by patent, and country by country, would be 'impossibly high'.
>
> 167. In those circumstances, if the patent-holder were confined to a monetary remedy, implementers who were infringing the patents would have an incentive to continue infringing until, patent by patent, and country by country, they were compelled to pay royalties. It would not make economic sense for them to enter voluntarily into FRAND licences. In practice, the enforcement of patent rights on that basis might well be impractical, as was accepted in the present case by Huawei's witness, and by the courts below. An injunction is likely to be a more effective remedy, since it does not merely add a small increment to the cost of products which infringe the UK patents, but prohibits infringement altogether. In the face of such an order, the infringer may have little option, if it wishes to remain in the market, but to accept the FRAND licence which *ex hypothesi* is available from the patent-holder. However, for the reasons explained in paras 164–165, that does not mean that the court is enabling the patent-holder to abuse its rights."

33. A point which was not in issue in the Supreme Court was the Court of Appeal's conclusion that Birss J had been wrong to hold that there would only be one set of FRAND terms for any given set of circumstances. To the contrary, a number of sets of terms might all be FRAND. If two (or more) different sets of terms were each FRAND, then the SEP owner would satisfy its obligation to ETSI if it offered the FRAND set of terms which was most favourable to itself: *UPCA* at [118]-[129].

Other ETSI materials

34. In addition to the ETSI IPR Policy, ETSI also publishes the ETSI Guide on Intellectual Property Rights ("the ETSI Guide"). The ETSI website states that the ETSI Guide "is intended to help ETSI members and any other party involved in ETSI's standardization activities to understand and implement the ETSI IPR Policy. [The] Guide provides information on how to handle IPR matters in ETSI and does not replace the ETSI IPR Policy which takes precedence in all cases."

35. Sections 4.4 and 4.5 state:

> "4.4 Notice on the use of NDAs in IPR negotiations
>
> It is recognized that Non Disclosure Agreements (NDAs) may be used to protect the commercial interests of both potential licensor and potential licensee during an Essential IPR licensing negotiation, and this general practice is not challenged. Nevertheless, ETSI expects its members (as well as non-ETSI members) to engage in an impartial and honest Essential IPR licensing negotiation process for FRAND terms and conditions.
>
> 4.5 Financial contingency
>
> Members developing products based on standards where there may be Essential IPRs, but there is uncertainty, have mechanisms available which they can use to minimize their risk. As a non-exclusive example, a member might wish to put in place financial contingency, based on their assessment of 'reasonable', against the possibility that further/additional license fees might become payable."

36. As the judge said in the main judgment at [203], and I agree:

> "As to section 4.5, it seems to me that this financial contingency provision makes perfect sense. A willing licensee would set aside, whether notionally or otherwise, funds to pay for the licences needed to implement a particular standard, even where the precise amounts required may well be uncertain. Furthermore, pending agreement or determination as to the actual FRAND royalties due, a willing licensee might well make certain payments on account to demonstrate his willingness, although if he is being deprived of necessary information, these payments might well be on the low side."

37. The ETSI IPR Policy FAQs page dated July 2014 includes the following statements:

i) In answer 4: "It is the responsibility of each STANDARD user to contact directly the patent owner."

ii) In answer 6: "It is necessary to obtain permission to use patents declared as essential to ETSI's standards. To this end, each standard user should seek directly a license from a patent holder."

38. As the judge said in the main judgment at [205], and I agree:

> "These answers reinforce the point that a willing licensee does not sit back and wait for demands from SEP licensors. At the same time as setting aside funds to pay for the necessary licences, the willing licensee takes active steps to seek out the licences that it needs and, as a first step, this means making contact with the SEP owners, whose identities can be readily ascertained from ETSI."

FRAND as a process

39. Although the expression "FRAND" primarily refers to a result, it has been increasingly recognised since the decision of the Court of Justice of the European Union in Case C-170/13 *Huawei Technologies Co Ltd v ZTE Corp* [EU:C:2015:477] that FRAND is also a process. As can be seen from paragraph 28 above, this point has been endorsed by the Supreme Court. What this means is that a SEP holder is required to behave consistently with its obligation to grant a licence on FRAND terms, and an implementer is required to behave consistently with its need to take a licence on FRAND terms. Thus the SEP holder should not behave in a manner which promotes hold up, and the implementer should not behave in a manner which promotes hold out. On the contrary, both parties should attempt in good faith to negotiate terms which are FRAND.

Willing licensor and willing licensee

40. It is common ground that FRAND terms are those that would be agreed by a willing licensor of a portfolio of SEPs and a willing licensee of that portfolio. The concepts of a willing licensor and a willing licensee are very well established in the field of intellectual property licensing, and it is unnecessary for present purposes to elaborate upon them. In the present context, for the reasons given above, a willing licensor is one not intent on hold up and a willing licensee is one not intent on hold out. Because FRAND terms are those that would be agreed by a willing licensor and a willing licensee, it is immaterial whether the SEP owner in question is in fact willing to license on those terms or whether the implementer is in fact willing to take a licence on those terms: such willingness only affects the availability of an injunction once the court has determined what terms are FRAND. Still less is it relevant whether the SEP owner or the implementer has previously acted as a willing licensor or licensee.

Comparables

41. It is well established that, in seeking to determine what terms would be agreed by a willing licensor and a willing licensee of an intellectual property right, the best guide, where it is available, is a comparable licence for the right in question. There are three common problems with this exercise. The first is that the different ways in which licence terms are expressed in different licences may make it difficult to compare their economic effects. This may make it necessary to "unpack" the licences to enable comparison between them. This is particularly true where a lump sum rather than a running royalty has been paid. The second problem is that other licences which have been agreed may not be precisely comparable to the licence under consideration. This may make it necessary for adjustments to be made to the terms of most comparable licence(s) in order to arrive at appropriate terms for the licence under consideration. The third problem, which can be regarded as an aspect of the second problem, is that licences relied upon as being comparable may not have been entered into by truly willing licensors and willing licensees, or at least not by willing licensors and willing licensees who were appropriately situated. This may be because the licences have been entered into under some form of compulsion or pressure, or it may be because they were affected by some market distortion which should be disregarded for the purposes of the assessment. See *UPHC* at [170]-[176].

<u>Outline of the parties' cases at the FRAND trial</u>

42. The parties identified two headline issues for the judge to determine. The first was whether the terms comprised in an offer made by InterDigital in January 2020, as subsequently clarified in June 2020 and extended to 5G in August 2021 ("the 5G Extended Offer"), were FRAND, and if not, what terms were FRAND for a licence of the InterDigital portfolio to Lenovo. This headline issue resolved into two major parts: first, a dispute as to which prior licences granted by InterDigital in respect of its portfolio were most comparable to the licence required by Lenovo, and as to the extent to which the royalties payable under such licences should be adjusted to a produce a rate which was FRAND for Lenovo; and secondly, a "top-down" cross-check relied upon by InterDigital.

43. The second headline issue was what remedy was appropriate and in particular, whether InterDigital was entitled to an injunction in respect of the asserted patents (and if so, in what form), in so far as they were held valid and essential. This issue resolved into three parts: first, whether Lenovo was a willing licensee during the extensive negotiations which occurred prior to the commencement of the proceedings; secondly, whether InterDigital was a willing licensor during those negotiations; and thirdly, the consequences of Lenovo's failure at that stage to commit to take a FRAND licence even as determined by the court.

44. For the reasons explained in paragraph 20 above, the second headline issue has subsequently fallen away; but as noted in paragraph 4 above there nevertheless remains a dispute as to whether InterDigital was a willing licensor during the negotiations.

45. Returning to the first headline issue, in the run-up to trial InterDigital's case was that its 5G Extended Offer was FRAND. This was a somewhat complicated offer with different running royalty rates applicable to 3G, 4G and 5G as a percentage of

Lenovo's Average Selling Price (ASP) subject to caps and floors and to various discounts. The discounts included "embedded" 5% term and 5% regional sales mix discounts and progressively increasing volume discounts. The licence was to have an effective date of 1 January 2018 and a six-year term ending on 31 December 2023. This offer included a full release upon payment for "past" sales at the specified rates. Although not made explicit in the 5G Extended Offer, InterDigital's evidence made it clear that "past" meant sales from 1 January 2012 (i.e. assuming a six-year limitation period prior to 1 January 2018). The effect of this was that sales by Lenovo from 2007 to the end of 2011 would be royalty-free.

46. In its opening at trial InterDigital agreed that the court should determine a lump sum royalty rather than a running royalty. InterDigital's valuation expert Mr Bezant calculated the lump sum payable by Lenovo on the basis of the 5G Extended Offer as $337 million. Of that sum, $199 million represented "past" sales and $138 million "future" sales. Assuming total handset sales by Lenovo of 675.7 million, the total figure indicated a blended rate of $0.498 per unit.

47. Lenovo's case at trial was that an offer it made on 14 December 2021 was FRAND. This was for a lump sum payment of $80 million ± 15% for sales in the six-year term to 31 December 2023 with a full release for all past (i.e. pre-1 January 2018) sales for no additional consideration. This figure was based on a rate of $0.16 per unit. By the end of the trial, however, Lenovo was not resisting the proposition that it should pay royalties from 27 August 2013.

48. In support of its case InterDigital relied upon a group of 20 licences granted by InterDigital to third parties referred to as "the InterDigital 20" as being comparable. All of these contained running royalty payments. Lenovo relied upon a group of first six, and later seven, licences granted by InterDigital to different third parties, the seven referred to as "the Lenovo 7", as being comparable. The Lenovo 7 are Samsung 2014, Huawei 2016, Apple 2016, LG 2017, ZTE 2019, Huawei 2020 and Xiaomi 2021. Each of these licences contained a lump sum payment.

49. By the end of the trial, InterDigital also relied by way of a fall-back position upon two of the Lenovo 7, namely LG 2017 and ZTE 2019, and one of the InterDigital 20, namely RIM 2012, as being comparables, with a particular focus on LG 2017.

50. In addition to the issue between the parties as to which previous licences were comparable to the licence required by Lenovo, there were multiple issues as to how the lump sums payable under those licences should be unpacked so as to extract a representative dollar per unit figure, and as to whether, and if so how, any adjustments should be made to reflect Lenovo's position. Some of these issues arising as part of this aspect of the case concerned InterDigital's contention that "discounts" from InterDigital's internal or advertised "program rates", and in particular volume discounts, that InterDigital contended that it had granted to many of the relevant licensees should be "unwound".

51. In support of its case based on comparable licences, InterDigital relied upon a top-down analysis by way of cross-check. This primarily involved a hedonic regression analysis. Since this is no longer relied upon by InterDigital, I need say nothing about it. In the alternative InterDigital advanced a much simpler analysis based on public statements by third parties, which is still relied upon.

The main judgment

52. The main judgment runs to 958 paragraphs and 225 pages. As those statistics suggest, it contains a meticulous examination of the evidence and the arguments, and a thoroughly-reasoned set of conclusions. It is clearly the product of an enormous amount of work by the judge, which helps to explain the length of its gestation period. Large parts of the judge's analysis are either not challenged on the appeals or are not relevant to the remaining issues. Nevertheless, it is necessary in order properly to contextualise the arguments on the appeals to set out the structure of the main judgment and to summarise the key aspects of the judge's reasoning which remain relevant. This cannot be done briefly. Furthermore, some passages in the judgment need to be quoted in full.

Summary of the dispute and the trial

53. The judge summarised the dispute and described the trial at [3]-[54]. In this context he explained how it came about that an implementer like Lenovo was able to use the standardised technology, perhaps for many years, before being licensed to use it. In short, any company wishing to make a 3G, 4G or 5G mobile phone can do so by purchasing an appropriate chipset embodying the relevant technology. Such chipsets are available from chipset suppliers regardless of whether the purchaser has obtained the necessary licences to all the patents which are essential to the relevant standard(s) ([13]-[15]).

54. The judge noted that past sales made up a very substantial proportion of any overall lump sum: about 2/3 on Mr Bezant's calculations. He also noted that InterDigital appeared to be assuming that a six-year limitation period applied, and that Mr Meyer had also worked on the basis that the limitation period in many jurisdictions was six years ([23]-[25]).

55. The judge explained that InterDigital had been licensing its portfolio for a number of years and had entered into a total of some 72 licences. Both the InterDigital 20 and the Lenovo 7 were selected from these ([43]).

Factual witnesses

56. The judge identified and commented on the witnesses of fact called by InterDigital at [55]-[79] (Lenovo called no witnesses of fact). It is important to note what the judge said about one of InterDigital's witnesses at [57]:

> "**Richard Brezski** is the Chief Financial Officer of the Third Claimant, the ultimate parent company of the InterDigital Group. In his witness statement, he explains InterDigital's approach to revenue recognition including how they account for past sales and any non-monetary consideration. His statement went in unchallenged."

Expert witnesses

57. He identified and commented on the expert witnesses at [80]-[113]. It is only necessary for present purposes to record his assessment of the valuation experts.

58. The evidence of Messrs Bezant and Meyer was "central" ([83]). There was a considerable measure of disagreement between them. The judge's conclusions on the "comparables part of the case … reflect the degree to which I felt able to accept their evidence" ([83]). Although Mr Bezant was a "careful and considered witness", he had proceeded on "fundamental assumptions" given to him by InterDigital which were "unrealistic" but which he did not interrogate sufficiently, which "perhaps indicates he had identified too much with InterDigital's case" ([84]-[85]). In general, Mr Bezant's evidence was "less useful than that of Mr Meyer" ([85]-[86]). The judge had "more confidence in some parts (but not all) of Mr Meyer's approach" ([86]).

Factual background

59. At [114]-[164] the judge set out the factual background to the dispute. In this context he made findings about the following:

   i) InterDigital and its portfolio, noting that it was unevenly geographically distributed ([115]-[116]);

   ii) the development of InterDigital's licensing programme ([117]-[149]), noting that (a) from 2020 onwards InterDigital had published its "program rates per standard" which were for informational purposes only and were said to be subject to a variety of "discounts" negotiated with licensees ([139]-[140]), and (b) the only negotiating history of which there was evidence was that between InterDigital and Lenovo ([148]-[149]);

   iii) Lenovo ([150]-[153]);

   iv) an overview of the licensing discussions between the parties ([154]-[160]); and

   v) Lenovo's position in the global market for mobile handsets ([161]-[164]), noting that in the period 2013-2021 (a) the top 20 handset suppliers had 79% of the market, (b) Lenovo had the ninth and LG the tenth largest market shares with volumes which were very close to each other, (c) the six entities which entered into the Lenovo 7 had about 47% of sales and (d) none of the entities which entered into the InterDigital 20 were among the top 20 suppliers. The figures set out by the judge enable one to calculate that LG's sales were [REDACTED]% of Lenovo's.

Legal principles

60. At [165]-[242] the judge set out and discussed the legal principles concerning the ETSI FRAND obligation. In this context the judge explained how and why an issue between the parties as to French law had "evaporated" over the course of the trial. He also made some brief comments on US and Chinese law.

61. At [243]-[270] the judge set out and discussed the legal principles applicable to the assessment of comparables and top-down royalty valuations. As well as *UPHC*, he considered the decision of Judge Selna sitting in the Central District Court of California in *TCL Communications Technology Holdings Ltd v Telefonaktiebolaget LM Ericsson Inc* (21 December 2017) ("*TCL v Ericsson*") and the decision of the

Court of Appeals for the Federal Circuit in that case 943 F.3d 1360 ("*TCL v Ericsson CAFC*").

62. In this context the judge expressed the view at [247]-[249] that, when a mobile phone, tablet or computer uses 3G, 4G or 5G technology covered by SEPs, the royalties payable should not depend on the price of the device, which reflects many other features which are unrelated to the licensed technology even if dependent on it, as well as the status of the brand of device. Each unit should be viewed as a functional unit using the relevant generation(s) of the technology. The FRAND obligation required that the royalties payable for each functional unit should be the same. Similar considerations applied to SEP licensors. Differing SEP licensors have differing levels of bargaining power, and these levels may vary for a given licensor over time. A smaller SEP licensor should not be disadvantaged vis-à-vis an owner of a larger share of the SEP universe in a given generation of technology. At least in theory, each should recover their "fair" share of the total royalty stack, based on the value of their SEPs. The judge added at [250]:

> "What matters is the sum which is paid by licensee to licensor. What matters far less (or even not at all) is how the licensor then accounts for the receipt of that sum in its accounts."

Comparables

63. The judge considered comparables at [271]-[814]. It can be seen that this part of his judgment represents nearly two-thirds of its entire length. As this suggests, the judge's ultimate conclusion was based upon his comparables analysis. This part of the judgment is divided into a number of sections as follows.

Comparables: the SEP licensing landscape

64. The judge considered the SEP licensing landscape, and the evidence of the parties' licensing experts (Gustav Brismark for InterDigital and David Djavaherian for Lenovo) about it, from [273]-[292]. He noted that agreements were generally for a term of five to seven years, and that the larger implementers favoured lump sum deals, which required some forecast of sales, whereas smaller ones were likely to favour a running royalty agreement ([276]).

65. At [278] the judge observed:

> "Every SEP licensing negotiation involves some degree of hold-up or hold-out (and probably both) for as long as the two sides fail to reach agreement. It depends on the eye of the beholder as to which is occurring. However, the mere failure to reach agreement does not necessarily mean that one side or the other is to blame - there may be a genuine disagreement as to the value to be attributed to a particular SEP portfolio and what terms are FRAND, which can only be determined by an independent tribunal."

66. The judge found that SEP licensors had to be flexible in order to reach agreements with implementers ([276(i)]), and that "the flexibility used to structure the final licence terms can serve to and often does obscure the overall economics of the deal" ([281]). The judge accepted Mr Djavaherian's evidence that "sophisticated licensees

frequently reach agreements on rates far from the SEP licensor's announced or 'program rates'" ([282]-[283]). The judge found Mr Djavaherian's views particularly apposite as regards InterDigital's licensing practices. The judge did not blame InterDigital for developing these practices: "they are a natural reaction to having to operate in a difficult licensing environment" ([283]).

67. The judge went on at [284]:

> "… based partly on the evidence from Mr Brismark and Mr Djavaherian, partly on the evidence of fact from InterDigital as to how its licensing practices have developed, partly on the expert accountancy evidence and partly on my conclusions below as to what is FRAND, I have come to the conclusion that InterDigital's SEP licensing practices (and, I strongly suspect, of others in the same market) have become distorted by their attempts to secure licences of their SEP technology, against a picture of many (but not all) implementers not complying with their duty to act as a willing licensee."

68. At [288] the judge said:

> "… when the sums payable by the larger implementers (often lump sum deals) are at least a degree of magnitude higher than the costs of litigation, it seems logical to assume that the unpacked rate is more likely to represent the 'true value' of the licensed technology. By contrast, where the costs of litigation would be around or greater than the total sum payable under a licence, it is far more likely that the implementer has little choice but to accept what the licensor is demanding. Certainly, InterDigital's licences seem to fit this logic."

Comparables: the experts' approaches to unpacking

69. The judge explained the "radically different" ways in which Mr Bezant and Mr Meyer had unpacked the comparable licences from [293]-[390]. One of the problems in comparing their evidence was that they had used different sources of sales data, although this problem was ameliorated when InterDigital agreed that the judge should use the International Data Corporation ("IDC") data employed by Mr Meyer ([294]).

70. Since InterDigital no longer rely upon Mr Bezant's methodology, I can pass over much of the judge's description of this methodology ([295]-[323]) and of Mr Meyer's criticisms of it ([324]-[356]). It is nevertheless important to note four points from this section. First, the judge's explanation at [305] that Mr Bezant had not expressed any opinion as to which set of licences was the best comparable, whereas Mr Meyer had done so. Nor, as the judge explained at [306]-[307], had any other InterDigital witness given any evidence in support of the InterDigital 20 being comparable to the licence required by Lenovo.

71. Secondly, as the judge explained at [318], Mr Bezant's calculations showed a decline in the rates of InterDigital's Patent Licence Agreements (PLAs) over time. The judge added:

> "The consequence of this trend is that the rate indicated in an InterDigital PLA is sensitive to the date when each was concluded. Since I consider it

> would be contrary to principle to reward Lenovo for delay (whether the delay is Lenovo's fault or not), but also because my task is to arrive at a FRAND rate or rates, this is a point I keep in mind."

72. Thirdly, many of Mr Meyer's criticisms concerned Mr Bezant's assumption that "a valuation unpacking of comparable licenses should in effect 'restore' revenue and value for the licensor that was not actually realized in the transaction, and which the licensor considers was forgone as a 'discount', in order to arrive at an assumed market value" ([326]). The assumed discounts for which Mr Bezant adjusted included ones for past sales and for sales volumes. Mr Meyer was particularly critical of the assumed volume discounts, some of which were very high. As for past sales, the judge explained at [328]:

> "As will appear, the reason why Mr Bezant dealt with the past sales in the way that he did was because of two aspects of the 5G Extended Offer namely (i) the rate(s) applied to past sales were the same as those for future sales and (ii) many (but not all) of the discounts for which Lenovo qualified did not apply to past sales …. These reasons explain, in part, why, in the expert evidence, the issue as to the appropriate treatment of past sales and the issues relating to discounts were rarely completely separated."

73. Fourthly, the judge found at [342] that "Lenovo were correct to characterise [the] assumed discounts [applied by Mr Bezant] as a rationalisation internal to InterDigital", but there was "no evidence whatsoever that InterDigital rationalised the structure of their PLAs as containing the various discounts applied by Mr Bezant" at the time the PLAs were agreed.

74. The judge described Mr Meyer's approach to unpacking at [357]-[370]. The judge began at [357]-[363] by noting that Lenovo had "launched a full scale assault on InterDigital's approach to licensing". This had two main prongs. The first was the contention that InterDigital's advertised "program rates" were, to InterDigital's knowledge, unjustifiably high. The second was the contention that, when licensing the biggest players in the mobile handset market, the PLAs were agreed at much lower rates. InterDigital sought to justify these much lower rates as involving the giving of "discounts", but Lenovo argued that the alleged discounts were just an attempt to compensate for the fact that InterDigital's headline rates were indefensible. As the judge noted at [362]:

> "The suggestion from InterDigital in opening was that all these deals with the larger players resulted from hold-out ... This is a critical issue which I examine later. By contrast, Lenovo submit that the licence rates agreed with InterDigital's 6 largest licensees [i.e. the Lenovo 7] are, on InterDigital's own evidence, the result of a compromise between willing licensor and willing licensee and the best evidence of a FRAND rate."

75. As the judge explained at [364]-[368], Mr Meyer first unpacked the Lenovo 7 so as to derive both past and future rates expressed in terms of dollar per unit, and an overall blended rate (blending past and future), from each PLA. In some cases, however, the PLA did not cover past sales or Mr Meyer was unable to extract a dollar per unit rate for past sales from the available information. Mr Meyer then applied three economic adjustments designed to conform the rates from each PLA to Lenovo's specific

circumstances: (i) an adjustment for sales mix by standard, (ii) an adjustment for geographical sales mix between developed and emerging markets and (iii) an adjustment for geographical sales mix relative to InterDigital's patent holdings. He then undertook a weighting exercise (or, to be precise, three different weighting exercises) to derive a weighted average. The weightings were applied separately to past rates (where available) and future rates. The end result of his calculations was a weighted average rate of $0.16 per unit.

76. As the judge explained at [371]-[386], there were certain developments in the subsequent reports of Messrs Bezant and Meyer and in cross-examination, including the acceptance and correction by both experts of some errors, but there remained important differences between them. The judge noted in this context at [372] that the rates for LG 2017 derived by the two experts after corrections "are very similar and derived from broadly similar figures". The judge went on to discuss InterDigital's reliance on LG 2017 by way of a fall-back position at [387]-[390]. As he noted, one of the advantages of LG 2017 was that LG's sales were very similar to those of Lenovo ([387]).

Comparables: past sales

77. The judge considered the approach to past sales at [391]-[426]. He began by noting that it had emerged that Messrs Bezant and Meyer "had adopted similar (but not identical) approaches to their treatment of past sales" ([391]). He then said that there were "a number of moving parts" which had to be considered ([392]).

78. The first was the way in which InterDigital had approached the issue of past sales in its licensing negotiations, which the judge considered at [393]-[397]. By way of illustration, InterDigital's evidence was that, in agreements concluded between 2012 and 2016, the average accounting discounts which it had applied to past sales were 61% of the future rate for the -1 year, 45% for the -2 year, 34% for the -3 year, 26% for the -4 year, 6% for the -5 year and nothing for the -6 and any preceding years. As the judge explained, Mr Djavaherian had argued that the inconsistency between the way in which past sales were heavily discounted and forgiven beyond a certain time in other licences and the terms of the 5G Extended Offer was liable to discriminate against Lenovo, suggesting that "it may be considered that the practice of omitting certain past sales and/or discounting the royalty to be paid for past sales is a counterbalance to the parallel practice of the nominal overstatement (on the face of the license) of the headline rate" ([396]). The judge rejected this argument, saying at [397]:

> "This point is not only counterintuitive, it is exactly the effect which is so heavily criticised by Mr Meyer in his analysis and which I find is not consistent with a FRAND approach (see further below). Lenovo cannot have it both ways."

79. The second, but related, topic was the way in which InterDigital recognised the value attributable to past sales from a lump sum licence for the purposes of accounting and reporting its financial results in its Form 10-Ks. (Form 10-K is an annual report required by the US Securities and Exchange Commission that gives a comprehensive summary of a company's financial performance). The judge summarised Mr Brezski's evidence on this question as follows:

"398. … As CFO, Mr Brezski explained in his evidence how InterDigital determines what proportion of a [lump sum] licence to recognise as attributable to the past. InterDigital prepares and reports consolidated financial statements in accordance with accounting principles generally accepted in the US (US GAAP). Patent licence agreements are analysed in accordance with US GAAP which requires InterDigital to (1) identify the contract with the customer; (2) identify the performance obligations; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations and (5) recognise revenue as the entity satisfies the performance obligation(s). The general rule is that '*Accounting guidance requires us to perform a relative fair value allocation of the transaction price to the deliverables*'.

399. In relation to a fixed fee licence which contains a release of liability for past infringement, Mr Brezski explained that their accounting allocation of the transaction price to this obligation is often discounted relative to the allocation for the future. He said this is done to best reflect the relative accounting value of the past sales '*after considering factors including but not limited to, how far back the past infringement occurred and the geography of the infringing sales*.' He explained that InterDigital evaluate the accounting value of a past release using two approaches. One (developed about 5 years ago) applies an 'accounting realisation rate' which is an estimate of the portion of the total recoverable value that would be realised/recovered to each year of past sales released under a licence. It is based on the average discounts applied to the value of released sales in historical InterDigital PLAs. The realisation rate differs for each year in the past and reflects an increasing discount up to a maximum of 6 years '*at or about which point the value is typically assessed to be zero for accounting purposes'*. Prior to that, Mr Brezski said they evaluated each PLA individually on the basis of the same factors as above. The second approach arose from a settlement with Microsoft ….

400. I should add that, for PLAs which contribute 10% or more of InterDigital's total revenue in a relevant reporting period (i.e. 3 months for a 10-K), InterDigital identify the licensee's contribution. In this way, InterDigital makes public the contributions from its larger licensees. Indeed, as will appear below, Mr Meyer used the disclosures in various InterDigital form 10-Ks to identify what sums had been recognised as attributable to past sales."

80. Against that background, the judge turned to consider where Mr Bezant and Mr Meyer agreed and where they differed at [402]-[416]. He started by explaining Mr Meyer's approach, which involved deriving different rates for the past and future:

> "403. … When unpacking the lump sum licences that involved released past sales, Mr Meyer proceeded on the basis of the statements made by InterDigital in its financial reporting documents as to the sums it 'recognised' as attributable to the released past sales. He worked on the basis that those amounts provided in InterDigital's audited financial statements provided a reliable source for determining InterDigital's assessment of the consideration associated with past versus future sales. On that basis he assigned the amount stated in the financial statements to the period prior to the effective date of the PLA.
>
> 404. In short, for the [lump sum] licences that he considered covered past sales, he took the following figures: LG 2017: $34.5m, ZTE 2019: $19.5m …, Huawei 2020: $19.2m. It is right to note however that Mr Meyer's preference was for a royalty rate blended across past and future - in other words, applying the same rate to past sales as in the future, so that a split in consideration between past and future is not necessary."

81. The judge then considered Mr Bezant's approach, which was "considerably more complicated", at [405]-[416]. Since this is no longer relied on by InterDigital, I can pass over this, save to note that Mr Bezant included some calculations based on InterDigital's Form 10-Ks. I must, however, note what the judge said at [416]:

> "Mr Meyer maintained his overall criticism of Mr Bezant's analysis on the basis that overall, it resulted in artificially inflated future rates. I will deal later with the other respects in which Mr Meyer accused Mr Bezant of artificial inflation of future rates: these concern attributing fewer sales to the future which increases the future rate when unpacking a lump sum structure. What is striking is that Mr Meyer (in order to calculate separate rates for past and future) was prepared to adopt the allocations made by InterDigital in its financial statements as to what proportion of a LS consideration to attribute to the past, when these allocations were the primary reason of the inflation of future rates."

82. The judge then set out his analysis. Since this section of his judgment is central to InterDigital's appeal, I must set it out in full:

> "417. It is necessary to consider whether it is appropriate to treat past and future sales differently. In closing, Mr Speck KC made the obvious point that if a lower rate is attributed to past sales compared to the future, it encourages delay by the licensee. The longer the licensee holds out, the less they have to pay.
>
> 418. In this regard, InterDigital and Lenovo presented differing analyses and reasons, but fortunately, it is not necessary for me to resolve the differences between the two experts' treatment of past sales.

419. On either expert's figures, the royalty rates for past sales were very considerably lower than the future rates derived by either expert, the disparity being much greater in Mr Bezant's figures.

420. It is clear that each expert was content to adopt (in one form or another), InterDigital's allocation of [lump sum] consideration between past and future. This gave me considerable pause for thought, as to whether I should depart from their effectively agreed approach (at least at this high level). After considerable reflection, I came to the view that each expert had adopted InterDigital's allocations for different reasons and/or because they produced different effects. So far as Mr Bezant's analysis was concerned, his adoption of InterDigital's past/future allocations favoured InterDigital's case because the effect was to increase future rates.

421. I continue to keep in mind that Mr Meyer favoured an overall blended rate but, to the extent that he derived different rates for past and future, his adoption of InterDigital's allocations favoured Lenovo's argument that whatever it should pay for the past, it should be heavily discounted to avoid discrimination.

422. In my view it is incorrect to proceed on the basis of the subjective assessments made by InterDigital of the proportion of a lump sum which should be attributed to past sales releases for their accounting purposes. It is evident, in my view, that these assessments were made by InterDigital (at least in part) in order to be able to quote higher future rates. Whether there were other justifications does not matter. What matters for present purposes is that InterDigital's assessments result in implied rates which are low (sometimes very low) for the past and higher for the future. It seems to me that the precise date when a lump sum deal is done should not affect the royalty paid per device.

423. I propose to adopt the same approach as in *UPHC* and in *TCL v Ericsson*, that the same rate should apply to past as future i.e. Mr Meyer's blended rate approach. This is for two cumulative or alternative reasons.

424. First, notwithstanding US GAAP, the principles applied and Mr Brezski's lengthy explanations, I formed the impression that InterDigital retained significant room for manoeuvre in the way they apportioned an overall LS consideration to a past release and therefore as to the sum they 'recognised' in their financial reporting as attributable to a past release/past sales. This is reflected in the past and future rates derived by Mr Meyer for the Lenovo 6. One of the consequences of the (relatively smaller) sums which InterDigital 'recognise' as attributable to the past is that the (relatively higher) sums

attributable to the future result in higher royalty rates for the future. Not only can InterDigital cite these higher future royalty rates as representative to other potential licensees, InterDigital can also use them in any renewal negotiations. Another consequence is the apparently very heavy discounting by InterDigital as to past sales.

425. Thus, my impression is that InterDigital's allocations of overall LS consideration to past and future was somewhat artificial. These allocations do not feature in the particular PLA and were not agreed with the licensee. Furthermore, they do not match what I regard as the normal way for others in the market to assess the rate derivable from a LS licence which is to take the total consideration and divide it by the best estimate of the number of units covered to derive a per-unit dollar rate for the purposes of comparison.

426. In case I have formed the wrong impression about these allocations, and they are *mandated* by accounting principles, there is a second reason (which is an alternative or additional reason) why I consider InterDigital's allocations should not bind an analysis of what is FRAND and it is this. FRAND is concerned with the relationship between licensor and licensee. Therefore, FRAND rates should focus on the money (and other benefits) which pass between licensee and licensor, with the other benefits being translated into monetary terms as part of the unpacking. FRAND is not concerned with and should not be affected by either one party's internal justification for the sum paid or received, nor with the way in which one party seeks to deal with those sums in its accounts, whether they are internal or made public, particularly when these internal justifications and financial reporting do not form part of the licence agreement. InterDigital's consistent approach was to work on the basis of the 'value' in their hands of a particular payment. This I find is wrong in principle because it automatically injects InterDigital's subjective view of that 'value' into the analysis."

Comparables: points of principle: introduction

83. The judge next proceeded first to identify and then to discuss seven points of principle at [427]-[569]. He began by noting that he was approaching the issue of FRAND on the basis of a willing licensor and a willing licensee, but a willing licensor and a willing licensee would neither have negotiated for such a long period as the parties did nor litigated, but would have reached agreement long ago ([427]-[428]). One of the complications in this case arose from the long period before the FRAND terms would be settled. This was not uncommon at present when the practical application of FRAND principles was still being worked out. This type of situation had given rise to debate around two interrelated issues ([429]-[430]).

84. The first was the application of national limitation periods, which were six years in the UK and other countries but shorter in some other countries (e.g. three years in China). In this case Lenovo had made many sales long prior to such periods. Whilst limitation periods would be directly applicable if the claim was for damages or an account of profits, this was a claim for the determination of the terms of a FRAND licence. Lenovo had not pleaded limitation as a direct defence to the claim, but relied both indirectly on limitation and on the terms of comparable agreements (which were influenced by limitation considerations) as supporting the payment of "a reasonable and proportionate sum" taking into account past sales ([431]-[433]).

85. The judge commented on Lenovo's argument as follows:

> "434. This is a particular manifestation of an argument which often featured in Lenovo's submissions: if the result of this trial was that Lenovo were treated adversely (in their perception) compared with how other InterDigital licensees had been treated in the past, that would be discrimination. This is a rather simplistic argument, in that Lenovo were content to accept any differences in their favour, but any perceived to be adverse were branded as discrimination.
>
> 435. It is also a non-sequitur. It assumes that all the comparable licences on which Lenovo chose to rely were FRAND in every particular, but I do not consider this to be a valid assumption. Obviously, in this comparables analysis, I have to base my decision on one or more PLAs which I consider to be comparable, but that does not mean I must slavishly follow the licensing practices of InterDigital which are reflected in those licences."

86. The second issue concerned the time at which an implementer was required to commit to take a licence on FRAND terms. The judge agreed with Meade J in *Optis Cellular Technology LLC v Apple Retail UK Ltd* [2021] EWHC 2564 (Pat) ("*Optis F*"), upheld by this Court [2022] EWCA Civ 1411 ("*Optis F CA*"), that the implementer was required to give an undertaking to that effect as soon it was found to be infringing a valid SEP. The judge went on:

> "437. That requirement is, after all, nothing more than a particular manifestation of the position of a willing licensee and is designed to prevent or diminish hold out. However, in my judgment, this is only a very partial solution to hold out. In my view, the real solution lies elsewhere. It would be possible to eliminate or significantly reduce hold-out if there was no incentive for the licensee to delay reaching agreement. This consideration focusses attention on (a) the influence of limitation periods and (b) the resulting heavy discounting for the past. Recognising that I must operate within the jurisdiction which I have to exercise, it seems to me that the solution to delay, whether all of it is attributable to hold out or not, is for the willing licensee to pay for a licence to cover all past units.

438. As more FRAND determinations are decided, such differences as there are or as there are perceived to be between the approaches taken in different jurisdictions should converge and eventually disappear. Furthermore, the application of the FRAND obligation will have become clearer. Once that desirable state of affairs is near or is achieved, the determination of FRAND terms between two particular parties should become much easier. There may still be obstacles (such as confidentiality of licences which are thought to be comparable) which may require parties to resort to litigation so that a confidentiality regime can be established by a court, but many more licence arrangements ought to be capable of being agreed through negotiation."

87. The judge proceeded to outline what he perceived to be the general picture:

"440. Lenovo's big point was their objection to the size of the volume discounts which InterDigital say they applied.

441. For their part, InterDigital were, naturally, exercised about the length of time over which Lenovo had been taking advantage of their SEP patented technology without a licence. This was at least part of the reason why InterDigital's 5G Extended Offer stipulated that the same rate should be paid for the past as for the future.

442. In principle (and leaving aside time value of money considerations), this last stipulation does not seem unreasonable. It also chimes with my analysis at paragraph 417 above *et seq*. For example, why should the basic FRAND rate change at the date when the licence is entered into?

443. The problem, however, with InterDigital's approach is the differing rates calculated for past and future, and the subsequent demand that the (inflated) calculated future rate should also apply to the past. There was considerable force in Mr Meyer's contention that Mr Bezant's approach, which involves heavy discounting for the past, with a disproportionate share of consideration being shifted to the future, results in an inflated future rate. Although the 5G Extended Offer embodies InterDigital's 'program rates', it is notable that Mr Bezant's inflated future rates are being used in an attempt to justify these 'program rates'.

444. It will be recalled that Lenovo's initial position was that nothing should be paid in respect of the past, although this very hard-line position had to be abandoned. In its place, Lenovo were content to adopt InterDigital's practice of heavy discounting for the past, because it favoured Lenovo's overall aim to pay as little as possible. As I have previously mentioned, the evidence suggested that the adoption or development of this practice was prompted by two factors: one the influence of limitation periods (which vary around the world) and the

other being the difficulty in recovering damages for infringement in many countries around the world.

445. A further feature of InterDigital's offer must be noted. The effective date of the licence on offer is 1st January 2018. I commented above that this date appears random, but it appears InterDigital chose it so that they could include past sales going back to the start of an assumed limitation period of 6 years i.e. 1st January 2012. Hence, Mr Bezant's calculation of the lump sum implied by the 5G Extended Offer in his Appendix 31 includes past sales going back to that date.

446. This brief overview shows, in my view, that it cannot be assumed that the approach advocated by either side is consistent with FRAND. It also emphasises the importance of the following (often interrelated) points of principle, some of which I have touched upon already:

i) Generally, in the unpacking of any allegedly comparable PLA, whether account should be taken of the subjective views of either SEP licensor or SEP licensee. I have already touched upon a key example of this, in relation to the treatment of past sales, above, but the issue has wider ramifications.

ii) Whether InterDigital's system of discounts, with particular emphasis on its volume discounts, as assumed in Mr Bezant's analysis, is consistent with FRAND.

iii) Whether limitation periods have a role to play in the relationship between willing licensor and willing licensee.

iv) How to eliminate or discourage hold-out.

v) Whether discounts (often substantial) in relation to past sales should be part of a FRAND analysis, plus a related issue of whether interest should be awarded on 'past' royalties.

vi) Whether it would be discriminatory against Lenovo not to apply the sort of discounts (e.g. for volume, for past sales) applied in the allegedly comparable InterDigital PLAs."

88. As will appear, the judge went on to consider an additional point of principle between (v) and (vi) in the above list, namely the relevance of subjective or *ex post facto* views. Thus he ended up addressing seven numbered points. Furthermore, in dealing with the second point, he differentiated between InterDigital's volume discounts and its other discounts.

Comparables: point of principle 1: "value to the SEP licensor vs royalty payments"

89. The judge considered this issue at [448]-[457]. He began by noting that InterDigital's evidence focussed on the value of the royalty payments in the hands of InterDigital rather than simply on the amounts of those payments. He said the point was illustrated by the two ways in which Mr Meyer had unpacked the Lenovo 7. Overall Mr Meyer preferred a blended approach where effectively the total sums paid or payable over

the term of the licence was divided by the total number of units (past and forecast) to yield the effective royalty paid or payable per unit. Mr Meyer had also presented rates for past and future separately. The judge said that Mr Meyer "did not explain why he did this notwithstanding his preference for the blended approach" ([450]). In order to do that, Mr Meyer had to divide the total consideration into components for past and future. He had derived the sum attributable to the past from InterDigital's Form 10-Ks. Mr Bezant had used a similar technique. The judge referred to Mr Brezski's evidence that InterDigital had used the applicable accounting principles to derive its allocation of the payments.

90. The judge then said:

> "453. Whilst this explanation appeared to apply set rules, it was clear that they provide InterDigital with significant leeway to apportion sums received in ways which benefit InterDigital's business model and business interests. Specifically, I was satisfied that the use of these accounting rules injected a significant subjective element into the analysis.
>
> 454. The whole approach is also bound up with the notion that significant discounts are often given in respect of past sales. As far as I could discern, a principal reason why the practice has grown up of giving significant discounts for past sales has been the difficulties in recovery. The evidence from the licensing experts identified the two main difficulties in recovery. The first was the fact that until relatively recently, a SEP licensor faced the prospect of having to sue in many different jurisdictions since it was unclear, at least until *UPHC* and *UPSC*, that a single court had the power to determine the terms of a global FRAND licence. Although it is now clear that the UK has that power, and other jurisdictions are beginning to follow suit (China in particular), it is clear that the previous perception has had a long-lasting effect in SEP licensing practices.
>
> 455. The second main perceived difficulty is the impact of limitation periods around the world. As I have already indicated, many countries have a 6-year limitation period but some significant jurisdictions have shorter periods e.g. 3 years. Thus, if a SEP licensor sued for damages for patent infringement in a particular jurisdiction, it was realistic to assume that the licensor would not be able to recover damages going back further than a maximum of 6 years. This gave implementers an incentive to spin out negotiations for as long as possible and put the burden on SEP licensors to sue within the limitation period to avoid losing royalties which were falling out of the limitation period.
>
> 456. When, however, the claim is for the Court to determine FRAND terms, the question is whether this second perceived difficulty is real or not. For the reasons I explain below, I do

> not consider that limitation periods have any part to play in a determination of FRAND terms between (necessarily) a willing licensor and a willing licensee.
>
> 457. What is clear, however, is that these perceived difficulties have had a profound effect on shaping InterDigital's SEP licensing practices. Those effects persist and are reflected in Mr Bezant's approach."

Comparables: point of principle 2: volume discounts and other discounts

91. At [458]-[507] the judge considered the justifications put forward on behalf of InterDigital in support of both (a) volume discounts generally and (b) volume discounts of the size said to have been applied to the largest licensees. To illustrate the issue, InterDigital said that Samsung had been given a volume discount of around 80% and Apple around 60%, while Lenovo was entitled to a volume discount of around 30%. Having explained at [493]-[494] that InterDigital only allowed volume discounts for sales during the term of the licence, not past sales, the judge concluded at [495]:

> "… the volume discounts said to have been applied to the largest InterDigital licensees (i.e. in the range of 60%-80%) do not have any economic or other justification. Instead, their primary purpose is to attempt to shore up InterDigital's chosen 'program rates'. Their primary effect is discrimination against smaller licensees. …"

92. The judge then considered InterDigital's other discounts at [508]-[519]. He listed a total of seven (including volume) at [512]: (i) fixed fee/lump sum; (ii) time value of money; (iii) term; (iv) pre-payment; (v) volume; (vi) regional sales mix; and (vii) renewal. He concluded:

> "517. Overall, I formed the view that all the possible discounts referred to represented a series of levers which InterDigital could and did utilise, as they saw fit, in an effort to secure a deal within the constraints which they perceived to apply to their licensing efforts (in particular, the lack of a global dispute resolution procedure and the effect of limitation periods). In saying this, I should not be taken to be criticising InterDigital for doing this. InterDigital were operating a licensing business and it was important for the continuing operation of the business (and its R&D) to ensure it received licensing income and these levers had to be applied in order to achieve this. This is one of the facts of life for SEP licensors operating in a market where the appropriate licence rates have yet to approach any sort of equilibrium.
>
> 518. These 'other discounts' received far less attention than the volume discounts. For example, there was no examination of whether the size of several of these other discounts was economically justified. For that reason, I can and should deal

with the discounts (other than volume) … more briefly. It will be noted that some of the discussion above also embraced these other discounts.

519. I have concluded that discounts which reflect the time value of money (e.g. accelerated receipt of royalties, the advantage to the SEP licensor of receiving a lump sum and so forth) are entirely fair and consistent with FRAND. Any other discounts (i.e. which do not reflect the time value of money) which were 'assumed' by Mr Bezant to have been applied I put in the same category as the volume discounts because, it seems to me, they were used, along with the volume discounts, to shore up the InterDigital 'program rates' and therefore contribute to the discrimination against smaller licensees. Again, I emphasise I have formed no view as to whether the size(s) of InterDigital's other discounts were justifiable."

Comparables: point of principle 3: limitation periods

93. The judge considered this issue at [520]-[545], and concluded that limitation periods should be ignored. Since this conclusion is challenged by Lenovo's appeal, I must set out the judge's reasoning almost in full:

"521. In an ideal world, a willing licensee would agree FRAND terms before starting to use the relevant SEP technology and so would pay FRAND royalties from the outset of its use of the SEP technology. The ETSI materials recognise that FRAND terms may well not be agreed until later, reflected in the suggestion that the willing licensee nonetheless makes provision for the likely sums which will have to be paid in due course, setting aside those sums either actually or notionally.

522. Before FRAND terms are actually agreed and FRAND royalties are paid, the willing licensee would recognise that it has the benefit of the use of those monies in the meantime. That benefit may be significant, depending on the amount of time which passes, commercial rates of interest and the licensee's costs of capital.

523. I am aware that limitation periods vary. Many countries have a 6-year period (and prevent the recovery of damages in respect of acts done prior to the period in question) others (e.g. China) have a 3-year period (and I note Chinese limitation appears to be more extensive, preventing even the establishment of a legal right outside the period) and no doubt there is additional variety around the world. The issue is whether limitation periods have a role to play when it comes to assessing what a willing licensee and a willing licensor would agree.

…

528. Having given this issue considerable thought, I have reached the conclusion that limitation periods do not have a role in the relationship between willing licensor and willing licensee and, indeed, that they are inconsistent with that relationship. As I have explained above, a willing licensee will, notionally or otherwise, set aside funds to pay for its licence. If, for some reason, those willing parties are not able to reach a deal for some time (assuming the negotiations last for longer than 6 years), I do not believe that a willing licensee would refuse to pay whatever licence fees were eventually determined to be applicable in respect of units produced and sold more than 6 years prior to the determination. A licensee who did that would no longer qualify as 'willing'.

529. In my view, a willing licensee would not seek to benefit from delay in agreeing FRAND terms or payment of FRAND royalties. Thus, I have concluded that a willing licensee will pay in respect of all past units. Specifically, I do not consider that a willing licensee would seek to avoid making payments of FRAND royalties by taking advantage of one or more national limitation periods. The willing licensee would say: 'I have set these monies aside to pay to the SEP licensor(s) and I will pay them over just as soon as the appropriate rates have been agreed or set'. If the position was otherwise, that would automatically insert into the process (and FRAND is a process) an on-going perverse incentive to delay the agreement or setting of FRAND terms for as long as possible i.e. the longer the delay, the less the licensee has to pay. This cannot be FRAND.

530. I recognise that there are well-founded policy reasons which lie behind the imposition of national limitation periods but, in my view, those reasons are not sufficient to override or alter the fundamental relationship of willing licensor and willing licensee established by ETSI clause 6.1. Furthermore, my attention was not drawn to any decision to the effect that French law requires that account should be taken of limitation periods. As I have indicated, the ETSI materials indicate (at least to me) that they should not.

531. Limitation periods in the UK Limitation Act 1980 are expressed by reference to the type of cause of action. For example, section 2 provides that 'An action founded on tort shall not be brought after the expiration of six years from the date on which the cause of action accrued'. Section 5 contains almost identical wording in the context of actions founded on simple contract. I have already mentioned what appears to be the single provision in Chinese law which applies across the board. This type of action is something of a hybrid, in the sense that in form this action is an action in tort for patent

infringement, but the primary aim is to enter into a contractual arrangement on FRAND terms, with both sides invoking and relying upon the Claimants' undertaking to ETSI to licence each of its SEPs on FRAND terms.

532. If a Defendant to this type of action does not want to invoke the Claimant's undertaking to ETSI, then, assuming one or more SEPs have been found to be valid and essential, the Defendant is highly likely to be subject to an injunction to restrain further infringement in the future and to have to pay damages in respect of past infringements. Assuming also that the Defendant has pleaded limitation as a defence, damages will only be recoverable for infringements committed within 6 years of the date of the claim form. Limitation is applicable in those circumstances because the Defendant has turned its back on entering into the relationship of willing licensor and willing licensee.

533. By contrast, if the Defendant does wish to invoke the Claimant's undertaking to ETSI, then, howsoever the action is characterised, the relationship invoked (that of willing licensor and willing licensee) is central. It is that relationship, in my view, which takes this type of action outside the normal realms of actions in tort or contract where limitation applies. It is that relationship which is inconsistent with one party in these circumstances being able to rely on limitation defences."

Comparables: point of principle 4: how to eliminate or discourage hold out

94. The judge considered this issue at [536]-[545]. He began by noting that there could be many reasons why a SEP owner and an implementer could not agree on FRAND terms. The blame might attach wholly to one side or the other, but in most cases the blame was likely to be shared. Whoever was to blame, once the court had decided that the implementer was infringing a valid SEP, the implementer had to elect either to cease infringement or to take a licence. At that point a FRAND licence must be available for acceptance. The judge went on:

"540. So far as the past is concerned, the implementer (whether a willing licensee throughout or newly reformed) ought not to be rewarded for the delay which has occurred between the start of its infringements and the taking of the FRAND licence. I note also that it should not actually matter who caused that delay: whether it was the SEP owner, the implementer or the combination. Elimination of any reward for delay can be achieved via the terms of the FRAND licence, which will require the implementer to pay at FRAND rates for a retrospective licence to cover past infringements. This may be characterised as the price which the implementer must pay for the late change of heart and to be able to take the FRAND licence. However, a more satisfactory explanation, in my view, is provided, once again, by the concept of the unconditional willing licensee. To achieve that status, the implementer cannot impose any condition regarding the past. The implementer must present itself as a willing licensee and prepared to accept that status and its consequences at all material times (irrespective of any past conduct which was not consistent with the status of willing licensee).

541. I can illustrate this point with two or three examples which, in my view, also reinforce the point I made above that the willing licensee would not invoke national limitation periods.

542. First, let me assume an implementer who, at the point when he has been found to infringe a valid SEP, says 'I am a willing licensee from this point onwards, therefore I am entitled to a FRAND licence, but I refuse to pay for any past infringements.' It is easy to see he is not in truth, a willing licensee.

543. Second, let me assume an implementer who, at the same point, says 'I am a willing licensee, entitled to a FRAND licence, in respect of which I will pay future royalties and for X years in the past, even though I accept I have been using the SEP technology for X+ years. In reality, whether X is specified to be 3 years, 5 ½ years, 6 years, against X+ being, say 5 years, 13 years or 8 years, is purely arbitrary. Other SEP licensees who have paid FRAND royalties (or in the range) over these periods would say, why should he get away with not paying royalties?

544. In reaching this conclusion I have not lost sight of Mr Djavaherian's criticism of the equivalent aspect of InterDigital's 5G Extended Offer, where, as I understand it, *all* past sales are to be paid for at the same rate as is applied to future sales (albeit that this includes a 5% term discount and a 5% regional sales mix discount). Mr Djavaherian's complaint was that this term discriminates against Lenovo relative to other licensees because those other licensees have received either a complete past release or a heavily discounted past release. InterDigital's response to that complaint, as I understood matters, was that Lenovo forfeited any right to a discounted past release because it failed to agree a licence deal.

545. Mr Djavaherian's argument, taken to its logical conclusion, is that Lenovo is entitled to be treated as the most favoured licensee. There is nothing to commend or require that result. In any event, that type of argument should not and does not deter me from concluding what is FRAND, even if (and particularly if) I conclude that the licensing structures applied to date are not appropriate to be adopted in what I determine to be FRAND. I recognise that what I decide in this case may well cause InterDigital and its licensees to change the way they

> calculate applicable rates, but that is not a reason to deter me from what I otherwise decide to be FRAND in this case."

Comparables: point of principle 5: should interest be awarded on past royalties?

95. The judge considered this issue at [546]-[552]. He began by noting that, although it was Mr Bezant's evidence that in principle past royalties should be converted to present value using a relevant interest rate to reflect the time value of money, in practice InterDigital's evidence was that it had not done this in its previous PLAs. The judge was struck by the fact that neither expert had included any interest in their calculations, although their reasons may have differed. Having noted that there were arguments both for and against awarding interest, he said that he remained undecided and would hear further argument on the point.

Comparables: point of principle 6: the role of subjective or ex post facto *views*

96. The judge considered this issue at [553]-[555]. It suffices to quote what he said at [553]:

> "I have already noted several respects in which Mr Bezant's analysis and InterDigital's case depends on InterDigital's subjective view of the PLAs it has entered into. Although some of these subjective views were formed at or near the time of a PLA (e.g. InterDigital's 'recognition' of sums which they attributed to past sales, and, it is likely, at least some of the discounts which InterDigital had decided upon internally) I remain unconvinced that other subjective views were held within InterDigital at the time PLAs in question were entered into, and in particular any notion that the various discounts applied by Mr Bezant were applied across the board in a uniform fashion. It is far more likely, in my view, that most of the evidence about the PLAs, both from InterDigital's fact witnesses and from Mr Bezant constitutes an *ex post facto* attempt to rationalise the differing terms of the PLAs in an attempt also to persuade the Court that all the PLAs are the result of a structured, uniformly applied licensing programme."

Comparables: effects of the judge's conclusions on points of principle 1-6

97. The judge proceeded to consider the effects of his conclusions on these points in a passage which it is again necessary to set out in full:

> "556. My finding that limitation periods have no role in the relationship of willing licensor and willing licensee has a profound effect on the analysis. Not only must Lenovo pay in respect of its past sales, one of the other consequences is that the two principal reasons which I have been able to discern as prompting the practice of heavy discounting of past sales have now been removed. This Court is able to determine FRAND rates on a global basis.

557. The second key finding relates to certain discounts. Again, for the reasons explained above, I have found that the scale of the volume discounts assumed to have been applied by InterDigital resulted in discrimination. Those assumed discounts in Mr Bezant's analysis were used to artificially inflate the future rates which he derived from the [lump sum] PLAs.

558. As for the other discounts …, the discounts which I find were consistent with FRAND are those which relate directly to time value of money considerations. From this point on, I will use the shorthand 'the assumed discounts' as a catch-all of all the discounts which I have found do not have a role in a FRAND analysis. Discounts concerned with the time value of money are explicitly not in the category of 'the assumed discounts'

559. All these assumed discounts were also used by Mr Bezant and InterDigital in their attempts to shore up and/or support their 'program rates' as existed from time to time. The corollary is that the InterDigital 'program rates', even those published in 2020, are not realistic indicators of FRAND rates for their SEP portfolio.

560. The third key finding is that it is necessary to set on one side any subjective views from either SEP licensor or SEP licensee. In the unpacking analysis, virtually all these subjective views came from InterDigital. In their place, the Court must employ only objective measures.

561. The combination of these three findings gives rise to a number of beneficial effects.

562. First, the limitation finding should also have the beneficial effect of removing the perverse incentive on implementers to string out licence negotiations for as long as possible, whether they succumb to that incentive or not.

563. Second, the elimination of InterDigital's subjective views, along with the limitation finding, allows me to set on one side the subjective decisions made by InterDigital as to what proportion of a lump sum which they received to attribute to the past and future.

564. Third, in turn, that allows one to avoid any artificial inflation of future rates.

565. Fourth, all three findings allow me to revert to/employ the objective measure of any PLA, favoured by the licensee in question and also favoured by other implementers wishing to understand at least something of the rates implied by recent PLAs with this SEP licensor, namely what was the total sum paid, which can be divided by the observer's best estimate of

the number of units covered by the deal to calculate, on a rough basis, the kind of rate implied by the PLA.

566. Fifth, the more that those in this market can find reliable indicators of the rate implied by PLAs, the greater the transparency in the market, a much-needed commodity."

Comparables: point of principle 7: was the effect discriminatory against Lenovo?

98. The judge held that the effect of his conclusions on points 1-6 was not discriminatory against Lenovo for the following reasons:

"567. … One of Lenovo's fairly constant refrains was to the effect that if this Court takes an approach which is different from the current practices in the SEP licensing market, it will represent discrimination against Lenovo. This submission was made with particular force in Lenovo's opposition to the idea that it would be FRAND for Lenovo to pay royalties on sales made in the periods before the UK limitation period. I do not accept that refrain or the specific submission for a number of reasons.

568. First, to accept it would solidify the existing practices. In certain respects, as I have explained, the existing practices seem to me to be based on flawed premises. To adopt them would greatly inhibit the ongoing development of FRAND in SEP licensing. It is far better, in my view, to expose the flawed premises, to correct them and to reach a determination of FRAND terms which is nonetheless consistent with what other similarly situated licensees are paying in respect of the InterDigital portfolio. That is what I intend to do.

569. Second, and relatedly, the allegation that any departure from existing practices will result in discrimination is far too crude and is, in fact, a non-sequitur. The allegation fails to take any account of what I decide is a FRAND approach. Furthermore, the findings and the approach I take in this judgment may well cause particular licensees to wish to change the terms on which they are licensed or to argue, upon renewal, for a different approach. That, however, is all a necessary part of the development of SEP FRAND licensing. Furthermore, as indicated already, it remains entirely feasible to correct the flawed premises to reach a determination of FRAND terms."

Comparables: the licence required by Lenovo

99. At [570]-[571] the judge recorded that there was no dispute that the licence which Lenovo required from InterDigital had the following major features: (a) a global licence; (b) under InterDigital's 3G, 4G and 5G portfolios; (c) with Lenovo, a major global handset/smartphone supplier; (d) covering more than a decade of past and future global sales through to the end of 2023; and therefore (e) involving payment for between 622-686 million units of which 73%-81% were past sales.

Comparables: the parties' respective cases

100. The judge summarised the parties' cases with respect to the InterDigital 20 and the Lenovo 7 and made some initial observations at [572]-[598].

Comparables: InterDigital's arguments concerning the Lenovo 7

101. At [599]-[607] the judge considered three arguments advanced by InterDigital as to why the Lenovo 7 were not relevant comparables, the third of which was that they had been depressed or distorted by various factors, and in particular hold out. The judge said that he would return to that question later, but at this stage of the analysis it was sufficient to note that there was nothing in these points which he considered disqualified any of the Lenovo 7 from being comparables.

Comparables: the InterDigital 20

102. The judge held at [609] that the InterDigital 20 were "not relevant comparable licences at all". His reasons in summary were as follows. None of the licensees was in the top 20 global handset suppliers and their volumes were not comparable to Lenovo's ([609(i)]). A number were old or had expired a long time ago ([609(ii)]). Only one of the 20 licences was a 5G licence ([609(iii)]). In many cases, the licensee's business was largely or entirely confined to one country or region ([609(iv)]). In several cases, the licensee had recently announced it was leaving the market or parts of it ([609(v)]). In three cases, the licensee enjoyed a "settlement credit" which meant that it did not have to pay the face value of the royalties in actual cash ([609(vi)]). Five of the licensees operated in specialist segments of the market ([609(vii)]). Four of the licensees were either brokers or contract manufacturers ([609(viii)]). In addition, these were not licences InterDigital had put forward in negotiations with Lenovo. By contrast, the Lenovo 7 were "clearly far better comparables, with LG 2017 standing out as the best comparable" ([611]).

Comparables: InterDigital's alternative case based on LG 2017

103. At [612]-[620] the judge considered the rates InterDigital had sought to derive from LG 2017. He held that these had "no validity" for the following reasons:

> "619. The principal reason is because these are 'future only' rates …. They are therefore inflated by the distortion created by InterDigital's subjective 'recognition' of a disproportionately low share of the lump sum consideration to past sales (itself a product of the perception that royalties for past sales would be difficult to recover, in part because of the perception that limitation periods would apply) and a disproportionately large share of the consideration being attributed to future sales. They may also be inflated by the lower figures which Mr Bezant employed for future sales, compared with Mr Meyer's estimated figures for future sales.
>
> 620. I recognise of course that for part of his analysis, Mr Meyer used InterDigital's apportionment of the consideration to past sales, as reported in their public filings. This resulted in his

> past ($0.09) and future rates ($0.61) derived from LG 2017. These are to be contrasted with his rate which blended past and future together - $0.24. As I have endeavoured to explain, I find the blended rates to be much the best figures to use, not least because they reflect the type of analysis which third parties to the PLA are able to carry out in real life (provided the PLA is large enough to be the subject of public reporting)."

Comparables: the judge's analysis of the Lenovo 7

104. Having made some introductory comments [621]-[624], the judge analysed each of the Lenovo 7 in chronological order. The salient points for present purposes can be summarised as follows.

105. *Samsung 2014* ([625]-[645]). This PLA was entered into on 1 June 2014 with an effective date of 1 January 2013 running through to 31 December 2022. Samsung was one of InterDigital's longest licensees, having taken at least three licences over the years, paying over $1bn in fees. The previous licence had expired on 31 December 2012. In January 2013 InterDigital brought proceedings against Samsung before the US International Trade Commission. By the time the PLA was agreed the trial had taken place and the decision was expected shortly. The effective date of 1 January 2013 meant that past sales were treated the same as future sales. Although Mr Meyer estimated there were sales of some [REDACTED] million units prior to the execution date of the PLA and unlicensed at the time, the parties treated them as licensed sales under the PLA ([625]-[627]).

106. Mr Meyer derived a rate of $[REDACTED] from this PLA ([630]). The judge considered that this was "slightly low" ([642]). Samsung 2014 appeared to be InterDigital's first very substantial lump sum licence ([643]). Each side faced pressure to reach a deal: Samsung faced the risk of being excluded from the US market whereas InterDigital wanted to conclude, and announce, a long-term licence with the market leader ([644]). Overall, the judge inclined to the view that "the rates derived from Samsung 2014 were somewhat depressed by the factors I have just discussed, but also when viewed against the rates derived by Mr Meyer from Huawei 2016 and Apple 2016" ([645]).

107. *Huawei 2016* ([646]-[654]). This PLA was agreed following an arbitral award which had set a worldwide rate, which Huawei unsuccessfully challenged before the French courts. It was InterDigital's first deal with a Chinese manufacturer, and InterDigital's evidence was that it was a difficult experience ([652]-[654]). Mr Meyer derived a rate of $[REDACTED] from this PLA ([647]). The judge did not accept that InterDigital had accepted lower rates to conclude a deal even though they were lower than Apple 2016 ([654]).

108. *Apple 2016* ([655]-[661]). This PLA was entered into on 8 December 2016, with an effective date of 1 October 2016 running through to 30 September 2022. Apple had a long involvement with InterDigital, and had discussed a licence even before the world knew that Apple was going into the mobile phone business. Apple contacted InterDigital in 2006 and the first PLA was circa 2007. There were several arbitrations under the 2007 licence over whether certain products were covered. The licensing position was complicated by Apple's use of suppliers licensed by InterDigital. Thus

Apple 2016 was something of a reset, putting Apple first and foremost in the product chain, so that where contract manufacturers manufactured for Apple, those products would be covered by Apple's PLA ([655]-[656]).

109. In its 2016 Form 10-K, InterDigital recognised $141.4m of past sales associated with this agreement. To take account of the past sales, Mr Meyer did not include the first payment in his analysis and deducted $141.4m from the 2017 payment. Mr Meyer did not calculate a notional rate for the past, principally because, from the data he had available, he was unable to determine the number of past sales which were covered by InterDigital's agreement with one of Apple's contract manufacturers. On that basis, Mr Meyer derived a future sales only rate of $[REDACTED] per unit ([657]-[658]).

110. Due to Apple's unique status in the market, the judge doubted that Apple 2016 was a useful comparable, but considered that "[t]he rate(s) derived from it may nonetheless be useful as indicating an upper bound". He doubted that Apple 2016 represented a depressed rate ([661]).

111. *LG 2017* ([662]-[675]). This PLA was entered into on 30 November 2017, effective from that date through to 31 December 2020, after some eight years of negotiations ([663]). LG agreed to pay $[REDACTED] million in instalments. Subject to receipt of the first payment of the licence fee, InterDigital released LG from any claims of past infringement from 1 January 2011 through to the effective date of 30 November 2017. Mr Meyer calculated the released sales at [REDACTED] million units ([666]). Mr Meyer proceeded on the basis that $34.5 million was the payment for LG's past sales as stated in InterDigital's 2017 Annual Report and the remaining $[REDACTED] million was payment for LG's future sales. Mr Bezant's split of the consideration was $40 million (past) to $[REDACTED] million (future) ([667]).

112. Mr Meyer relied on IDC data for LG's actual sales in 2017 which he then used to forecast units for the remainder of the licence term, applying growth rates consistent with contemporaneous analyst reports and IDC data, but discounted the resulting figure to present value as of the date of the licence using a discount rate of 10%. On this basis, Mr Meyer estimated total future sales as 183.27 million units, adjusted to a present value of 158.9 million units ([669]). (I note that both Mr Meyer's figures and Mr Bezant's figures give a total larger than the sum actually paid by LG, with Mr Meyer's total being the higher of the two. Although the judge does not explain why, it appears that the reason for this is that LG agreed to transfer four patent families to InterDigital which InterDigital valued at $19.7 million.)

113. Mr Meyer's acceptance of InterDigital's recognition of the proportion of the sums paid under the licence had a profound effect on the implied royalty rates for past and future sales. Mr Meyer's figures were: past rate $0.09, future rate $0.61. He also calculated an overall rate which blended past and future of $0.24 ([670]). Mr Bezant unpacked LG 2017 in a different way, which included adjusting future revenues to present value ([671]). The judge preferred Mr Meyer's unpacking of LG 2017 "because it approximates far better to what someone in the market would do with the available information" ([673]).

114. Mr Bezant drew attention to the point that, in 2017 LG's market share was similar to Lenovo's market share in 2020. He did not consider the small difference would affect comparability. The judge agreed. In that and other respects, the circumstances of LG

2017 were similar (but not identical) to the circumstances of Lenovo ([674]). InterDigital's evidence was not consistent with LG 2017 having been procured by hold out ([675]).

115. *ZTE 2019* ([676]-[687]). This PLA was entered into on 18 October 2019, effective from 1 January 2019 through to 31 December 2021. ZTE agreed to pay $[REDACTED] million in respect of [REDACTED] million units plus $[REDACTED] million by way of assignment of [REDACTED]% of ZTE's distributions from [REDACTED] plus a running royalty of $[REDACTED] per 4G unit and $[REDACTED] per 5G unit. ZTE also agreed to transfer 25 patent families to InterDigital. These were valued in InterDigital's 2019 annual report at $14 million. InterDigital released ZTE from past infringement of the licensed patents (and 2G patents) prior to 1 January 2013 and for ZTE's Nubia sales prior to 1 August 2017. Mr Meyer calculated the released unit sales as 236.69 million units ([676]-[677]).

116. Mr Meyer proceeded on the basis that, as indicated by InterDigital's 2019 Annual Report, $19.5 million was the payment for ZTE's past sales and the remaining $[REDACTED] million for ZTE's future sales. Overall, he calculated the present value as $[REDACTED] million ([679]). He derived the following unit rates: past: $[REDACTED]; future $[REDACTED]; blended $[REDACTED] ([683]).

117. The US Government had imposed sanctions on ZTE in 2017 which affected ZTE's sales globally and brought it close to bankruptcy in 2018. This meant that in 2019 there was significant uncertainty around ZTE's forecast sales. Furthermore ZTE simply couldn't pay for all their past sales given their cash-strapped situation. So the ZTE PLA had a special structure as regards past sales. Furthermore, the scope of the licence was limited to handsets and tablets and did not cover the products of Nubia, a former subsidiary of ZTE spun off in 2016 ([685]-[686]).

118. The judge concluded at [687]:

> "All these factors indicate that the rate derived from ZTE 2019 was probably on the low side, and that InterDigital were anxious to get money in from ZTE, albeit a relatively modest total compared with the bigger PLAs. For these reasons, I do not regard ZTE 2019 as a reliable comparable."

119. *Huawei 2020* ([688]-[696]). This PLA was entered into on its effective date of 23 April 2020. The experts appeared to agree that Huawei 2020 contained a release of past sales covering the period from 1 January 2019 to 22 April 2020 ([688]). Mr Meyer calculated total units sold in the release period at 358.94 million units ([691]). Proceeding on the basis of a statement to that effect in InterDigital's 2020 Annual Report, Mr Meyer considered $19.2 million as the payment for Huawei's past sales and the remaining $[REDACTED] million for its future sales. Mr Bezant's split was very similar ([692]). Mr Meyer calculated the following unit rates: past: $[REDACTED]; future: $[REDACTED]; blended: $[REDACTED] ([693]).

120. Huawei's handset business had been substantially affected by their inclusion on the export ban list in the US. This meant that Huawei's handsets were effectively off the

market except in China. InterDigital's witness Mr Grewe had accepted that the PLA was an agreement with which the parties were both satisfied ([696]).

121. *Xiaomi 2021* ([697]-[710]). Xiaomi was founded in 2011 and was not the subject of any prior licence with InterDigital. The PLA was signed on 30 July 2021 with an effective date of [REDACTED] and the term lasting until [REDACTED]. Xiaomi agreed to pay a total of $[REDACTED] million ([697]).

122. By early 2020 the parties were in litigation in China, Germany and India including an anti-suit injunction obtained by Xiaomi in China and anti-anti-suit injunctions obtained by InterDigital in Germany and India ([704]). InterDigital's evidence was that Xiaomi refused to pay for their past sales. Eventually, the parties agreed to put aside the issue of past royalties to avoid further delay and to get Xiaomi under licence. InterDigital did not adjust its forward rate to account for the fact that the past was not released. Past (and any other) unlicensed sales remained to be collected at the expiry of the term ([698]). Analysis of this PLA was also complicated by an unusual provision ([700]).

123. Mr Meyer unpacked Xiaomi 2021 on two alternative bases. First, on the basis that the entire $[REDACTED] million consideration was payment for sales made during the term. Secondly, on the basis that that consideration should be applied both to past sales from [REDACTED] (assuming that the parties had in mind a six-year limitation period) and for the sales in the term. The total sales in that period were calculated by Mr Meyer to amount to [REDACTED] million units. InterDigital did not recognise any part of the consideration as covering past sales. For that reason, for the past Mr Meyer used a royalty rate of $[REDACTED], which was his weighted average rate for the past derived from LG 2017, ZTE 2019 and Huawei 2020 ([701]-[702]). The rates he derived were: first basis (effectively future only): $[REDACTED]; second basis (blended past and future): $[REDACTED] ([705]). Mr Meyer preferred the second basis, because he said it recognised the reality that [REDACTED] ([706]).

124. The judge said at [707]:

> "I accept Mr Djavaherian's analysis of the [unusual provision] with the result that I consider Mr Meyer was correct to take the past sales into account. However, his $[REDACTED] past rate is probably too low because it reflects the InterDigital approach of recognising a low estimate of the overall consideration for the past. This inflates the future rate. Hence, his blended rate is, in my view, the more reliable figure to take from this PLA."

125. InterDigital's witness Ms Mattis accepted that the parties had ultimately reached an agreement with which they were both happy ([709]). The judge did not accept Mr Bezant's suggestion that InterDigital had agreed to a lower rate to conclude a deal ([708], [710]).

Comparables: other PLAs

126. At [711]-[721] the judge considered two other PLAs which InterDigital relied upon in support of its alternative case. These are no longer relied on and so I can pass over this part of the judgment.

Comparables: were the Lenovo 7 all the result of hold-out?

127. In this section of his judgment the judge considered "InterDigital's more general and overarching arguments about hold-out", namely that "hold out has been what has driven the volume discounting in their licensing program, the implication being that, but for hold-out, no volume discounting would be required, or not as much" ([722]).

128. The judge noted at [724] that there were two striking absences from InterDigital's evidence. The first was that there was no evidence to the effect that the Lenovo 7 could not be relied upon at all, because all those deals (and the rates implied from them) were massively affected by hold-out. Mr Merritt's evidence was to the contrary effect. The second was that InterDigital did not develop a case in the middle ground. In other words, no case was presented that the Lenovo 7 were affected by hold-out and resulted in rates which were, say, 20% below the true value. Instead, InterDigital's case was that the true value was multiples of the rates which were derived from the Lenovo 7 on a straightforward blended analysis.

129. The judge went on in an important passage which it is necessary to quote in full:

> "726. I am driven to the clear conclusion that, aside from the observations I have made based on circumstances specific to certain of the Lenovo 7 PLAs, there was no evidence of InterDigital being forced by extensive hold-out to grant discounts of 60%, 70% or 80% to the largest licensees or that the PLAs with the Lenovo 7 imply rates which are far below the true value of InterDigital's portfolio. If InterDigital had really thought those PLAs were far below the true value of their portfolio, it would not have been economically sensible to agree them. Economic sense would have pointed to litigation (and often to the *continuation* of litigation which was already on foot), even if the prospect of a Court setting global FRAND terms was not then available. It would have been worthwhile obtaining a FRAND rate for the USA for example, and then extrapolating from that to a global rate. Instead, in my judgment, the Lenovo 7 are the best group of indicators of the value of InterDigital's portfolio, precisely because they are the result of InterDigital's own assessments of the value of their portfolio for the largest licensees.
>
> 727. Having dealt with the rather extreme argument made by InterDigital, I should also consider whether the Lenovo 7 were affected by a degree of hold-out.
>
> 728. It is clear that InterDigital have been affected by a degree of hold out, but the issues are (i) whether the impact is reflected in the royalty rates in these PLAs and (ii) if so, to what extent. Hold out, it seems to me, has been a principal driver for the flexibility and creativity used by InterDigital in its licensing. As I have described, InterDigital's licensing approach has been heavily influenced by two obstacles: (a) the lack of the ability (until recently) to obtain a global FRAND ruling and (b) the

perceived influence of national limitation periods. SEP licensors now have the ability to litigate to determine global FRAND terms and, if my ruling regarding limitation is upheld on appeal, there will be much less incentive for implementers to engage in hold out. However, that second point has undoubtedly been a, or the, principal reason for the practice which has grown up of waiving or heavily discounting past royalties. Mr Djavaherian said in his cross-examination that it is a common occurrence that past royalties are either waived or discounted, whether there is a dispute or not. Nonetheless, the influence of those two points continues to be reflected in InterDigital's approach to licensing.

729. Against that, InterDigital are a large licensing organisation with ample funds to spend on litigation. In one sense, InterDigital and other SEP licensors have received something of a windfall from the very large increase in cellular device volumes over the years. In short, it is more than able to look after itself. It is not shy of litigating and, most of the time, it is able to choose the forum in which it brings the claim. Furthermore, InterDigital has developed ways to cope with the two obstacles I mentioned above, and this has led to considerable distortion, particularly in future rates which can be derived from their PLAs.

730. I should also take account of the point in InterDigital's licensing at which I am considering the influence of hold out. Contrast the present situation with a hypothetical earlier situation:

i) The hypothetical earlier situation sits before any of the Lenovo 7. InterDigital bring proceedings against one of the top 10 handset manufacturers to determine FRAND terms (assuming no ITC proceedings because an exclusion order can distort the negotiating dynamic). I am not sure it matters whether the claim was for the US alone or an early attempt at global terms because either way, InterDigital would make the argument that there is widespread hold out which has depressed rates generally across the industry. As usual, the Court would have to do the best it could to decide on FRAND terms and to decide whether hold out had depressed rates.

ii) In the present situation, InterDigital now has a considerable body of PLAs, including the Lenovo 7 i.e. PLAs with some of the largest implementers.

731. It seems to me that, having concluded seven PLAs with some of the largest implementers, there is force in Mr Meyer's suggestion that InterDigital has now established something of a

'market rate' for their portfolio. It also seems to me there must come a point at which the allegation of hold out ceases to have force. Against that, InterDigital would no doubt argue that a degree of hold out has been baked into their PLAs.

732. If a degree of hold out has been baked in, the final issue is how to quantify it. This takes me back to a point I have already discussed in paragraph 724.ii) above. In their case, InterDigital went for the jackpot, so to speak. InterDigital's alternative case, based on LG 2017, was put on the same basis. InterDigital did not offer a more modest alternative case, because the mere presentation of such a case would have severely undermined their main case. If a party takes that course, there is some authority to the effect that it cannot thereafter complain if the Court fails to deal with the case as sympathetically as it might have done (cf. *Senate Electrical Wholesalers Ltd v Alcatel Submarine Networks Ltd* [1998] EWCA Civ 3524 at [50]-[55]). I recognise, however, that the point in *Senate* was made in litigation between and which only affected the two parties. FRAND determinations are different, because they have the potential to affect the SEP universe, but the Court can only make a FRAND determination on the evidence put before it.

733. I realise that a top-down cross check *might* be a way of quantifying the degree of hold out which a SEP licensor has experienced, provided the cross check was persuasive. However, the top-down cross check presented by InterDigital attempted to support its jackpot case and, for the reasons explained in the next main section of this Judgment, I did not find it persuasive in any of its guises. I also note that, in none of its guises, did the top-down cross check attempt to present a more modest alternative case.

734. I do not consider that any of the analyses presented by Mr Bezant or Mr Meyer assist me to identify whether a degree of hold out has been baked into the Lenovo 7 (or any of them), or how to quantify it. However, I will continue to take into account where I have found that the rates derived from some of the Lenovo 7 are on the low side, due to pressures on InterDigital."

Comparables: Mr Meyer's three adjustments

130. The judge considered Mr Meyer's three adjustments in turn at [735]-[792]. Since there is no challenge to his assessments I can take this briefly.

131. *Sales distribution by cellular standard*. There was no dispute as to the principle of this adjustment, but the experts differed as to how it should be done. The judge considered that Mr Meyer's approach was the better one ([746]).

132. *Sales distribution by geography relative to emerging markets*. Again, there was no dispute as to the principle of this adjustment, but the experts differed as to how it should be done. Although the judge did not accept a number of criticisms made by Mr Bezant and InterDigital of Mr Meyer's approach, he did accept two points:

> "759. InterDigital's third point has force, and I must attempt to eliminate so-called double-counting. As Mr Bezant put it: lower average ASPs in Mr Meyer's Emerging markets are partly driven by a higher proportion of lower generation devices being sold in those markets, where that difference in the sales mix is already taken into account in Mr Meyer's first adjustment.
>
> 760. I must also ensure that, to the extent that I adopt any part of Mr Meyer's analysis, the place of manufacture and place of sale are taken into account. In this regard, I must keep in mind that Lenovo manufacture their handsets primarily in China, Brazil and India, whereas their PC business also use facilities in Japan and Mexico."

133. *Sales distribution by geography relative to patent coverage*. The judge considered that a FRAND approach ought, at least in principle, to take account of differences in national patent strength, but recognised that parties agree a single world-wide rate which takes into account these differences and all other factors ([764]).

134. Mr Meyer dealt with past and future separately, and applied adjustment ratios to them separately before calculating a weighted average. While the judge understood this approach, he did not consider that it produced a result which was safe to rely on ([771]).

135. *Weighting*. The judge set out his assessment at [788]:

> "Although initially I distrusted Mr Meyer's weighting exercise, I came round to the view that it was a better method than taking any sort of simple average from the six licences. However, it is unnecessary to consider his weighting system any further because I am satisfied it is too crude an approach. In my view, his weightings have the effect of placing far too little weight on the best comparable, LG 2017. Furthermore, his weightings do not allow account to be taken of the individual circumstances of each PLA, nor what was happening in the handset market generally over the periods in question, in particular, the reality that rates change over time."

136. *Overall*. The judge concluded that, if adjustment 1 was applied, there was a degree of overlap in the application of adjustments 2 and 3 on top of adjustment 1. Furthermore, Mr Meyer's approach was, in certain respects, too crude ([791]).

Comparables: conclusions

137. The judge set out his conclusions at [793]-[814]. He rejected all of the InterDigital 20 as relevant comparables ([793]). Of the Lenovo 7, LG 2017 was "the best comparable and the best place to start" ([794]). Since it was not without certain problems, it was necessary to examine whether and to what extent to take into account the rates implied from the other six ([794]).

138. As to those:

i) Caution was required regarding Samsung 2014. There was reason to believe that the rate(s) implied by the Samsung licence were "somewhat lower than the FRAND rate for InterDigital's SEP portfolio in 2014" ([795]).

ii) Although Huawei 2016 was overtaken by Huawei 2020, the rate which Mr Meyer derived from it of $[REDACTED] acted as "something of a counterbalance to Samsung 2014" ([796]).

iii) Apple 2016 "was an outlier and really only useful as indicating an upper bound". The judge was "inclined to place minimal weight on Apple 2016" ([797]).

iv) LG 2017 indicated the same rate as Huawei 2016 of $[REDACTED]. Mr Meyer's rate of $[REDACTED] for ZTE 2019 was "on the low side". Mr Meyer's rate of $[REDACTED] for Huawei 2020 was "also low". Mr Meyer's rate for Xiaomi 2021 was $[REDACTED] ([798]).

v) The lower rates derived from Huawei 2020 and Xiaomi 2021 were consistent with the gradual decrease in InterDigital's rates over time and possibly also with InterDigital's lower share of the 5G SEP universe ([799]).

139. Another aspect of the Lenovo 7 was the change in the mix of generations over time ([800]-[802]).

140. The judge favoured applying different rates to three different periods of time: 2007-2011, 2012-2018 and 2019-2023 ([803]-[804]).

141. For the period 2012-2018, LG 2017 was "plainly the best comparable". Samsung 2014 was too low, Apple 2016 was an outlier and ZTE 2019 was not particularly reliable. The Huawei 2016 rate was consistent with the rate derived from LG 2017, but in other respects Huawei 2016 was far less useful as a comparable because Huawei had a very different sales mix and geographical spread ([805]). LG's sales mix in this period was very close to Lenovo's. Accordingly, the most important adjustment was to reflect the split between developed and emerging markets. Mr Meyer had calculated an adjustment ratio of 0.728 for this. The judge declined to make any separate adjustment to reflect patent coverage. He applied a single adjustment ratio of 0.728 to reflect all the differences between LG and Lenovo, which brought Mr Meyer's LG 2017 rate of $0.24 down to $0.175 ([806]-[807]).

142. For the period 2019-2023, LG 2017 was "still clearly the best comparable not least because the sales mixes remain almost identical, whereas the sales mixes under

Huawei 2020 and Xiaomi 2021 are very different". The judge applied the same rate of $0.175 ([808]-[809]).

143. In respect of the earlier period of 2007-2011, LG 2017 only provided sales data for 2011. ZTE 2019 was the only lump sum PLA which provided sales data going back to 2007. In the absence of reliable data, the judge applied the same rate as for 2012-2018 ([810]).

144. In conclusion:

> "811. Although I have found the three periods useful for the purposes of comparison and analysis, and potentially they could have given rise to different rates, I have decided to apply the same rate across all three periods. I am conscious that I have, in the end, relied on a single comparable, but, for the reasons I have explained, I do not regard any of the other Lenovo 7 as assisting. Each one was more different to Lenovo's situation than LG 2017, in some cases, significantly so.
>
> 812. Finally, I remind myself of the task in hand. It is to determine what a willing licensor and a willing licensee would agree by way of FRAND terms, in this context a lump sum, to cover the period from 2007 to the end of 2023. In this context, InterDigital's start date of 1st January 2018 is irrelevant.
>
> 813. With my decisions on the points of principle in mind, I consider the willing licensor and willing licensee would agree a single per unit rate which would reflect all the considerations I have discussed above. I conclude that rate is $0.175 per cellular unit.
>
> 814. The calculation model provided to me by the experts included sales figures for Lenovo going back to 2007. The $0.175 rate yields a lump sum payment of $138.7m."

InterDigital's top-down cross-check

145. The judge considered this at [815]-[886]. He began by explaining at [815]-[816] that InterDigital's top-down case was advanced as a cross check for their primary comparables case. It started with the notion that the cumulative value of all the royalties which would be paid in an ideal (hold out-free) world on FRAND terms in respect of each generation of technology should not exceed a certain reasonable maximum value. The next stage in the argument was that, if one could assume or assess that maximum value for a particular generation, then a reasonable royalty for each licensee to charge could be deduced by reference to that licensee's proportion of the total universe of patents which were assessed as essential to the standard. InterDigital acknowledged that this approach assumed that all such patents were equally valid (or that each portfolio had an equal proportion of assessed essential patents which were valid), and that each such patent was of the same technical benefit. InterDigital also acknowledged that this was a simplification.

146. The judge went on:

> "821. How this operates as a cross-check is that one takes a posited InterDigital royalty rate and multiplies it up in proportion to InterDigital's share of the universe of patents assessed as essential for that generation of technology. This generates an implied royalty for the total stack (referred to as the 'aggregate royalty burden' or ARB_{TOTAL}). As InterDigital submitted, the calculation is simple:
>
> $ARB_{TOTAL} = ARB_{InterDigital} / Share_{InterDigital}$
>
> 822. The appropriateness of the ARB_{TOTAL} can then be assessed, so the argument goes, by reference to other statements of the approximate size of the ARB_{TOTAL}, either from third parties or from the hedonic regression analysis which formed the major part of this top-down case."

147. At [826]-[839] the judge considered five patent counting studies relied on by InterDigital, four of which were prepared by PA Consulting, and the fifth by the Cyber Creative Institute. After explaining the nature of these studies, and outlining Lenovo's criticisms of their validity and usefulness, the judge concluded:

> "838. For reasons which appear below, it is not necessary for me to resolve all the myriad points raised and responded to in the closing submissions on the patent counting studies. Without deciding any of those points or the reliability generally of these patent counting studies, I am prepared to assume that, subject to the critical assumption I have already identified, they provide estimates of InterDigital's share of the assessed handset SEPs attributable to each generation of technology.
>
> 839. Thus I will proceed on the basis of the InterDigital shares provided by the five studies as summarised below:

Report	PA 3G	PA LTE	PA LTE-A	CC LTE	PA 5G
IDG Share	9.5%	9-13%	10%	7%	4%

"

148. At [840]-[879] the judge considered, and rejected, the hedonic regression analysis relied on by InterDigital. Since it is no longer relied upon by InterDigital, I can pass over this.

149. The judge then turned to InterDigital's alternative case:

> "880. If I leave the hedonic price regression out of account, as I have done, that leaves a much simpler top-down case. As pleaded, it is a comparison between the implied royalty rates for each generation against certain public statements. In *UPHC*, Birss J. placed reliance on the decision of the IP High Court in Japan in *Samsung v Apple* in which the Court used an aggregate

royalty burden of 5% for 3G. The rates which Birss J. found resulted in implied total royalty burdens of 5.6% for 3GMM and 8.8% for 4GMM, which he considered fell within an appropriate range. InterDigital also referred to the range of 6-10% which Judge Selna adopted in *TCL v Ericsson* and I have referred to the total royalty burdens used by the Chinese Court in *Huawei v Conversant.*

881. However, I remain unpersuaded by any part of InterDigital's top-down analysis. The principal reason is because of InterDigital's overall contention that the top-down analysis supported the rates in their 5G Extended Offer. Since the comparables analysis does not provide any support for those rates, and I have found those rates to be inflated and discriminatory, the results of the comparables analysis represent a solid reason for dismissing InterDigital's top-down cross-check as pleaded."

150. Having mentioned some additional problems with InterDigital's contentions, the judge went on:

"884. Overall, in view of my clear rejection of the way in which InterDigital's rates were derived, it is not necessary for me to locate all the possible problems. It suffices to note that over 97% of the cellular units licensed by InterDigital are licensed at rates which are multiples less than even the rates which InterDigital sought to derive from LG 2017.

885. I realise that my conclusion may imply that the patent counting studies on which InterDigital relied are not a reliable guide to the value to be attributed to their portfolio, but there are many reasons why that might be the case. It may also be the case that other inputs (e.g. the ASPs) were inappropriate. It is not necessary to explore those reasons any further."

Conduct

151. The judge considered this at [886]-[943]. He began at [887]-[896] by summarising the negotiations between InterDigital and Lenovo. At [897]-[926] he summarised and then discussed the 14 offers which had been made by InterDigital and the two which had been made by Lenovo. He concluded that a reasonably clear overall picture emerged:

"922. From InterDigital's side, it is clear they put forward numerous offers. In doing so, InterDigital were using the full suite of mechanisms and levers they had developed to persuade implementers to reach a deal. With the possible exception of InterDigital's November 2018 offer (which, as noted above, InterDigital expressly deny was representative of the FRAND range, and characterise as a 'last resort' offer made after 10 years of attritional negotiation), it is clear, in my judgment, that all the offers made and the positions adopted by InterDigital were too high and, in my judgment, outside the FRAND range.

923. From Lenovo's side, with the benefit of the information revealed in this trial, it is clear that Lenovo were justified in seeking further information and/or assurances about the rates which other, similarly situated, implementers were paying. In this regard, it is clear to me that InterDigital's reliance on the confidentiality of the PLAs with companies like Samsung, Apple, Huawei and LG was less than helpful, let alone transparent. Furthermore, InterDigital's reliance on the publicly available information from their SEC filings shows how what I regard as the somewhat creative accounting behind those filings and the presentation of 'representative figures' can be used to mislead.

924. For example, take the four implied rates presented by InterDigital in their September 2018 presentation. A simple average of those rates is $0.415[.] If negotiations had focussed on those rates, I have no doubt that InterDigital would have argued that the Samsung rate was depressed, and that the other three rates were more representative, almost certainly yielding a rate for Lenovo in the high 40s in terms of cents per unit. This would have been a rate which is more than double what I have found to be FRAND.

…

926. As I have pointed out above, one of the benefits of the points of principle which I found necessary to decide is that the need for this type of creative accounting ought to disappear, there being far less or no justification for heavy discounting of past sales, leading to disproportionate allocation of lump sums received to future sales, thereby creating inflated future rates which are then used to justify higher than FRAND demands. I have not lost sight of the accounting practice under which InterDigital operated, but one would hope that in future, public disclosures of lump sum deals could be much more straightforward, giving the industry the information they work on: total consideration paid with the number of units involved (often forecast)."

152. The judge considered whether InterDigital was a willing licensor at [927]-[928], concluding at [928]:

> "Overall, however, I am driven to the conclusion that by consistently seeking supra-FRAND rates, InterDigital did not act as a willing licensor."

153. The judge considered whether Lenovo was a willing licensee at [929]-[938]. He concluded that, although "Lenovo did drag their heels on occasion and to that extent, did not act as a willing licensee" [931], "for most of the period of negotiations, my

conclusions imply that Lenovo were correct not to agree to any of InterDigital's offers or positions and justified in seeking information. So, for the most part, Lenovo did conduct themselves as a willing licensee" ([932]). Once Lenovo had been found to infringe a valid SEP at Trial A, however, it did not act as a willing licensee because it failed to undertake to take a licence on the terms to be determined by the court as FRAND ([934]).

154. The judge considered the consequences of his findings at [939]-[943]. In short, he proposed to put Lenovo to its election as to whether to take a licence on the terms he determined to be FRAND or to be restrained by injunction from infringing the InterDigital patents that had been determined to be valid and infringed.

Overall conclusions

155. The judge's expressed his overall conclusions as follows:

> "944. The result of my comparables analysis above is that the lump sum which Lenovo must pay to InterDigital for a FRAND licence down to 31.12.2023 is $138.7m.
>
> 945. I find no value in InterDigital's Top-Down cross-check in any of its guises.
>
> 946. Based on the outcome from my comparables analysis, I find that neither InterDigital's 5G Extended Offer nor Lenovo's Lump Sum Offer were FRAND or within the FRAND range.
>
> 947. In large part, I reject InterDigital's case on conduct. Ultimately, however, Lenovo will be put to their election, at which point they will demonstrate whether they are a willing licensee or not."

Postscript

156. By way of a postscript, the judge made some observations about the case management of FRAND trials at [948]-[956]. He also recorded the undertaking given by Lenovo on 6 March 2023 at [957].

<u>The FOO judgment</u>

157. The FOO judgment runs to 179 paragraphs and 42 pages. The only part of it that is relevant for present purposes is the section dealing with interest. Since the judge's conclusion is challenged by Lenovo, I must set out his reasoning fairly fully.

158. As the judge explained at [4]-[13], when he handed down the main judgment the judge gave directions that each side should serve a statement of its case on interest. In addition Lenovo served a fourth report from Mr Meyer.

159. InterDigital's position was that interest should be awarded at the rate of 4% compounded quarterly, which was the rate which had been agreed between the parties for late payments under the draft licence to which their pleaded cases had been directed. On the principle of including interest, InterDigital relied on the fact that it

was common ground between Messrs Bezant and Meyer that the economically correct approach was to convert past royalties to present value using a relevant interest rate to reflect the time value of money. Mr Djavaherian had also opined that the detrimental effects to the licensor of delay could be addressed, at least in part, through the payment of interest.

160. As for the rates:

> "9. Annexed to InterDigital's Statement of Case was a schedule showing the rate and type of interest in all the comparable licences. There was significant variation - the rates vary between 3 and 18%, on bases varying between simple interest and interest compounded monthly, quarterly and annually. Perhaps the most common combination was 10% compounded annually, but there was no discernible pattern, aside from renewals carrying the same interest as before. A table showing the rates in the Lenovo 7 was also presented, but those data presented no consistent picture at all.
>
> 10. As for the rates specifically referred to:
>
> i) It is true that in the draft licence, the parties had already agreed interest on late payments should be 4%, compounded quarterly;
>
> ii) Attention was drawn to the fact that Mr Meyer applied a discount rate of 10%, a figure supported by evidence from Mr Brezski who said in his witness statement that InterDigital has generally applied time value of money discounts reflecting InterDigital's weighted cost of capital at a rate of 10.5%.
>
> iii) InterDigital also relied on their cost of debt of 5%, also applied by Mr Meyer.
>
> iv) In their Reply Statement of Case, InterDigital asserted that their cash and short-term investments were raised in part by debt, principally through the issue of convertible bonds issued in 2011 of $230m with an effective rate of interest of 7%, 2015 of $316m at 5.89% and 2019 of $400m at 6.25%. This was in response to the data set out in Lenovo's Statement of Case which detailed the figures for 'Cash on Balance Sheet' and 'Cash/Short term investments' drawn from InterDigital's financial statements from December 2007 to December 2021. Those combined figures went above $1bn in December 2013 and continued to rise to $1.64bn in 2021. These data were relied upon by Lenovo in support of their allegation that, had any sums been paid over at an earlier date, they would have just been added to the short-term balances and further, that

> InterDigital had not pleaded or proved that it made any losses as a result of payment being delayed. InterDigital's reply to those allegations was to the effect that it was necessary for their business to carry such large short-term balances in case there was delay in a major licensee renewing their licence."

161. Lenovo contended that (i) there was no power to award interest, alternatively (ii) it would not be FRAND to award interest in the circumstances of this case, alternatively (iii) if any interest was to be awarded, the most that should be awarded was the Bank of England base rate +1% on a simple basis from November 2018.

162. The judge considered the arguments at [14]-[34]. He began by observing:

> "15. In terms of the jurisdictional basis to award interest, the basis is the FRAND obligation in the ETSI IPR Policy. Therefore, the question is whether it is FRAND to award interest or, to put it another way, would the willing licensor and willing licensee agree that interest should be payable on 'past royalties'?
>
> 16. The argument in favour of an award of interest starts with this consideration: if a sum of money should have been paid over in the past, whether in 2011 or 2015, one's natural instinct is to say, of course interest should be paid to compensate the person who has not had the use of the money in the intervening period. However, it is important not to isolate the question of interest from the whole FRAND analysis which I undertook in the Main Judgment."

163. Having briefly summarised the way in which he had arrived at the lump sum of $138.7 million, the judge went on:

> "18. All of that analysis was based on the single best comparable (see [811]) - LG 2017 and on my conclusion that there was no evidence the resulting lump sum was procured or influenced by hold-out (see [675] and [722]-[734]). On that basis, the LG 2017 lump sum can be taken to have been considered FRAND or at least in the FRAND range (i.e. appropriate compensation) by InterDigital for royalties on LG's sales from 2011 through to 31 December 2020, including the more than 6 years past sales (1st January 2011-30th November 2017).
>
> 19. That conclusion (that the lump sum was appropriate compensation) holds notwithstanding the way in which InterDigital subsequently decided to apportion that lump sum as between past and future. It will be recalled that, when deriving separate rates for past and future, Mr Meyer adopted InterDigital's apportionment between past and future. That resulted in Mr Meyer's per-unit rates derived from LG 2017 of $0.09 for the past and $0.61 for the future. His overall rate which blended past and future was $0.24. The per-unit rate for

Lenovo of $0.175 was derived from that $0.24 by making suitable adjustments for the differences in position between LG and Lenovo.

20. Mr Meyer's blended rate was derived over the period from 2011 through to end 2023. 'Future' royalties (i.e. paid in respect of unit sales after 30 November 2017) were discounted for accelerated payment, using the mid-year convention, at a rate of 10% per annum. Mr Meyer applied no discounting factor (or equivalent) for the past.

21. As was to be expected, Mr Meyer adopted exactly the same approach when it came to Lenovo's sales. Future sales were discounted at 10% per annum and no adjusting factor was applied to any past sales. The consequence is clear: on Mr Meyer's analysis, the unit sales in each year (take, by way of example, 2011) is multiplied by my derived rate of $0.175. If Lenovo had been under a running royalty licence, Lenovo would have been obliged to pay four payments (amounting (I assume) to the resulting annual figure), each one payable shortly after the end of each quarter. This analysis points firmly in favour of interest being required to be charged at an appropriate rate."

164. As for the countervailing argument that no interest should be awarded because, to the extent that it mattered, it had already been accounted for in the analysis in the main judgment, the judge rejected this for three reasons:

"23. First, this argument starts from the point made in paragraph 18 above. It could be said that, to the extent that interest was significant to InterDigital, it was included in the lump sum agreed for LG. If that is right, the argument would be that it follows that, by relying on the LG 2017 lump sum and calculating from it, the lump sum of $138.7m also includes such sum as is appropriate for interest.

24. However, the fallacy in that argument is obvious when one recalls the way in which InterDigital approached past sales - see in my FRAND Judgment, [391]-[426] and [546]-[551]. In short, because InterDigital discounted past sales so heavily, interest did not feature in their approach.

25. Second, it is necessary to consider whether an award of interest should be incorporated into the analysis. I am conscious that the treatment of past sales in my FRAND Judgment is different to the way in which InterDigital accounted for past sales in recent years. If my analysis is upheld, it is likely that InterDigital will have to modify its licensing approach. If it does so, I consider it is inevitable that InterDigital will charge interest on those sums which should have been paid in respect of past sales. It might be said that InterDigital will do that in

any event in order to maximise their revenue, so it is a point of little weight.

26. Third …

28. … in amongst my decisions on the points of principle, at [552] I expressly reserved the issue of interest for further argument. So my determination of the lump sum of $138.7m took no account of interest and does not preclude an award.”

165. The judge concluded as follows:

“29. Overall, it seems to me that there are several pointers towards an award of interest being appropriate, not least that the application of the rate of $0.175 to the sales made by Lenovo in, say, 2011, indicates that Lenovo should have paid and InterDigital should have received the relevant royalties in that year (or shortly after), and should be compensated now for the delay in receipt of those sums. I also conclude that there are no pointers against. Accordingly, I conclude InterDigital are entitled to an award of interest on the sums making up past royalties in the lump sum of $138.7m.

30. That leaves the issue of interest at what rate. Having considered all the various rates which InterDigital put forward, I award interest at the rate agreed between these parties in the draft Licence i.e. 4%, compounded quarterly. I see no justification for any higher rate or for simple interest.

31. Lenovo submitted that InterDigital should be deprived of interest, or any rate should be reduced, due to their conduct, as found in my FRAND Judgment. The argument seemed to be founded on the Court’s discretion to award interest. It seems to me that this argument confuses two separate things namely: first, the question of what is FRAND and second, the process of determining what is FRAND. The inclusion of interest is part of the first question and it is difficult to see how it should be affected by issues over the process which can be reflected in costs. I do not rule out the possibility that in an extreme case, a Court might consider it right to deprive a licensor of interest but that is not this case. Accordingly, I see no reason to award interest at a lower rate.

32. The calculation model, amended to include interest at 4%, compounded quarterly, yields an interest payment of $46.2m. When added to the lump sum, the total payment which Lenovo must pay to InterDigital for a FRAND licence from 2007 to the end of 2023 is $184.9m.

33. Having reached that conclusion, there are some additional points I should mention. First, the possible countervailing

> points I mentioned at [551] did not dissuade me from my conclusion to award interest. Second, Lenovo argued that an award of interest would encourage SEP licensors to make excessive demands in the knowledge that, even if the Court does not agree with the SEP licensor's demands, he still walks away with interest. I do not regard this risk as significant. Any implementer who considers they are being held up by excessive licensor demands is able to protect their position by (a) (at least in part) making payments on account and/or (b) initiating proceedings for a FRAND determination, in which a licensor which maintains excessive demands can be expected to be paying costs.
>
> 34. Finally, in the slightly unusual circumstances of this case, it could be said that Lenovo got away with a low rate in the early years (2007-2011), largely due to a dearth of evidence which enabled me to move away from the $0.175 rate I derived for the period from 2012-2018. I applied the same rate across all years, for the reasons summarised in paragraph 17 above. I also noted that I favoured applying different rates to different periods of time, but that was a consequence of noting some overall trends in licensing rates over the years - see in my FRAND Judgment [318] & [319]. In view of those generally downward trends, my expectation is that if a FRAND rate had been agreed between these parties back in 2012, covering 2007-2012, it is likely that it would have been somewhat higher than $0.175, although by how much is a matter of speculation. I observe that my award of interest may compensate InterDigital to some degree."

<u>InterDigital's grounds of appeal</u>

166. InterDigital has four grounds of appeal, permission for which was granted partly by the judge and partly by myself. Ground A is that the judge derived the wrong dollar per unit rate from the LG 2017 licence because he failed to correct for non-FRAND effects which he found had affected past sales. Ground B, which is dependent on Ground A, is that, for the same reason, the judge did not correctly adjust the dollar per unit rate he derived from LG 2017 when determining the FRAND rate for Lenovo. Ground C is that the judge was wrong to reject the simpler of the two top-down cross-checks relied upon by InterDigital as being of value when determining the FRAND rate for Lenovo. Ground D is that the judge should have found, and declared, that InterDigital was a willing licensor. Grounds B-D are all predicated upon the success of ground A.

<u>Lenovo's grounds of appeal</u>

167. Lenovo has two grounds of appeal, permission for which was granted by the judge. The first is that the judge was wrong to require Lenovo to pay royalties in respect of sales prior to the third quarter of 2013. The second is that the judge was wrong to require Lenovo to pay interest as he did: he should not have required Lenovo to pay interest at all, alternatively he should have done so at a lower rate, simple interest

and/or for a shorter period. Although these grounds were argued by way of cross-appeal, I find it more convenient to address them first.

Standard of review on appeal

168. It is common ground that the judge's decisions on the points in issue on the appeals were multifactorial evaluations of a kind which a trial judge is peculiarly well placed to carry out whereas an appeal court is inevitably at a disadvantage. Accordingly, where no question of principle is involved, an appellate court should be very cautious in differing from the judge's evaluation. This does not mean that the appeal court is powerless to intervene where the judge has fallen into error. It may intervene if the judge has made a significant error of principle, or if the judge's decision was wrong by reason of an identifiable flaw in the judge's treatment of the question to be decided, such as a gap in logic, a lack of consistency, or a failure to take into account some material factor, which undermines the cogency of the conclusions: see *Lifestyle Equities CV v Amazon UK Services Ltd* [2024] UKSC 8, [2024] Bus LR 532 at [46]-[50] (Lord Briggs and Lord Kitchin).

169. As Lenovo points out, these considerations apply with particular force to the comparables part of the case. As Nicholls LJ said in *Smith Kline & French Laboratories Ltd's (Cimetidine) Patents* [1990] RPC 203 at 250:

> "The complexities and uncertainties involved in cases such as the present appeals are formidable. In such cases the exercise is bound to be one in the carrying out of which different minds may readily reach differing conclusions, according to the weight which different minds consider ought fairly to be given to the various features of the case. An example of this is the extent to which rival comparables advanced by SK&F and the applicants assist in the present case. Inevitably there are points of resemblance and points of distinction in almost all comparables. The weight to be attached to these various points, and the conclusion on the degree of assistance a particular comparable affords, are matters which lie in the judgment of the tribunal to whom the calculation has been entrusted."

Lenovo's ground 1: the relevance of limitation

170. Lenovo says that the judge's conclusion that Lenovo should be required to pay for all past sales as part of the terms he determined to be FRAND was unprecedented and wrong. Lenovo contends that it was flawed for reasons of both principle and fact. The judge should have held that no payment was required in respect of sales more than six years prior to the commencement of proceedings, six years being the relevant limitation period in many jurisdictions. In any event, the judge could and should have ruled as to the irrelevance of limitation only prospectively. As a result, the judge should only have awarded a lump sum of $108.9 million.

Lenovo's points of principle

171. Lenovo relies on five points of principle concerning limitation periods. First, limitation periods are a feature of most legal systems. They serve several important

purposes, namely to ensure legal certainty and finality, to protect potential defendants from stale claims which might be difficult to counter, and to prevent the injustice which might arise if courts were required to decide upon events which took place in the distant past on the basis of evidence which might have become unreliable and incomplete because of the passage of time: see *Stubbings v United Kingdom* (1997) 23 EHRR 213 at [49] and *Ashe v National Westminster Bank plc* [2008] EWCA Civ 55, [2008] 1 WLR 710 at [12] (Mummery LJ).

172. Secondly, limitation periods recognise that the onus is on a claimant to enforce a valid cause of action: see *Board of Trade v Cayzer, Irvine & Co* [1927] AC 610 at 628 (Lord Atkinson). The claimant can stop time running by commencing proceedings.

173. Thirdly, the mere fact that negotiations have taken place between a claimant and a person against whom a claim is made does not debar the defendant from pleading a statute of limitation, even though the negotiations may have led to delay and caused the claimant not to bring his claim until the statutory period has passed: see *Hewlett v LCC* (1908) 72 JP 136 and *Deerness v John R Keeble & Son (Brantham) Ltd* [1983] 2 Lloyd's Rep 260.

174. Fourthly, the operation of limitation periods is necessarily blind to the merits of a given case (although statutory qualifications such as those for claimants who are under a disability do reflect the merits of certain types of case being excepted from the ordinary operation of limitation).

175. Fifthly, the English courts apply foreign limitation periods when dealing with causes of action arising under a foreign law. In some foreign jurisdictions, limitation periods are substantive rules which extinguish the right in question, rather than simply barring the exercise of a particular remedy.

176. Based on these points of principle, Lenovo argues that it is neither fair nor reasonable to ignore the impact of limitation periods when determining the period in respect of which royalties should be paid under a licence. If a court is called upon to determine a global FRAND licence which includes a past release, it is therefore right in principle to operate on the basis that the only sales for which payment is required are those which would not be time-barred. In practice, Lenovo contends that the industry achieves this not by applying each individual jurisdiction's limitation period, which varies from jurisdiction to jurisdiction, but rather by working on a broad assumption of a six-year period.

177. Lenovo submits that the judge wrongly failed to give effect to these principles. In particular, he failed to recognise the policy objectives served by limitation periods, that there was no obstacle to InterDigital filing a claim against Lenovo at any time between 2008 and 27 August 2019 and that it was irrelevant that the parties were in negotiations for most of this period.

178. Lenovo also relies on two further arguments which are said to be based on points of principle. The first is that the recognition in FRAND terms of a cut off incentivises parties to reach agreement within a specified and predictable period. Lenovo argues that the judge's solution creates a perverse incentive to SEP licensors to make excessive demands in the knowledge that they bear no risk from the passage of time.

179. The second is that the courts have repeatedly stressed that, in view of the global nature of the jurisdiction, it is appropriate that an English court when setting global FRAND royalties takes into account the laws, approaches and determinations of relevant foreign jurisdictions. Lenovo argues that it is inconsistent with that approach, and with the objective of obtaining a holistic global determination of the FRAND terms, to ignore how past sales in affected foreign jurisdictions would be treated under the relevant foreign laws and approaches. Lenovo also argues that the judge's approach would encourage forum shopping.

Lenovo's points on the facts

180. Lenovo argues that the judge's decision that Lenovo should pay royalties in respect of all past sales was unsupported by the evidence and ignored facts that were either common ground or found by the judge.

181. First, InterDigital never pleaded any claim that Lenovo should pay royalties in respect of all past sales. Moreover, InterDigital's extensive valuation evidence was all compiled on the basis that sales more than six years prior to the licence period would not attract value in setting a past release payment. This was consistent with Mr Brezski's evidence that InterDigital regarded sales lying more than six years in the past as irrevocable. The possibility of adopting a different approach was first floated by InterDigital in its opening skeleton argument for trial, and developed thereafter.

182. Secondly, it was common ground between the parties that the existence of limitation periods is, in fact, taken into account in real-world negotiations.

183. Thirdly, InterDigital chose not to sue Lenovo until August 2019 even though it pursued other implementers during the whole of the relevant period.

184. Fourthly, on the judge's findings, the length of time taken attempting to negotiate a FRAND licence was largely attributable to InterDigital's unfair and unreasonable conduct. InterDigital had (i) sought supra-FRAND royalties, (ii) failed to provide Lenovo with sufficient information properly to evaluate its offers until disclosure in these proceedings and (iii) had sought an unqualified injunction on the baseless ground that Lenovo was an unwilling licensee. InterDigital should not be insulated from the consequences of such conduct by recovering royalties on all past sales, but on the contrary should only be paid royalties in respect of sales from six years before the commencement of proceedings.

Prospective ruling

185. Finally, Lenovo argues that the judge was wrong to apply his determination retrospectively in the present case, and should have exercised the power to make a ruling which is only prospective in effect recognised in *In re Spectrum Plus Ltd* [2005] UKHL 41, [2005] 2 AC 680.

Analysis

186. In my judgment the judge was correct to rule that limitation periods have no part to play in the assessment of FRAND terms for the reasons he gave at [521]-[533] (quoted in paragraph 93 above), which are supported by his reasoning at [540]-[545]

(paragraph 94 above), and therefore to require Lenovo to pay royalties in respect of all past sales.

187. The starting point is that the court is determining what terms are FRAND for a licence of InterDigital's SEP portfolio to Lenovo. An implementer such as Lenovo requires a licence from the first day it implements the relevant standard(s). FRAND terms are the terms that would be agreed between a willing licensor not intent upon hold up and a willing licensee not intent upon hold out. The ETSI Guide and FAQs page make it clear that a willing licensee would not sit back and wait for demands from SEP owners, but would pro-actively contact SEP owners (whose identities can readily be ascertained from ETSI), and would put money aside for the payment of royalties (see paragraphs 34-38 above). It follows that, in an ideal world, the parties should be able to agree terms not long after the implementer has started implementing the standard, or at all events before the expiry of six years from that date. Recognising that the world is not ideal, a willing licensor and a willing licensee would begin by negotiating a standstill agreement in order to ensure that the passage of time during the course of negotiations did not affect the substantive terms ultimately agreed. On that basis, the relevant date for the purpose of determining what terms were FRAND would at the latest be the date of first contact between the parties (as InterDigital contends by a respondent's notice).

188. Furthermore, as the Supreme Court held in *UPSC* at [105]-[127] (paragraph 30 above), FRAND terms reflect the value of the SEPs in the portfolio and must be available to any market participant. It follows, as the judge recognised, that they should not depend on the date on when the licence is entered into. There should be no discrimination in favour of implementers who are slow to take a licence and against implementers who are quick to take a licence. If anything, it should be the other way around.

189. It follows that an implementer should not be rewarded for delay, whether the delay is the fault of the implementer or not. In the event of truly egregious conduct by a SEP owner, the court has other sanctions at its disposal such as denying or reducing interest and costs sanctions.

190. Lenovo does not dispute that, because the court's task is to determine what a willing licensor and a willing licensee would agree, which gives rise to a contractual defence by the implementer to any infringement claim by the SEP owner, limitation provisions such those contained in the UK Limitation Act 1980 do not directly apply. Lenovo argues that the universally-recognised policy objectives served by limitation provisions are nevertheless relevant when determining what terms are FRAND, not least because implementers should not be required notionally to give up accrued limitation defences to which they are entitled.

191. While this appears superficially to be an attractive argument, upon analysis it does not stand up. Limitation provisions typically apply to claims for damages for breach of contract or tort or for restitution, although they can also apply to other types of claim. InterDigital is not making any such claim. Rather, it is asking the court to determine what a willing licensor and a willing licensee would agree as the price for a licence of its SEP portfolio, and thus to determine what terms Lenovo must accept if it is to avoid an injunction to restrain infringement. As the Supreme Court made clear in *UPSC*, in particular at [87] (see paragraph 29 above), the context and purpose of the

determination is quite different to the context and purpose of a damages claim. This is highlighted by the fact that, as matters stood at the time of the trial, InterDigital's remedy, if Lenovo failed to take a licence on the terms found to be FRAND, was not an award of damages (or an account of profits), but an injunction. That is to say, the remedy looked to the future, not to the past. Lenovo would not be required to give up accrued limitation defences, because limitation is no answer to a claim for an injunction. Still less is limitation in other jurisdictions an answer to a claim for an injunction in this one. The point is further highlighted by the fact that Lenovo has now undertaken to take a licence on the terms ultimately determined by the courts to be FRAND. Thus both sides are seeking the courts' decision, and not just InterDigital.

192. Turning to the question of incentives, the judge's approach does not create a perverse incentive for SEP owners to make excessive demands. As the Supreme Court made clear in *UPSC*, in particular at [164]-[167] (see paragraph 32 above), the SEP owner cannot enforce its rights unless and until it offers to licence its portfolio on terms which the court is satisfied are FRAND. Whether the SEP owner is reasonable or unreasonable, it can never get better terms than FRAND from the court.

193. By contrast, Lenovo's approach creates an incentive for implementers to delay: after six years, every day of delay is a day's lost royalties for the SEP owner. It is, of course, true that SEP owners can stop the clock running by issuing a claim, but this is not an answer for two reasons. First, as the Supreme Court held in *UPSC* at [62] (paragraph 27 above), FRAND terms should be agreed by the parties without any need to go to court. It is inconsistent with FRAND to place an onus on the SEP owner to start proceedings. Secondly, prior to the decisions in *Unwired Planet*, a SEP owner was faced with the need to enforce its patents territory by territory, which was a significant burden. As the judge found, this was a non-FRAND factor which distorted the market. Even now, the logic of Lenovo's argument is that the SEP owner would have to commence proceedings simultaneously in every territory in order to stop limitation being relied upon even if the FRAND terms were to be determined only in one jurisdiction. As InterDigital points out, SEP owners are often criticised for bringing proceedings precipitously, but Lenovo's argument would require them to be much more precipitate.

194. Furthermore, as the Supreme Court recognised in *UPSC* at [10], the effects of delay tend to be asymmetric and affect SEP owners significantly more badly than implementers (see also on this point *Optis F* at [245]-[246] and *Optis F CA* at [36] and [67]).

195. As for Lenovo's argument concerning the impact of the judge's decision on multi-jurisdictional disputes, the judge's decision was not based on applying English limitation periods or principles rather than foreign limitation periods or principles. Rather, it was that limitation is irrelevant. In that sense, it is forum-neutral. There is no reason to think that the judge's decision on this issue will make England and Wales any more attractive as a forum than it already is as a result of the decisions in *Unwired Planet*. The logic is the same: as InterDigital points out, Lenovo's argument is a temporal version of the argument as to geography which Huawei unsuccessfully advanced in that case.

196. Furthermore, Lenovo cannot point to any decisions of foreign courts holding that limitation periods are relevant. The nearest Lenovo could point to is *TCL v Ericsson*

CAFC, where the CAFC set aside Judge Selna's decision on the ground that Ericsson had been wrongly deprived of its right under the Seventh Amendment to a jury trial on the issue of the release payment term, holding the release payment was in substance compensatory relief for TCL's past patent infringing activity. The judge considered this decision at [252] and did not find it persuasive. Nor do I. I do not question the CAFC's decision, but it concerns a constitutional protection peculiar to US law rather than an analysis of the relevance of limitation to the determination of what is FRAND.

197. Turning to the first two factual points relied on by Lenovo, I agree with InterDigital that Lenovo's argument elides two different questions. The first is whether, as a matter of principle, limitation is a relevant factor in determining what terms are FRAND. The second is what SEP owners such as InterDigital have been forced to do, when confronted with implementers such as Lenovo with whom they have been unable to reach agreement, as a result of the practical difficulties in enforcement that they faced. InterDigital does not dispute that, in the real world, it has often been forced by such practical difficulties to treat royalties on sales more than six years old as irrecoverable. InterDigital says that this does not amount to an acceptance of the principle contended for by Lenovo. Furthermore, InterDigital points out that, as discussed in more detail below in connection with InterDigital's ground A, the judge found that InterDigital's understandable response to this problem had been to demand what the judge regarded as inflated rates for the future. InterDigital contends that the judge was right, as a matter of principle, to disregard non-FRAND factors which had distorted the market in the past (although InterDigital complains that in fact he did not properly do so).

198. I agree with InterDigital that none of the points relied upon by Lenovo demonstrates any more than a SEP owner acknowledging the realities of the situation it faces. In oral argument Lenovo submitted that there was an "industry practice" of releasing sales that were more than six years old when negotiating licences. I accept that, if there were such a settled industry practice, that would be relevant to what is FRAND: see *UPSC* at [62] (paragraph 27 above). The judge made no finding that there was such a practice, however. Although Lenovo relied upon various passages in the main judgment as amounting to such a finding, none of them do so. Certainly, the Lenovo 7 do not demonstrate the existence of such a practice: none of them appears to include a term releasing sales more than six years prior to the effective date of the licence without consideration. The nearest is LG 2017, which released sales more than 6 years and 11 months before the effective date of the licence. If anything, this is evidence that there is no industry practice of releasing sales that are more six years old.

199. Although Lenovo understandably places considerable emphasis upon the fact that it had not been InterDigital's case going into trial that royalties should be paid in respect of all past sales, InterDigital did not concede that it should not recover royalties in respect of sales made more than six years before the commencement of proceedings. On the contrary, InterDigital's case was that it should recover royalties in respect of all sales after 1 January 2012 (more than 7½ years before the issue of the claim form). Furthermore, as discussed in more detail below, the effect of InterDigital's case as to the rates payable was that it should be compensated for the absence of royalties on pre-1 January 2012 sales by a higher rate during the period of the licence.

200. Turning to Lenovo's arguments that InterDigital was responsible for the delay in FRAND terms being determined, first because it failed to bring proceedings earlier, and secondly because it acted as an unwilling licensor, and therefore InterDigital should not be permitted to recover in respect of sales more than six years before the commencement of proceedings, I do not accept these for a number of reasons.

201. First, I agree with the judge that what is FRAND is for the licensee to pay and the licensor to receive a fair payment on all sales that implement the standard(s), no more and no less, and that it does not matter who caused any delay in the receipt of that payment – the SEP owner, the implementer or a combination.

202. Secondly, while it is of course true that InterDigital could have brought proceedings earlier, this is simply a repackaging of the argument of principle as to the relevance of limitation which I have already rejected.

203. Thirdly, even ignoring InterDigital's challenge to the judge's finding that it acted as an unwilling licensor, the judge did not find that this behaviour had delayed the determination of FRAND terms. On the contrary, the judge found that neither side had made a FRAND offer and the terms he found to be FRAND lay between the terms contended for by the parties (although significantly closer to Lenovo's). In other words, no agreement was possible and court determination was required. Furthermore, the judge found that Lenovo dragged its heels on occasion (see paragraph 153 above) and thus contributed to the length of the negotiations.

204. Fourthly, if Lenovo had accepted the need for a licence and committed to take one on terms determined by the court to be FRAND, it could have brought proceedings itself for a declaration as to what terms were FRAND. It did not have to wait to be sued by InterDigital. Lenovo could also have accepted any of several offers made by InterDigital in the period 2018-2019 to enter into arbitration of the dispute (see the main judgment at [920]).

205. As for Lenovo's argument that the judge should have made a ruling that was only prospective, I regard this as completely untenable. The power recognised as being theoretically available in *Spectrum Plus* has never been exercised by a court in this jurisdiction. It is not clear that it can be exercised by any court below the Supreme Court. There are obvious rule of law objections to the power being exercised in any but the most exceptional circumstances. Furthermore, in the present context, such a ruling would create rather than eliminate discrimination.

Conclusion

206. I would dismiss Lenovo's appeal against the judge's decision that limitation is irrelevant to the determination of FRAND and that the lump sum should therefore reflect all past sales by Lenovo.

Lenovo's ground 2: interest

207. Lenovo says that the judge should not have awarded InterDigital interest on royalties in respect of past sales. Lenovo contends first that there is no general power to award interest in a case of this kind; secondly that, even if there is power, on the facts of this case it would not be FRAND to make any award of interest in favour of InterDigital;

and thirdly that, even if an award of interest could and should have been made in this case, interest should only have been awarded at a very modest rate, simple interest and from a much later point in time. I shall consider these contentions separately and in turn. Before doing so, I should make it clear that Lenovo does not dispute that it should pay interest on any late payments of sums due under the licence settled by the court; but Lenovo argues that there is a fundamental distinction between interest in respect of past sales and interest on late payments under a licence.

Is there power to award interest?

208. There are a number of different statutory bases for an award of interest, but it is common ground that none is applicable here. Interest is available in cases which lie within equity's exclusive jurisdiction, but it is common ground that this is not such a case. The general rule of English common law is that the court has no power, in the absence of any agreement, to award interest as compensation for the late payment of a debt or damages: *Sempra Metals Ltd v Inland Revenue Commissioners* [2007] UKHL 34, [2008] 1 AC 561 at [5] (Lord Hope of Craighead). It is common ground that Lenovo has not agreed to pay interest on past sales.

209. In the absence of any jurisdictional basis in statute, equity or contract, it is common ground that the power to award interest can only arise on the ground that this is what a willing licensor and a willing licensee would agree. Lenovo argues that the judge was wrong to hold that a willing licensor and a willing licensee would agree to the payment of interest. In my judgment the judge was correct for the reasons he gave in the FOO judgment at [15]-[29] (paragraphs 162-165 above).

210. Lenovo points out that the ETSI IPR Policy and the ETSI Guide make no mention of the payment of interest. This is immaterial, because these documents say nothing at all about what terms are FRAND. In fact, section 4.5 of the Guide supports the principle of interest being payable, because it says that the implementer should "put in place financial contingency". As the CJEU held in *Huawei v ZTE* at [67], one way for the implementer to do that would be to put an estimate of the royalties on deposit, where they would earn interest.

211. Next, Lenovo points out that there is no evidence of interest on past sales being paid in comparable licences. The problem with this argument is that, as I shall explore in more detail when considering InterDigital's ground A, the judge found that there was a practice of heavy discounting of past sales. This was partly because of the problem faced by SEP owners prior to *Unwired Planet* of the need for territory-by-territory enforcement and partly because of the difficulties caused by limitation periods. The judge found that neither of these factors should be reflected in FRAND terms. If past sales are rapidly discounted and then written off as irrecoverable for these reasons, it is not surprising that no interest is levied either. Furthermore, it would be equally true to say that there is no settled industry practice that no interest should be paid in respect of past sales.

212. Finally, Lenovo argues that, in licensing negotiations of this kind, issues of the timing of payments are swept up in the general terms. In other words, when a lump sum is agreed, one of the things that the parties will take into account where relevant is the time value of money. As InterDigital points out, this argument contradicts Lenovo's previous argument.

213. In my view the overriding consideration is that it is a very widely accepted principle that the timing of a payment of money should be economically neutral. As the judge noted, Messrs Bezant and Meyer agreed that the economically correct approach was to convert past royalties to present value using a relevant interest rate to reflect the time value of money. Furthermore, both Mr Bezant and Mr Meyer applied this principle when unpacking the Lenovo 7 by calculating the present value of future payments using an appropriate discount rate. Lenovo accepts that they were right to do this for future payments, but the logic is the same for past payments. As the judge noted, this was recognised by Lenovo's own licensing expert Mr Djavaherian, who said in his second report that "[d]elay can generally be remedied financially via interest payments and the like".

214. This principle is particularly applicable in the present context for the reasons I have discussed in relation to the issue of limitation, namely that (i) implementers need a licence from day 1, (ii) in principle terms should be agreed with effect from that date and (iii) there should be no incentive for implementers to delay. All of these factors point to the conclusion that a willing licensor and a willing licensee would agree to the payment of interest so as to ensure that the passage of time was cost-neutral to both sides.

Is interest FRAND in the circumstances of this case?

215. Lenovo argues that, even if it is generally FRAND for interest to be payable, no interest should be payable in this case because of InterDigital's conduct. Lenovo relies on the same three points that it relies upon in the context of limitation, namely that InterDigital had (i) sought supra-FRAND royalties, (ii) failed to provide Lenovo with sufficient information properly to evaluate its offers until disclosure in these proceedings and (iii) had sought an unqualified injunction on the ground that Lenovo was an unwilling licensee.

216. The short answer to this argument is that the judge accepted at [535] that, in an appropriate case, the court could withhold interest on royalties, but the judge did not consider that this was the appropriate response to InterDigital's conduct in this case. That was an evaluative decision which the judge was well placed to make. Lenovo has not demonstrated any flaw in the judge's reasoning which justifies this Court intervening. On the contrary, it seems to me that the judge's conclusion was amply justified for the reasons I have discussed in the context of limitation.

Did the judge err as to the rate, basis or period?

217. Lenovo contends that, if he awarded interest at all, the judge should not have awarded interest at any greater rate than Bank of England base rate +2%, simple rather than compounded, from at the earliest the end of November 2018.

218. Again the short answer to this contention is that the judge's decision as to the appropriate interest to award was an evaluative decision which had a proper evidential foundation. Lenovo has not demonstrated any flaw in the judge's reasoning which justifies this Court intervening.

219. As the judge explained, he derived the interest rate of 4% from the parties' agreement as to the figure for late payments. By clause 6.1 of InterDigital's initial Licence Offer

of July 2020, InterDigital proposed a running royalty licence under which all late payments would bear interest at the annual rate of 10%. In their responsive mark-up in October 2020, Lenovo proposed that late payments should bear interest at the annual rate of 4%. By InterDigital's further mark-up of February 2021, and by way of compromise, InterDigital accepted that rate of 4%, which is now to be found in the licence settled by the judge.

220. Lenovo argues that this agreement as to the appropriate rate for late payments under the licence does not show that 4% is the appropriate rate for payments in respect of past sales. I disagree. The purpose of interest is the same in both contexts, namely to reflect the time value of money. Thus the judge was entitled to regard the figure actually agreed by the parties for late payments as good evidence of what a willing licensor and a willing licensee would agree in respect of past sales.

221. Lenovo contends that there was no evidence of any actual losses on the part of InterDigital, relying on evidence that InterDigital had substantial quantities of cash on its balance sheet from 2007 to 2021. As the judged noted in the FOO judgment at [10], however, there was evidence that InterDigital had raised capital through the issue of convertible bonds in 2011, 2015 and 2019, all at rates exceeding 5%. Furthermore, Mr Brezski's unchallenged evidence was that InterDigital's weighted average cost of capital ("WACC") for the last 5-10 years was 10.5%. This is consistent with Mr Meyer's evidence that WACC for large companies in this industry was 10%, which was the figure Mr Meyer used in his calculations of net present value ("NPV"). Mr Meyer also gave evidence that the cost of debt was 5%, which was the figure he used for NPV calculations where the licensee did not have to make a fixed payment until a deferred point in time. Thus InterDigital's borrowing costs exceeded the 4% figure selected by the judge.

222. Lenovo also points out that interest rates have fluctuated considerably over time since 2007, and argues that the judge should have taken this into account. By way of illustration, a time weighted average of Bank of England base rates over the period from 1 January 2007 to 10 July 2023 (when Lenovo paid the lump sum determined by the judge) is 1.2%. It is not usual for the courts to apply a time weighted average rate, however. Moreover, the economic logic of doing so is far from clear. It would be different if Lenovo had calculated the rates, and hence amounts, applicable over time for each quarterly payment from the date on which it should have been made until 10 July 2023, but that is not what Lenovo has done. In any event, the question is what a willing licensor and a willing licensor would agree as to the rate. This is likely to depend on when they are supposed to have reached agreement. For the reasons given above, InterDigital and Lenovo should have reached agreement shortly after Lenovo starting implementing 3G sometime in 2007, and should have agreed that any delay in concluding the agreement would be economically neutral. The Bank of England base rate was 5% or higher throughout 2007. Putting essentially the same point a slightly different way, the judge determined the appropriate rate at a time when the Bank of England base rate was roughly the same as it had been in 2007.

223. Furthermore, as the judge noted in the FOO judgment at [9], the InterDigital 20 and Lenovo 7 licences provided for quite a wide range of rates, but the lowest rate was 3% and a common rate was 10%.

224. Turning to the period during which interest should run, Lenovo contends that interest should not until 28 days after it can accept a licence on FRAND terms settled by the court. Since it is common ground that the licence settled by the judge is not yet in effect pending the determination of this appeal, although the parties have differing explanations as to why this is so, this is simply another way of saying that no interest should be payable on past sales. I have already rejected this argument.

225. In the alternative, Lenovo says that interest should not run from any earlier than the end of November 2018, that being when InterDigital made the offer which came closest to what the judge determined to be FRAND, albeit that InterDigital subsequently withdrew that offer and disclaimed it at trial. I do not accept this. For the reasons I have explained, the payment of interest is not dependent on the SEP owner having made an offer which is FRAND. Furthermore, in this case the judge found that neither side's offers were FRAND.

226. Lastly, Lenovo argues that there is no justification for compound, rather than simple, interest. The judge was entitled to conclude that this is what a willing licensor and a willing licensee would agree, however. Simple interest does not accurately reflect the time value of money. Furthermore, most of the InterDigital 20 and the Lenovo 7 licences provide for compound interest.

Conclusion

227. I would dismiss Lenovo's appeal against the judge's decision as to interest.

<u>InterDigital's ground A: the per unit rate</u>

228. The only licence which the judge found to be comparable was LG 2017. He used the blended rate of $0.24 per unit which Mr Meyer derived from LG 2017. The judge then applied an adjustment ratio of 0.728 to reflect the characteristics of Lenovo's sales, resulting in a figure of $0.175 per unit. He applied that rate to all of Lenovo's sales from 2007 to the end of 2023. InterDigital says that the rate which the judge ought to have derived from LG 2017 was the future rate of $0.61, which should have been adjusted by a ratio of 0.803, resulting in a figure of $0.49 per unit. Applying that rate to all of Lenovo's sales from 2007 to the end of 2023 produces a figure of £388.5 million. Interest at 4% compounded quarterly on figure is £129.3 million, yielding a total lump sum payment of $517.8 million. InterDigital's ground A concerns the figure per unit prior to adjustment. The adjustment ratio is the subject of InterDigital's ground B.

InterDigital's argument

229. InterDigital's argument in support of ground A has six steps. The first step is to identify certain key findings of fact made by the judge, none of which is challenged by Lenovo:

i) InterDigital's licensing practices had been distorted by their attempts to secure licences of their SEPs against a picture of many implementers not complying with their duty to act as willing licensees: [284] (paragraph 67 above).

ii) A practice had grown up of SEP owners, including InterDigital, giving substantial discounts for past sales. The principal reason for this practice was the difficulties in recovery which SEP owners faced. There were two main difficulties. The first was that, until relatively recently, a SEP owner faced the prospect of having to sue in many different jurisdictions. Although that problem had been addressed by the decisions in *Unwired Planet*, it was clear that the previous perception had had a long-lasting effect on SEP licensing practices. The second was the impact of limitation periods around the world. This gave implementers an incentive to spin negotiations out as long as possible and put the burden on SEP owners to sue within the limitation period to avoid losing royalties. Both of these difficulties had had a profound impact on InterDigital's licensing practices: [444] (paragraph 87 above), [454]-[455], [457] (paragraph 90 above), [517] (paragraph 92 above), [728] (paragraph 129 above).

iii) InterDigital's practice in its licensing negotiations had been not only heavily to discount past sales, but also to forgive them after six years: [393]-[397] (paragraph 78 above), [399] (paragraph 79 above).

iv) InterDigital had sought to compensate for its heavy discounting of past sales by increasing the rates charged for future sales: [422], [424] (paragraph 82 above), [443] (paragraph 87 above), [619] (paragraph 103 above), [707] (paragraph 124 above), [729] (paragraph 129 above).

v) InterDigital was not to be criticised for doing this. It was a natural reaction to the difficulties SEP owners faced: [283] (paragraph 66 above), [517] (paragraph 92 above).

230. The second step is to emphasise that the judge held that, as a matter of principle, limitation periods have no role to play in determining what terms are FRAND. (In dismissing Lenovo's ground 1, I have concluded that he was correct on this point.) Furthermore, the judge recognised that this conclusion had a profound effect on the analysis. Not only was Lenovo required to pay in respect of all its past sales, but also the two principal reasons which had prompted the practice of heavy discounting for past sales had now been removed: [437] (paragraph 86 above), [456] (paragraph 90 above), [545] (paragraph 94 above), [556] (paragraph 97 above).

231. The third step is to emphasise that the judge repeatedly rejected Lenovo's argument that, if the effect of the judge's determination, in particular with respect to limitation, was that Lenovo was treated adversely compared with how other InterDigital licensees had been treated in the past, that would be discriminatory against Lenovo. The judge noted that Lenovo was content to accept any differences in its favour, but to brand any perceived to be adverse as discrimination. The judge did not accept Lenovo's argument because it assumed that the Lenovo 7 were FRAND in every respect, but that was not a valid assumption. The court was not required to follow the licensing practices of InterDigital which were reflected in those licences: [434]-[435] (paragraph 85 above). Nor was Lenovo entitled to be treated as the most favoured licensee: [544]-[545] (paragraph 94 above). On the contrary, to follow InterDigital's practice would be to solidify existing practices of SEP owners which were based on flawed premises, when the right approach was to expose and correct those flawed premises in order to determine what was FRAND: [567]-[569] (paragraph 98 above).

232. The fourth step concerns the judge's treatment of past sales when unpacking the Lenovo 7, and in particular LG 2017. As the judge recorded, Mr Brezski's unchallenged evidence ([57], paragraph 56 above) was that, when preparing its Form 10-Ks, US GAAP required InterDigital to perform a relative fair value allocation of the transaction. This included an estimate of the portion of the total recoverable value that would be realised for each year of past sales released under the licence applying an increasing discount up to six years ([398]-[399], paragraph 79 above). Although the judge did not mention this, Mr Brezski also gave evidence that, as one would expect, InterDigital's Form 10-Ks are audited by an "independent registered public accounting firm". He did not identify the firm, but there is no dispute that it is PricewaterhouseCoopers ("PWC").

233. As the judge also recorded, Mr Meyer split the lump consideration payable under the Lenovo 7, where relevant, into past and future elements. The judge stated at [450] (paragraph 89 above) that Mr Meyer had not explained why he had done this, but this is incorrect. As the judge accurately recorded at [403]-[404] (paragraph 80 above), it was Mr Meyer's opinion that the amounts which InterDigital had recognised as attributable to released past sales in its Form 10-Ks provided a reliable source for determining InterDigital's assessment of the consideration, and therefore the rate, associated with past versus future sales. It was these figures that Mr Meyer used to calculate his past and future unit rates, including for LG 2017. As InterDigital points out, Mr Meyer said, when explaining his approach to this question in paragraph 93 of his first report, that "it is important to reflect the differential treatment of past sales and future sales in an unpacking analysis" and that "[f]ailing to do so would result in an unpacking analysis which did not reflect the true economics of the agreement as understood by the parties".

234. As the judge also recorded, Mr Bezant also adopted InterDigital's allocation of lump sum considerations between past and future ([420], paragraph 82 above), although his approach differed from Mr Meyer's in other respects. Furthermore, Mr Bezant's split of the consideration in LG 2017 was $40 million for the past and $[REDACTED] million for the future, which was similar to Mr Meyer's split ([667], paragraph 111 above).

235. Despite (i) the absence of any challenge to Mr Brezski's evidence, (ii) Mr Meyer's acceptance of InterDigital's Form 10-Ks as providing a reliable basis for apportioning consideration between past and future sales, (iii) the fact that this approach was common ground between Mr Meyer and Mr Bezant and (iv) the similar splits derived by Mr Meyer and Mr Bezant, the judge rejected this apportionment on the ground that it was "somewhat artificial" ([425], paragraph 82 above), "injected a significant subjective element into the analysis" ([453], paragraph 90 above), resulted in "a disproportionately low share of the lump sum consideration" being attributed to past sales and "a disproportionately large share of the consideration being attributed to future sales" ([619], paragraph 103 above) and amounted to "creative accounting" ([923], [926], paragraph 151 above).

236. InterDigital submits that it was not open to reject Mr Brezski's evidence when it had not been challenged in cross-examination, relying upon *Griffiths v TUI UK Ltd* [2023] UKSC 48, [2023] 3 WLR 1204. InterDigital argues that this is reinforced by the fact that the judge's conclusion amounts to a finding not only that InterDigital had been guilty of "creative accounting", but also, implicitly, that this had been sanctioned by

its auditors. InterDigital says that, if true, this would expose both InterDigital and PWC to criminal sanctions in the US.

237. InterDigital also submits that the judge had no basis for rejecting Mr Meyer's treatment of the past sales in the Lenovo 7, and in particular LG 2017. Not only did the judge generally accept Mr Meyer's approach to unpacking, but specifically in relation to LG 2017 the judge preferred Mr Meyer's approach to Mr Bezant's because "it approximates far better to what someone in the market would do with the available information" ([673], paragraph 113 above) which included InterDigital's Form 10-Ks. Furthermore, not only did Mr Bezant treat past sales in a similar way, but also the per unit rates derived by the two experts from LG 2017 were very similar ([372], paragraph 76 above).

238. Finally on this point, InterDigital relies upon evidence that LG's own allocation of value between the past and future components of LG 2017 was more weighted to the future than InterDigital's allocation, implying an even heavier discount for the past. LG's last stated position in the negotiations, on 12 April 2017, was that its offer allocated $[REDACTED] million to the past and $[REDACTED] million to the future, i.e. [REDACTED]% to the past, whereas InterDigital and Mr Meyer allocated 26% to the past.

239. The fifth step concerns the judge's treatment of future sales when unpacking the Lenovo 7, and in particular LG 2017. The judge held that the future rates derived from the Lenovo 7, including LG 2017, were, as with all of InterDigital's future rates, "inflated": [420]-[426] (paragraph 82 above), [443] (paragraph 87 above), [557] (paragraph 97 above), [619] (paragraph 103 above), [707] (paragraph 124 above), [729] (paragraph 129 above), [881] (paragraph 149 above), [926] (paragraph 151 above).

240. InterDigital argues that the judge was wrong to regard the future rate derived by Mr Meyer from LG 2017 as inflated for the following reasons:

i) The judge ignored his own finding that InterDigital had increased the future rates it sought to recover from implementers in an attempt to compensate for the practice of heavy discounting for past sales, and his own conclusion that the latter was a market distortion which was not FRAND.

ii) The principal justification which the judge gave for treating InterDigital's future rates as inflated was that they were predicated upon assumed volume discounts, but volume discounts were not an issue for LG 2017 because LG's sales volumes were very close to those of Lenovo.

iii) Although the judge had criticised InterDigital's use of the discounts listed by the judge in [512] (paragraph 92 above) other than those which reflected the time value of money, those discounts did not include the discounts which InterDigital had been forced to concede in respect of past sales.

241. The sixth step concerns the judge's conclusion as to the rate per unit to be derived from LG 2017. The judge took Mr Meyer's blended rate. InterDigital argues that the judge was wrong to do so for the following reasons:

i) The judge ignored his own findings and conclusions that: (a) the royalty rates InterDigital, in common with other SEP owners, had obtained in respect of past sales had been depressed due to the practice of heavy discounting of past sales caused by the two difficulties faced by SEP owners, namely the need for territory-by-territory enforcement and the impact of limitation periods; (b) in principle, limitation was irrelevant to FRAND; (c) it would be wrong to perpetuate the existing practices of SEP owners and these should be corrected; and (d) Lenovo could not complain of discrimination if such non-FRAND effects were stripped out when determining what was FRAND.

ii) The judge confused the question of how real-world licences negotiated under the non-FRAND conditions which the judge had found to exist should be unpacked with the question of what terms would be FRAND.

242. InterDigital argues that what the judge ought to have done when unpacking LG 2017 was to take Mr Meyer's future rate of $0.61 per unit. InterDigital accepts that the judge was correct to conclude that this rate needed to be adjusted to arrive at a FRAND rate for Lenovo, although it contends that the judge made a consequential error at that stage as well (see ground B below).

Lenovo's arguments

243. Lenovo makes eight specific submissions in response, as well as a general overarching submission that InterDigital's appeal is an impermissible attempt to re-argue the judge's multifactorial evaluation. First, the premise of ground A is contrary to the judge's findings of fact as to (i) the LG 2017 licence specifically and (ii) the Lenovo 7 more generally, findings which are not challenged by InterDigital. Furthermore, the judge specifically rejected a submission that the consideration agreed in the Lenovo 7 licences had been depressed below the FRAND rate by hold-out, finding instead that those licences were "the best group of indicators of the value of InterDigital's portfolio" ([726], paragraph 129 above). He had considered each of them individually, finding that Apple 2016 represented an "upper bound" ([661], paragraph 110 above; [797], paragraph 138(iii) above) while Samsung 2014 was "slightly low", "somewhat depressed" or "somewhat lower than the FRAND rate" or "too low" ([642], paragraph 106 above; [795], paragraph 138 (i) above; [805], paragraph 141 above) and ZTE 2019 was "on the low side" or not "particularly reliable" [687], paragraph 118 above; [798], paragraph 138(iv) above; [805], paragraph 141 above). He had not found that LG 2017 was either high or low, and he had found that Huawei 2016, from which Mr Meyer had derived [REDACTED], was consistent with LG 2017, although far less useful ([805], paragraph 141 above).

244. Secondly, if there were any doubt that the unadjusted rate of $0.61 which InterDigital asks this Court to extract from the LG 2017 licence is multiples above the FRAND rate, then any such doubt is dispelled by comparing the unadjusted $0.61 rate with the unadjusted rates derived by Mr Meyer from each of the Lenovo 7, including those with no past sales at all: Samsung 2014 (future only): $[REDACTED]; Huawei 2016 (future only): $[REDACTED]; Apple 2016 (claimed by Lenovo to be future only): $[REDACTED]; LG 2017 (blended past and future): $0.24; ZTE 2019 (blended past and future): $[REDACTED]; Huawei 2020 (blended past and future): $[REDACTED]; Xiaomi 2021 (blended past and future): $[REDACTED]. Furthermore, as the judge found, there was no evidence that InterDigital was in a

weak negotiating position with respect to the Lenovo 7 licensees: [729] (paragraph 129 above).

245. Thirdly, InterDigital's inability to point to any moderate or sensible approach (or figure) which might quantify the allegedly significant departure of the rate at which the LG 2017 past sales were allegedly released from the full FRAND rate is the result of InterDigital's deliberate decision to advance a "jackpot" case.

246. Fourthly, ground A is inconsistent with the evidence of Lenovo's valuation expert, Mr Meyer, upon which it purports to be built. Because InterDigital did not plead any reliance upon LG 2017 at all, and because Mr Meyer's evidence was generally preferred to that of Mr Bezant, InterDigital is now driven in this appeal to attempt to build a case out of a small part of the opposing party's expert evidence. But that evidence was squarely inconsistent with the point InterDigital wishes to advance.

247. Fifthly, it is notable that of the two valuation experts before the court, the only one who suggested attempting simply to remove past sales from lump sum licences, even where they accounted for a substantial proportion of the units covered, was Mr Bezant. Although InterDigital does not acknowledge it, ground A effectively invites this Court to substitute Mr Bezant's approach for that of Mr Meyer, despite the judge having generally preferred the approach of Mr Meyer after four days of cross-examination.

248. Sixthly, the judge's approach was consistent with the approach taken by the US District Court in *TCL v Ericsson*, where Judge Selna's view was that what the parties to licence agreements cared about was the total amount they had to pay or receive rather than how it was labelled.

249. Seventhly, the suggestion that the judge was in any way obliged to use a future-only rate from the LG 2017 licence, or erred in his decision not to do so, because of his (or Mr Meyer's or Lenovo's) approach to InterDigital's Form 10-Ks is without merit. Lenovo does not dispute that InterDigital allocated the consideration paid under lump sum licences such as LG 2017 in the way that Mr Brezski described. Mr Brezski's own evidence made it clear, however, that there was a subjective element to this. In any event, the judge was correct to say that, even if the allocation was mandated by accounting principles, a party's own internal justifications for such a split, especially where they were *ex post facto*, were irrelevant. What matters is the total consideration paid and the number of units it was paid in respect of.

250. Eighthly, even if all the points above were somehow to be overcome, the application of a rate of $0.61 as a starting point for Lenovo could not be justified consistently with the non-discrimination element of FRAND, and the judge was wrong to hold otherwise (as Lenovo contends by a respondent's notice). Although that obligation is not "hard-edged", in the sense of providing a downwards ratchet, the purpose is to ensure that there is a "single royalty price list available to all": *UPSC* at [114]. In circumstances in which InterDigital had licensed more than 97% of the volumes under consideration in the comparables analysis at the rates it had, the judge was right to identify the "force in Mr Meyer's suggestion that InterDigital has now established something of a 'market rate' for their portfolio" ([731], paragraph 129 above).

Analysis

251. In my judgment, there are, with respect to the judge, three flaws in his reasoning.

252. The first, and most important, flaw is that it is internally inconsistent. On the one hand, the judge was very clear that the heavy discounting for past sales which had been forced upon InterDigital and other SEP owners in their negotiations with implementers, including those leading to LG 2017, was not FRAND for the reasons I have discussed above. He was also clear that Lenovo could not benefit from these non-FRAND factors by relying upon the non-discrimination requirement of FRAND. On the other hand, he declined to make any correction at all to the blended rate per unit derived by Mr Meyer from LG 2017 in order to eliminate these non-FRAND factors when determining a FRAND rate for Lenovo.

253. Thus the judge used the (surprisingly precise) blended rate per unit of $0.24 per unit which Mr Meyer derived from LG 2017. In order to arrive at a FRAND rate for Lenovo, the judge simply multiplied that figure by the (astonishingly precise) adjustment ratio of 0.728 to arrive at $0.175 per unit. It is implicit in this that the rate of $0.24 per unit was a FRAND rate for LG. Not only did the judge make no such finding in the main judgment, however, but also any such finding would have been difficult to reconcile with the judge's findings I have summarised in paragraph 229 above. On the contrary, the judge specifically rejected the assumption in Lenovo's argument that the Lenovo 7 were FRAND "in every particular" at [435] (paragraph 85 above).

254. The inconsistency in the judge's approach is highlighted by his statements (which I have endorsed) at [567]-[569] (paragraph 98 above) that the existing licensing practices of InterDigital and other SEP owners were "based on flawed premises" which the court should "correct". Yet no such correction was made by the judge to the per unit rate he derived from LG 2017.

255. It is apparent from the main judgment that the judge was conscious of this problem, and thought that he had satisfactorily addressed it, in particular at [726]-[734] (paragraph 129 above). In that passage the judge gave essentially three answers to the objection I have identified, each of which is supported by Lenovo in its first three submissions in response to the appeal.

256. The judge's first answer, which is supported by Lenovo in its first submission, is that he had rejected InterDigital's overarching argument about hold-out, namely that hold out had been what had driven the alleged volume discounting in InterDigital's licensing program. More specifically, he rejected the suggestion that InterDigital had been forced by hold out to grant volume discounts of 60%-80% to the largest licensees.

257. There are two problems with this answer. The first is that it addresses InterDigital's reliance upon its alleged volume discounts from its "program" rates, but it does not address the heavy discounting for past sales which the judge found that InterDigital, in common with other SEP owners, had indeed been forced into. The second is that, in any event, it does not apply to LG 2017, which was in the end the single comparable upon which the judge relied (as the judge confirmed at [811], paragraph 144 above).

As is common ground, and as the judge recognised at [161] (paragraph 59(v) above), the sales volumes of LG were very similar to those of Lenovo.

258. The judge's second answer, which is supported by Lenovo in its second submission, is that, even though InterDigital had been affected by "a degree of hold out", InterDigital was "able to look after itself". InterDigital had developed ways to cope with the difficulties the judge had identified, which had led to "considerable distortion, particularly in future rates which can be derived from their PLAs". Nevertheless, the Lenovo 7 established "something of a 'market rate'" for InterDigital's portfolio.

259. The problem with this answer is that, upon analysis, it does not resolve the conundrum. The judge's acceptance that it was clear that InterDigital had been affected by a degree of hold out demonstrates that, to that extent, it was *not* able to look after itself. The judge found that InterDigital had been forced to grant heavy discounts for past sales for non-FRAND reasons. It follows that the market rate established by the Lenovo 7, and in particular LG 2017, is, to that extent, a non-FRAND rate. The judge noted, here as elsewhere, that InterDigital had sought to deal with this problem by increasing its rates for future sales; but he did not find that the increases in the rates for future sales which InterDigital was able to achieve in the Lenovo 7, and in particular LG 2017, had fully compensated InterDigital for the depression in the rates for past sales. Moreover, this is inherently improbable given the judge's clear finding that the heavy discounting of past sales was a market-wide distortion which the court was required to correct. Until corrected by the court, this factor would continue to drag down rates overall.

260. Lenovo seeks to address this point in three main ways. The first is by emphasising that two of the Lenovo 7 were future-only licences, namely Samsung 2014 and Huawei 2016 (although, as InterDigital points out, Samsung 2014 did cover sales prior to the execution of the licence, albeit not before the licensed period). Lenovo claims that Apple 2016 was also future-only, but this is not entirely correct. In fact, it did cover past sales, which Mr Meyer adjusted for in a different way and then calculated a future-only rate per unit: see [657]-[658] (paragraph 109 above). Furthermore, the judge did not regard any of these three PLAs as comparable to Lenovo. As previously noted, the single comparable he relied on was LG 2017. One of the respects in which LG 2017 was very comparable to Lenovo was that it covered a lengthy period of past sales.

261. The second way in which Lenovo seeks to address the point is by stressing that the per unit rate of $0.61 contended for by InterDigital is up to 5 times higher than the unadjusted rates derived by Mr Meyer from the other six of the Lenovo 7. Against this, InterDigital points out that the rate for Lenovo ceases to be the highest, and lies between the rates for Apple 2016 and ZTE 2019, once adjustments are taken into account. In any event, the problem remains the same. The single comparable the judge relied on was LG 2017. While it is true that he used the rates derived from the other six as a form of cross-check ([795]-[799], paragraph 138 above), once again he did not attempt to strip out the non-FRAND factors he had identified.

262. The third and best way in which Lenovo seeks to address this point is to argue, in effect, that it is implicit in the judge's reasoning that the depression of rates for past sales in the Lenovo 7 had been redressed by an increase in the rates for future sales.

As Lenovo emphasises, the judge's approach was to regard the total lump sum payable divided by the number of units as the best indicator of value. The difficulty I have with this argument is that, as I have already noted, the judge did not find that the depression in past rates suffered by InterDigital had been fully compensated by the increase in future rates it obtained, and on the judge's findings this is inherently improbable. This is particularly true of LG 2017, which was in the end the single comparable the judge relied on. Even ignoring any sales prior to the licensed period, this covered 6 years and 11 months of past sales (63% of the term) and 4 years and 1 month of future sales (37%).

263. The judge's third answer, which is supported by Lenovo in its third submission, is that InterDigital was to blame for advancing a "jackpot" case and failing to advance a more modest case which would have enabled the court to quantify the degree of hold out that had been baked into the Lenovo 7.

264. There are two problems with this answer. The first is that it fails to recognise that, just as InterDigital argued for a high lump sum, so too Lenovo argued for a low one. The figure the judge arrived at was $58.7 million higher than the figure of $80 million contended for by Lenovo even before interest is taken into account. The judge was entitled to take the view that the figure propounded by Lenovo was closer to the mark than that contended for InterDigital, but it does not seem to me to be fair to castigate InterDigital's case, and in particular its alternative case based on LG 2017, as seeking a "jackpot". Furthermore, although InterDigital did not advance a "middle ground" case in the alternative, neither did Lenovo.

265. The second, and more fundamental, problem with this answer is that it assumes that the burden lay on InterDigital to prove the extent to which the rates derived from the Lenovo 7 in general, and LG 2017 in particular, had been affected by the non-FRAND factors identified by the judge. I disagree. Before explaining why, I should record that, surprisingly, neither side addressed the burden of proof in their skeleton arguments. Nor did we receive much assistance from the parties on this question when it was raised during the course of argument.

266. The starting point is that Lenovo is advancing a contractual defence to InterDigital's infringement claim by relying upon InterDigital's undertaking to ETSI to grant licences upon FRAND terms. As with any other defence, the burden is upon Lenovo to establish it. As I have explained, however, there is now no dispute that Lenovo is entitled to that defence. The dispute is as to how much Lenovo has to pay for the licence.

267. The next point is that it will be recalled that a range of terms may all be FRAND, but InterDigital is only required to licence its portfolio on the FRAND terms which are most favourable to itself (paragraph 33 above). It could be said that, in those circumstances, each side bears the burden of establishing the end of the range which it relies on.

268. Even if that is correct in general, when it comes to the assessment of comparables, I do not consider that, save in one respect, burden of proof has a role to play. This is because the court must do the best it can with the material available. First, the court must identify the most comparable existing licence (assuming there is one at all). Secondly, the court must make such adjustments as it considers appropriate to reflect

any differences between the most comparable licence and the licence under consideration. The court's task is to determine what a *hypothetical* willing licensor and willing licensee *would* agree. This is reinforced in the present context by the fact that the court's task is to determine what is fair and reasonable, which requires an objective assessment.

269. Where burden of proof does have a role to play is when it comes to particular facts which a party relies upon as being relevant to the comparables analysis. Then the burden lies upon that party to establish those facts in the usual way. In the present case, however, InterDigital relies upon the facts the judge found which I have summarised in paragraph 229 above. InterDigital has discharged its burden of proving those facts. The remaining issue is one of attempting to assess the impact of those facts on what is FRAND. This is a matter for evaluation by the court. The judge was fully entitled to reject InterDigital's case that its 5G Extended Offer, based on its "program" rates adjusted for volume and other discounts, was FRAND, just as he was entitled to reject Lenovo's case that its 14 December 2021 offer was FRAND, but that left the question of what terms were FRAND.

270. In any event, even if (contrary to my view) the burden of proof did lie upon InterDigital, a court is not justified in resorting to the burden of proof to resolve a disputed issue unless, exceptionally, it cannot reasonably make a finding in relation to that issue despite having striven to do so: see *Stephens v Cannon* [2005] EWCA Civ 222, [2005] CP Rep 31. In this case the judge did not conclude that he could not reasonably make a finding despite having striven to do so, so as to justify resorting to the burden of proof.

271. Finally on this point, I should acknowledge that, in the FOO judgment at [121(ii)(a)], the judge said, in the context of refusing InterDigital permission to appeal on ground A as formulated by InterDigital (while nevertheless granting permission to appeal on various points of principle identified by the judge), that he had found that the lump sum in LG 2017 was FRAND. As I have said, however, there is no such finding in the main judgment, the judge's other findings are difficult to reconcile with that proposition and the judge expressly rejected this assumption in Lenovo's argument.

272. The second flaw in the judge's reasoning is that the judge was not justified in rejecting Mr Meyer's allocation of the lump sum paid by LG between past sales and future sales for the reasons given by InterDigital (paragraphs 232-238 above). Lenovo's seventh submission fails satisfactorily to answer those points.

273. Thus the judge should have concluded that the per unit rate of $0.09 which Mr Meyer derived from LG 2017 was the best available evidence as to what LG had paid in respect of past sales. Equally, he should have concluded that the per unit rate of $0.61 which Mr Meyer derived from LG 2017 was the best available evidence as to what LG had paid in respect of future sales.

274. This is a convenient juncture at which to address Lenovo's fourth, fifth and sixth submissions. I do not accept the fourth submission because InterDigital's case on appeal is based on accepting the parts of Mr Meyer's evidence that the judge relied on almost in their entirety. The only point that InterDigital disputes is Mr Meyer's preference for a blended rate. InterDigital's justification for disputing that point is that it fails to give effect to the judge's findings summarised in paragraph 229 above. I do

not accept the fifth submission because InterDigital is not inviting this Court to prefer Mr Bezant's approach to Mr Meyer's. I do not accept the sixth submission because, unlike the judge, Judge Selna did not make the findings summarised in paragraph 229 above.

275. The third flaw in the judge's reasoning is that he seems to have lost sight of the points that (i) the court's task is to estimate what rate would be FRAND for Lenovo, which is not a task that admits of the kind of mathematical precision which the judge applied, and (ii) a range of rates may be FRAND, and the SEP owner is only required to offer the FRAND rate most favourable to itself.

276. Before turning to consider what should be done in the light of my conclusion that the judge's reasoning was flawed in the three respects identified above, it is convenient to address Lenovo's eighth submission and respondent's notice challenging the judge's conclusion on non-discrimination. In my judgment the judge was right about this for the reasons he gave at [434]-[435] (paragraph 85 above), [544]-[545]) (paragraph 94 above) and [567]-[569] (paragraph 98 above). Lenovo's reliance upon *UPSC* is misplaced, because the Supreme Court specifically rejected the argument that non-discrimination entitled Huawei to be treated as the most favoured licensee (paragraph 30 above).

277. Although I have concluded that the judge was wrong not to make any correction for the non-FRAND factors he had identified, it does not begin to follow that he should have applied the future per unit rate of $0.61 derived from LG 2017 by Mr Meyer, as claimed by InterDigital. The fact that the rates for past sales in the Lenovo 7, and in particular LG 2017, were depressed by those non-FRAND factors, does not mean the rates for future sales were not inflated. On the contrary, the judge found that InterDigital had sought to increase its rates for future sales in order to compensate for the heavy discounts it had been forced to concede on past sales, and InterDigital does not challenge that finding.

278. On the judge's findings, it is probable that the increases in the future rates in Lenovo 7 went a considerable way towards redressing the balance, but not all the way. The difficulty for this Court is in arriving at an appropriate correction to the blended rate of $0.24 per unit derived by Mr Meyer from LG 2017. Neither side suggested that the matter should be remitted to the judge. Accordingly, this Court must do the best it can with the materials available. In doing so, we must bear in mind the points I have made in paragraph 275 above. Furthermore, since neither side challenged the two-stage approach adopted by the judge of first identifying an appropriate per unit rate from LG 2017 and then adjusting that rate for Lenovo, I consider that this Court should follow the same approach.

279. In my view, the FRAND per unit rate for LG cannot exceed the figure of $[REDACTED] derived by Mr Meyer from Apple 2016. The judge considered that this represented an upper bound ([661], paragraph 110 above; [797], paragraph 138(iii) above). He also found that Apple occupied a unique status in a market ([661]). Neither of these findings has been directly challenged by InterDigital. Furthermore, I accept Lenovo's point that the fact that all of the blended figures derived by Mr Meyer from the other PLAs in the Lenovo 7 are lower indicates that the rate for LG should be lower than the Apple rate, although I agree with InterDigital that this point cannot be taken too far once comparative volumes and the adjustments

required are borne in mind. I also accept that the judge's views as to the comparability of each of the other six PLAs should be taken into account even though he relied in the end only on LG 2017.

280. All in all, I consider that the highest per unit rate for LG that can be justified as being FRAND is $0.30. I do not pretend this is a precise figure. It is not: it is an estimate.

Conclusion

281. I would allow InterDigital's appeal on ground A to the extent of substituting the figure of $0.30 for the figure of $0.24 per unit derived by the judge from LG 2017.

InterDigital's ground B: adjustment ratio

282. Ground B is consequential upon ground A. The adjustment ratio of 0.728 used by the judge was a blended past and future adjustment ratio calculated by Mr Meyer. Mr Meyer also calculated a corresponding future-only adjustment ratio of 0.803. InterDigital says that this figure should be used for the same reasons as the future-only per unit rate should be used.

283. In my view the answer to this ground is the same as for ground A. InterDigital is justified in contending that a correction is required, but it does not follow that the future-only adjustment ratio should be used. The highest ratio that I consider that can be justified is 0.75. Again, this is not a precise figure, but an estimate.

Overall result of grounds A and B

284. Multiplying $0.30 by 0.75 gives a per unit figure for Lenovo of $0.225. Multiplying that figure by 792,571,429 units (the final figure used by the judge) gives a total of $178.3 million. I will ask the parties to calculate the interest due on that figure at the judge's rate of 4% compounded quarterly.

InterDigital's ground C: top-down cross-check

285. Given my conclusion on grounds A and B, I can deal with this ground briefly. InterDigital says that the judge's rate of $0.175 per unit implies an entire 4G and 5G multimode aggregate royalty burden of around 1%, which is considerably lower than anything that anyone has ever suggested before. For example, in *UPHC* the aggregate royalty burden was 8.8%, while in *TCL v Ericsson* it was 6-10%. InterDigital argues that this should have indicated to the judge that the figure he had derived from the comparables analysis was incorrect.

286. The judge's principal reason for rejecting InterDigital's top-down cross-check was that it was inconsistent with the result of the comparables analysis: [881] (paragraph 149 above). I agree with the judge that the comparables analysis is a much more reliable basis for estimating FRAND than InterDigital's top-down cross-check. On the other hand, my conclusion as to the correct rate is less inconsistent with the top-down analysis than the judge's conclusion.

InterDigital's ground D: was InterDigital a willing licensor?

287. Again, I can deal with this ground briefly. The judge's finding that InterDigital was not a willing licensor was based on his finding that it had consistently sought supra-FRAND rates from Lenovo: [928] (paragraph 152 above). That finding was necessarily influenced by the judge's prior decision as to what the true FRAND rate was. Since I have concluded that the FRAND rate is higher than the judge's rate, that inevitably places a question mark over the judge's finding. It does not necessarily follow that InterDigital was a willing licensor, however. It is not necessary to reach any conclusion on this question, because, even if InterDigital was a willing licensor, InterDigital has not identified any purpose that would be served in this Court making a declaration to that effect. In the circumstances that now prevail, the past willingness or otherwise of both InterDigital and Lenovo is simply irrelevant. As I have explained above, the only question is what sum of money is FRAND. Subject to any further appeal to the Supreme Court, that question has now been resolved.

Lord Justice Nugee:

288. I have had the great advantage of reading in draft not only the judgment of Arnold LJ above, which sets out the issues with such clarity, but also that of Birss LJ below.

289. On Lenovo's cross-appeal I entirely agree with Arnold LJ for the reasons he gives. So far as the limitation point is concerned, I find the judge's reasons compelling. We know that what is FRAND is what a willing licensee would agree. It seems to me that an implementer that was a willing licensee would agree to pay for the use it has made of the SEP owner's patents from the day when it first implements the relevant standard (day 1), and would therefore agree to pay a reasonable licence fee from day 1. That I would have thought was self-evidently fair and reasonable, and indeed one only has to state the converse (that it is fair and reasonable for the implementer to pay nothing for the use it has made of the SEPs from day 1 to a point in time 6 years ago (whatever "6 years ago" means in this context – 6 years before when?)) to see that it cannot be right. The fact that other implementers may have avoided doing so in practice simply illustrates that if so they have managed to get away with not paying a fair and reasonable price – or indeed anything – for their historic use of the SEP owner's patents.

290. So far as interest on back payments is concerned, if a fair and reasonable licence fee was \$x per unit in 2007, I do not see how it can be fair and reasonable for the implementer who does not pay until 2023 to still only pay \$x per unit without paying *any* regard to the fact that it is paying 16 years after it "should" have done. I put "should" in inverted commas to make it clear that I do not mean that such an implementer would have been in breach of contract in not paying in 2007 – *ex hypothesi* there is no actual contractual obligation to pay until a licence is entered into. What I mean is that it would have been fair and reasonable for it to pay from day 1 rather than years later. This has nothing to do with the award of interest by English courts as damages, or under statute, or in equity, where for largely historical reasons English law is notoriously complex; it is again a much simpler enquiry as to what is fair and reasonable, and it again seems to me self-evident that it is only fair that someone who pays in 2023 for using someone else's property in 2007 should also pay interest to reflect the time value of money. And once it is accepted to be fair that interest should be paid in principle, the selection of the actual rate is a matter for the

trial judge and can only be disturbed on the familiarly narrow grounds on which an appellate court can overturn any evaluative assessment. Here the judge was in my judgement fully entitled to select the rate that he did for the reasons given by Arnold LJ.

291. So far as InterDigital's appeal is concerned I have not found this anything like so easy to resolve. I will try and explain why, and why I have had doubts whether the appeal should be allowed to any extent, although I will say straightaway that in the end I will defer to my colleagues, who are of course both much more experienced in this field than me, and I will not push my doubts to the extent of dissenting. I therefore agree that the appeal should be allowed as they propose. Nevertheless I will indicate why I have found the question difficult.

292. Mr Speck began his submissions by inviting us to consider a series of calculations introduced with the premise that we know that the parties agree that the FRAND rate is $1.00 per unit but that a discounted rate will apply to past sales of $0.10 per unit. The calculations were designed to show that if there were a total of 100m units past and future, and a single lump sum were paid for all units, the overall lump sum would vary depending on the split of the 100m units between past and future sales. Thus it would be $100m if all 100m units were future sales, $55m if 50m units were past sales and 50m future, but only $19m if 90m units were past sales and 10m future. Hence if one "unpacks" the lump sum by deriving a blended rate by dividing the total lump sum by the total number of units (100m), this will give a different rate depending on the split, and (unless all the sales are future sales) one that is consistently lower than the FRAND rate of $1.00 per unit.

293. All of that I accept as a matter of simple arithmetic. But the problem with this example is the premise, namely that we *know* that the parties agree a FRAND rate of $1.00 and a $0.10 rate for past sales. The problem facing the judge was that he was starting from the other end. What I mean by this is that he knew what the lump sum agreed for each of the comparable licences was, and had data as to the total number of sales and the split of past and future sales. Those were the inputs he had to try and derive a rate that could be used to assess what was FRAND.

294. The difficulty is that one cannot tell simply from these inputs whether the parties have done what Mr Speck's examples assume (that they agreed a FRAND rate for the future and 10% of the rate for the past) or not. I can illustrate this with some simple calculations of my own. Suppose we know that in a particular licence the parties have agreed a total lump sum of $120m, and that this covers a total of 120m units, 80m of them past sales and 40m of them future sales (I ignore in these calculations the discounting of both the future sales and the lump sum payment to find an NPV, which does not affect the point I am seeking to make). If one assumes that the parties agreed that the same rate would be paid for past sales as for future sales, that would unpack to a simple $1 per unit. But if one assumes that the parties had agreed that the rate payable for past sales would be 50% of that payable for future sales, it would unpack to $0.75 per unit (past) and $1.50 per unit (future) (ie (80m x $0.75) + (40m x $1.50) = $120m); whereas an assumption of 25% yields rates of $0.50 (past) and $2.00 (future) (ie (80m x $0.50) + (40m x $2.00) = $120m); and of a mere 10% yields $0.25 (past) and $2.50 (future) (ie (80m x $0.25) + (40m x $2.50) = $120m).

295. This therefore demonstrates that to unpack the rates from a lump sum licence requires one to make assumptions as to the extent, if any, to which the past sales rates have been discounted as compared with the future sales rates. The judge was, it seems to me, very conscious of this point. He decided that he was not bound by the way in which InterDigital had decided that the overall consideration should be split between past and future, or the way in which it had accounted for the consideration in its accounts. This is most clearly seen in the passage from [417] to [426] (paragraph 82 above) where the judge says at [422] that it is incorrect to proceed on the basis of the subjective assessments made by InterDigital of the proportion of a lump sum that should be attributed to past sales for accounting purposes; and at [426] that FRAND rates should focus on the money passing between licensee and licensor and FRAND is not concerned with, and should not be affected by, either one party's internal justification for the sum paid or received, nor with the way in which one party seeks to deal with those sums in its accounts. He reverted to the point at [560] where he said that it was necessary to set on one side any subjective views from either licensor or licensee, and at [563] where he referred specifically to setting on one side the subjective decisions made by InterDigital as to what proportion of a lump sum which they received to attribute to the past and the future (paragraph 97 above).

296. Once this has been put on one side, the judge was able to adopt an objective measure of the rate implied by a licence, which he identified as being calculable as the total sum paid divided by the number of units (past and future) covered by the deal [565].

297. That of course assumes that the total lump sum paid under any particular licence is itself fair and reasonable. If the total sum paid is depressed below a FRAND rate, so will be the objective measure of the rate derived. The judge addressed this question in relation to the Lenovo 7 at [722] to [734] under the heading "Were the Lenovo 7 all the result of hold-out?" (paragraphs 127 to 129 above). He there first rejected the case put forward by InterDigital (characterised at [727] as a "rather extreme argument") that the rates in the Lenovo 7 were "far below the true value" of its portfolio [726]. He then considered whether the Lenovo 7 were affected by "a degree of hold-out" [727]. At [728] he said that InterDigital had been affected by a degree of hold-out but that the issues were whether "the impact is reflected in the royalty rates" and if so to what extent. His conclusion at [734] was that none of the analyses presented by the experts assisted him in identifying "whether a degree of hold out has been baked into the Lenovo 7 (or any of them), or how to quantify it" but that he would continue to take into account where he had found that the rates derived from some of the Lenovo 7 were on the low side.

298. As I read this passage, the judge was alive to the point that a case might have been made that the overall lump sums in the Lenovo 7 were affected by hold out – that is depressed below what was FRAND. But save where he had found that rates were on the low side (something that applied for example to Samsung 2014), he had been given no material to assess whether this was so or to what extent. LG 2017 was not one of the licences where he had found that the rate was on the low side. To my mind, that is tantamount to a finding by the judge that the LG 2017 licence was not shown to have been affected by hold out and that the rate derived from it was therefore FRAND (and hence could be used to assess a FRAND rate for Lenovo).

299. The question is whether this can be reconciled with his finding as to the practice of heavily discounting past sales. Arnold LJ has referred to the relevant passages at

paragraph 229 ii) above, namely those at [444] (paragraph 87 above), [454]-[455], [457] (paragraph 90 above), [517] (paragraph 92 above), and [728] (paragraph 129 above). There is no doubt that the judge found that InterDigital had adopted a "practice of heavy discounting for the past", prompted by two factors, namely the influence of limitation periods and the difficulty of recovering damages country by country [444], [454]-[455]. What I have not found so easy to determine is whether the judge meant to find that this had actually depressed rates below FRAND rates for the past, or whether he only meant to find that this practice was a means adopted by InterDigital of justifying (to itself and the market) the split of a total sum that was in fact FRAND overall, namely one attributing heavily discounted rates to the past and correspondingly inflated rates to the future. There would appear to be some support for the latter view in [424] (paragraph 82 above) where the judge referred to InterDigital retaining significant room for manoeuvre in the way they apportioned an overall lump sum, one of the consequences being the "*apparently* very heavy discounting by InterDigital as to past sales" (emphasis added). See also [425] where he refers to the split of consideration being "somewhat artificial" and "not agreed with the licensee"; [443] (paragraph 87 above) where he finds considerable force in the contention that Mr Bezant's approach (which mirrored that of InterDigital), involving heavy discounting for the past with a "disproportionate share" of consideration being shifted to the future, resulted in an inflated future rate; and perhaps [454] (paragraph 90 above) which refers to the "*notion* that significant discounts are often given in respect of past sales" (emphasis again added).

300. In these circumstances I have had doubts whether the judge found that the practice of heavy discounting of past sales was ever more than an exercise in presentation, or whether he held (or should consistently have held) that the lump sum payable under LG 2017 was depressed below a FRAND rate. Certainly when it came to the FOO judgment the judge said in terms (referring to his analysis of the rate of $0.175 that he derived):

> "All of that analysis was based on the single best comparable (see [811]) – LG 2017 and on my conclusion that there was no evidence the resulting lump sum was procured or influenced by hold-out (see [675] and [722]-[734]). On that basis the LG 2017 lump sum can be taken to have been considered FRAND or at least in the FRAND range…"

301. But having identified why I have not found this an easy question, I will as I have indicated not go to the length of dissenting in the result. I am content to follow the lead of my colleagues, and agree that InterDigital's appeal should be allowed to the extent that they propose.

Lord Justice Birss:

302. I agree with Arnold LJ on all of the grounds of appeal of each party, for the reasons my lord has given. Since we are differing from the trial judge in relation to Ground A of InterDigital's appeal, I will add a few further observations of my own.

303. I agree with Arnold LJ that there is an important internal inconsistency in the main judgment (I will seek to address Nugee LJ's doubts on this below). To my mind the inconsistency is related to a detail in the method used in the judgment to derive the

FRAND rate applicable to a licence of InterDigital's SEPs. As in any other valuation process, this task involves two exercises which, while they overlap, are conceptually distinct. The first is to evaluate the available evidence and decide, as best one can, what has happened. The second is to apply those findings in order to decide what is to be inferred from what happened. In other words to decide what figure is to be used as representative of the value of the property in question. In these FRAND cases that representative value is expressed in terms of a royalty.

304. The first task here involves examining alleged comparable licences, their circumstances, the rival cases on unpacking, and so on. The first task consists of weighing up and assessing the evidence. It is essentially a backwards looking process, grounded in the evidence as best it can be assessed. The second task is different in kind. It is an exercise in evaluation and judgment.

305. Undertaking the first task, the judge examined the various putative comparable licences with care, factors affecting them were identified, and the conclusion was that the best comparable was LG 2017. $0.24 per unit was identified as the rate to be derived from the LG 2017 licence. The blended nature of that rate was based on combining a lower rate for past sales and the higher rate for future sales.

306. There is and can be no challenge to the conclusion that $0.24 per unit represents what was agreed between LG and InterDigital as the rate for all units sold by LG, past and future. That is a judgment about what has happened.

307. Moving to the second task, the judge then decided to use exactly that $0.24 dollar per unit as the figure to represent the value of InterDigital's SEP portfolio to LG. The rate was then to be adjusted to apply to the circumstances of a particular licensee (using the conversion rate).

308. In *UPHC*, the approach at the first step was essentially the same, with comparable licences examined from [382] to [463]. However the second step was slightly different. This can be seen at *UPHC* [464]. Although the confidentiality of the figures derived at the first stage complicates things, it is clear from [464] that rate chosen (0.80%) as the representative value of the relevant SEP portfolio was not taken simply by using an exact figure taken from any one place. It was expressed as a round number to recognise and iron out the numerous uncertainties involved.

309. A judge is entitled, as Mellor J did, to use exactly the figure derived from a given comparable as the representative figure to take forward and not to do what was done at [464] of *UPHC*, but that approach has a consequence. The problem is that if, as I believe the judge did hold and as Arnold LJ has explained, the source from which that exact figure was taken was tainted with a non-FRAND factor to some extent, then the one thing we know is that $0.24 is too low. It may not be much too low, it might even be just below the bottom of a FRAND range, but we do know that $0.24 per unit is not the right answer.

310. On the doubts expressed by Nugee LJ about this, I agree the judgment could be clearer but I am satisfied that Arnold LJ's analysis is correct. The question is - what exactly did the judge decide? As I read the judgment as a whole, the conclusion is that non-FRAND factors did have an impact on InterDigital and on all the comparable licences, albeit the effect on the rate derived from LG 2017 may have been modest

and the judge did not think he had been given much assistance in quantifying it. The alternative would have to be that the judgment holds that the impact of those non-FRAND factors on the LG 2017 was confined to an internal numerical exercise (the relative degree of discounting for past sales as compared to future sales), with the result that the overall lump sum paid, for the overall number of units in question, was FRAND.

311. For one thing, if the judge had concluded in the course of preparing the judgment that the LG 2017 overall rate was FRAND with respect to LG, I would have expected him to say so. It would both have been easy to state as a conclusion and it would have simplified his own analysis. I will come back to the later FOO judgment below. Moreover the idea that an acknowledged non-FRAND practice of heavy discounting for past sales actually nets off with zero impact on the overall sum is not impossible, but it is improbable.

312. This takes me to the jackpot case point, because it was here I believe that the judge thought he was addressing the issue (judgment [730]-[731] and particularly [732]). When in a valuation dispute the court is faced with two sides who do not step into the middle ground but each maintain their cases on the boundaries then a judge is entitled, in a proper case, to decide not to step into the middle themselves either, but rather to accept one or other of the boundary figures. Parties who take that stance cannot complain if that is what the judge does and the statement cited by the judge from *Senate Electrical Wholesalers Ltd v Alcatel Submarine Networks Ltd* [1998] EWCA Civ 3534 at [50]-[55] is an example.

313. However the caveat that this applies in a proper case is important. Coming back to the two stages in the overall exercise, once a judge has made findings at that first stage which mean that a given value must be too high, or too low, even by a modest amount, then that figure cannot be the representative conclusion at stage two. It may well be that the conclusion will be close, but it necessarily cannot be the same. That is the problem in the present case. The jackpot point makes no difference because the fact one party does not offer an intermediate position does not alter the conclusion that the $0.24 figure must be (a bit) too low. Trivial effects can of course be ignored but a refusal to step into the middle when parties make jackpot submissions does not allow one to decide that an effect which has been found to exist is in fact trivial. They are different questions.

314. The FOO judgment at paragraph 18 makes two points. The first point is that LG 2017 is the best comparable and the second is that there "was no evidence the resulting lump sum was procured or influenced by hold-out (see [675] and [722]-[734])". The paragraph concludes that LG 2017 can therefore "be taken to have been considered FRAND".

315. However the first point is no answer (because being the best comparable is not the same as being FRAND) and the second point is based ultimately on the same jackpot point and suffers from the same flaw. The reference back to [675] is to a specific holding about different, now irrelevant, non-FRAND effects. The other paragraphs include [732]. The fact a party seeks a jackpot is not the same thing as no evidence a lump sum was procured or influenced by hold out. The judge had held earlier that these licences were influenced by hold out.

316. I cannot help but wonder if the problem is a symptom of the length of time taken to produce the judgment. As my lord noted at paragraph 52 above, the judgment contains a meticulous examination of the evidence and the arguments, and is clearly the product of an enormous amount of work by the judge. The trial took about four weeks, starting from 13 January 2022 and ending on 11 February 2022. Nevertheless, making all allowances for what was involved, including the further evidence and submissions in December 2022/January 2023, I am surprised that it took so long to produce the draft judgment, which was sent to the parties on 1 March 2023. This is a very heavy case but it is not that heavy. One difficulty with taking such a long period of time to write something is that it can be hard not to skim read over parts of it which were written a while ago. The writer's thinking develops over time but after spending so long with a document, when returning to it after an absence it is very hard, and only human, to fully reabsorb material which has already been finished. A possible explanation for the inconsistency here is that the different parts of this judgment were prepared at very different times.

317. Moving forward, I agree with Arnold LJ that this court is able to decide what to do. There is no need to remit it. I would also come to a figure of $0.30 to represent the value of InterDigital's SEP portfolio to LG and to which a conversion factor can be applied. This starts from taking into account LG 2017 as the best comparable with the finding that a blended rate of $0.24 is to be derived from it. When one bears in mind that a non-FRAND factor described by the judge as a degree of hold-out had been involved, we know $0.24 is a bit too low. We also know on the judge's findings that InterDigital's $0.61, or a number close to it, would be far too high. $0.30 is the next highest logical figure to arrive at moving upwards a modest amount from LG 2017, taking account of all the inherent uncertainties.

318. I have nothing to add on the other issues in this appeal.